VULCRAFT®
STEEL DECK

NUCOR®
VULCRAFT CANADA

VULCRAFT® DECK SOLUTIONS

Catalog Solutions | Web Based Solutions

Product Offer Information

Roof Deck

Steel Deck Uniform Loads - Web Based Design Tool
Steel Deck Web-Crippling - Web Based Design Tool
Steel Deck Diaphragm Strength - Web Based Design Tool

LSD Roof Deck (Properties and Vertical Load Tables)

1.5B-36/1.5BI-36 GR50 Roof Deck - Metric / Imperial
3N-24/3NI-24 Roof Deck - Metric / Imperial
3NL-32/3NI-32 GR50 Roof Deck - Metric / Imperial
3NL-32/3NI-32 GR80 Roof Deck - Metric / Imperial
2.0D Dovetail Roof Deck - Metric / Imperial
3.5D Dovetail Roof Deck - Metric / Imperial

LSD Acoustical Roof Deck (Properties and Vertical Load Tables)

1.5BA-36/1.5BIA-36 GR50 Acoustical Roof Deck - Metric / Imperial
3NA-24/3NIA-24 Acoustical Roof Deck - Metric / Imperial
3NLA-32/3NIA-32 GR50 Acoustical Roof Deck - Metric / Imperial
3NLA-32/3NIA-32 GR80 Acoustical Roof Deck - Metric / Imperial
2.0DA Dovetail Acoustical Roof Deck- Metric / Imperial
3.5DA Dovetail Acoustical Roof Deck - Metric / Imperial

Composite Deck

Unshored Span - Web Based Design Tool
Composite Deck-Slab Strength (Superimposed Load) - Web Based Design Tool
Composite Deck Diaphragm Strength - Web Based Design Tool

LSD Composite Deck (Properties and Superimposed Load Tables)

1.5VL-36/1.5VLI-36 Composite Deck-Slab - Metric / Imperial
1.5VLR-36 Composite Deck-Slab - Metric / Imperial
2VLI-36/2VLJ-36 Composite Deck-Slab - Metric / Imperial
3VLI-24/3VLJ-24 Composite Deck-Slab - Metric / Imperial
2.0D FormLok® Dovetail Deck-Slab - Metric / Imperial
3.5D FormLok® Dovetail Deck-Slab - Metric / Imperial

Non-Composite Deck

LSD Non-Composite Deck (Properties and Vertical Load Tables)

1.5C-36 Non-Composite Deck - Metric / Imperial
2.0C-36 Non-Composite Deck - Metric / Imperial
3.0C-24 Non-Composite Deck - Metric / Imperial
0.6C-30 Non-Composite Deck - Metric / Imperial
1.0C-36 Non-Composite Deck - Metric / Imperial

VULCRAFT® DECK SOLUTIONS

Catalog Solutions | Web Based Solutions

General

Acoustical Solutions

- Acoustical Roof Deck – NRC Ratings
- 2.0D FormLok® Deck-Slab - STC & IIC Ratings
- 3.5D FormLok® Deck-Slab - STC & IIC Ratings

UL Fire Ratings

- UL Fire Ratings - Roof Deck
- ULC Fire Ratings - Floor Deck
- UL Fire Ratings - Floor Deck

Hanging Solutions

- Sammy X-Press for Roof Deck
- Wedge-Nut for FormLok® Dovetail Deck-Slab
- Steel Deck Roving Load - Web Based Design Tool

Approvals - Download PDF

- IAPMO UES Report ER-652 for Vulcraft Deck and Deck-Slabs
- IAPMO UES Report ER-423 for Dovetail Deck and Deck-Slabs
- FM Approval Reports
- Vulcraft Deck CSI Guide Spec
- Dovetail Deck CSI Guide Spec

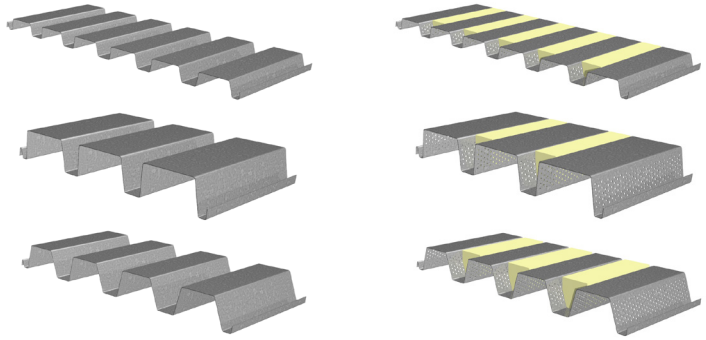
VULCRAFT® DECK PRODUCT OFFER

ROOF DECKS

1.5B ROOF DECKS
COVER WIDTH: 36”
GAGES: 22, 20, 18, 16

24” WIDE 3N ROOF DECKS
COVER WIDTH: 24”
GAGES: 22, 20, 18, 16

32” WIDE 3N ROOF DECKS
COVER WIDTH: 32”
GAGES: 22, 20, 18, 16



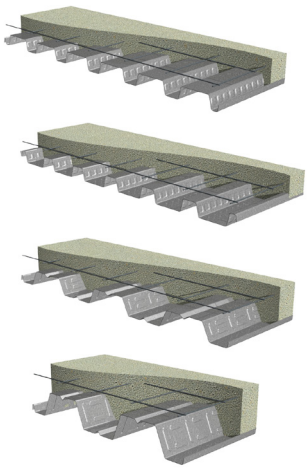
COMPOSITE DECKS

1.5VL COMPOSITE DECKS
COVER WIDTH: 36”
GAGES: 22, 20, 18, 16

1.5VLR COMPOSITE DECK
COVER WIDTH: 36”
GAGES: 22, 20, 18, 16

2VLI COMPOSITE DECKS
COVER WIDTH: 36”
GAGES: 22, 20, 18, 16

3VLI COMPOSITE DECKS
COVER WIDTH: 24”
GAGES: 22, 20, 18, 16



NON-COMPOSITE DECKS

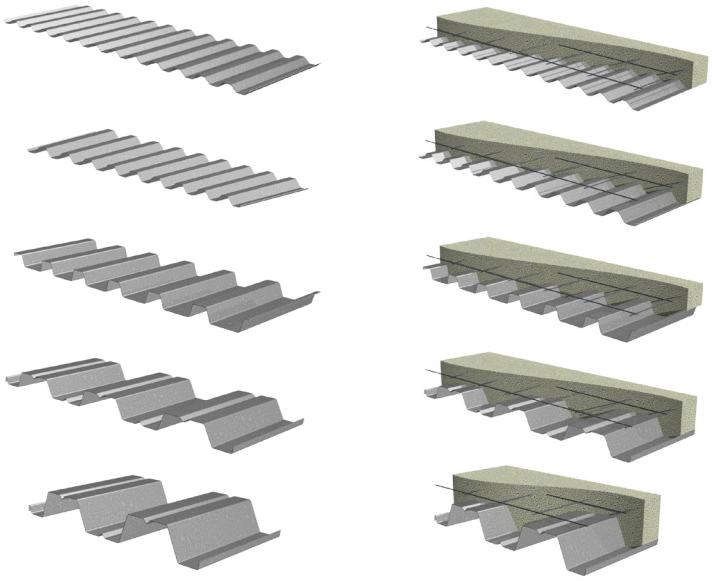
0.6C NON-COMPOSITE DECK
COVER WIDTH: 30”
GAGES: 28, 26, 24, 22

1.0C NON-COMPOSITE DECK
COVER WIDTH: 36”
GAGES: 26, 24, 22, 20

1.5C NON-COMPOSITE DECK
COVER WIDTH: 36”
GAGES: 22, 20, 18

2C NON-COMPOSITE DECK
COVER WIDTH: 36”
GAGES: 22, 20, 18, 16

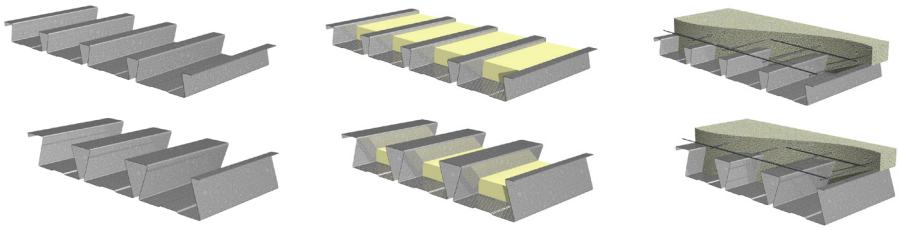
3C NON-COMPOSITE DECK
COVER WIDTH: 24”
GAGES: 22, 20, 18, 16



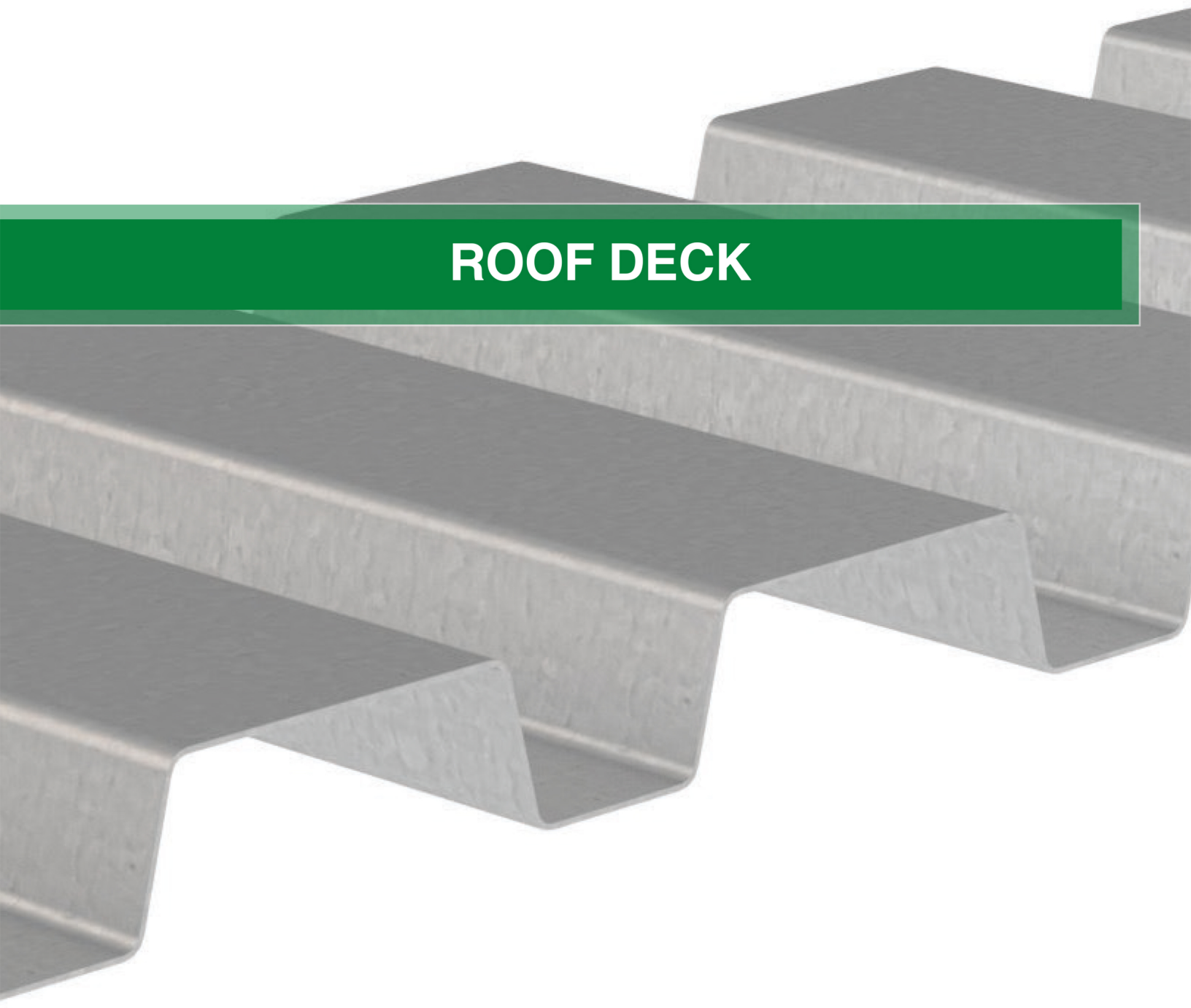
DOVETAIL DECKS

2.0D DOVETAIL DECKS
COVER WIDTH: 24.5”
GAGES: 22, 20, 18, 16

3.5D DOVETAIL DECKS
COVER WIDTH: 24”
GAGES: 20, 18, 16



ROOF DECK

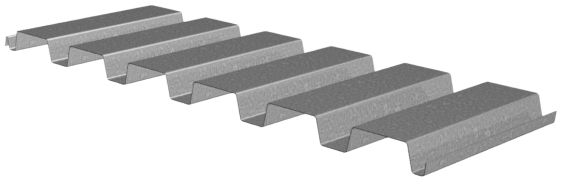


1.5B-36/1.5BI-36 ROOF DECKS
GRADE 50 STEEL

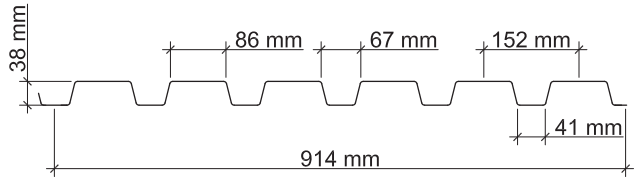
Metric LSD

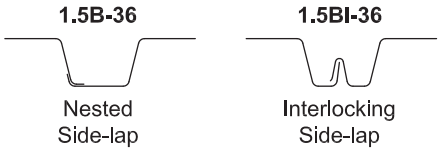
1.5B ROOF DECKS

- **1.5B-36 Deck used with Side-lap Screws**
- **1.5BI-36 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored* Moment øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	7.81	**0.75**	345	211.7	243.1	9.09	9.62	2818	2987	50
20	9.76	**0.91**	345	269.0	296.3	12.04	12.31	3735	3819	60
18	12.69	**1.20**	345	378.3	396.0	16.45	17.10	5104	5305	79
16	16.10	**1.52**	345	497.1	501.2	21.13	21.61	6558	6706	98

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	75	100	40	50	75	100	75	100
22	16.3	17.5	20.2	22.1	28.2	30.7	15.7	16.6	18.6	20.1	34.9	38.2
20	23.2	24.9	28.6	31.2	40.6	43.9	23.7	25.0	27.9	30.0	50.7	55.2
18	38.9	41.6	47.3	51.4	68.4	73.4	42.7	45.0	49.7	53.1	86.6	93.5
16	59.5	63.5	71.9	77.4	105.2	112.1	69.0	72.4	79.6	84.4	134.4	144.1

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- UL and FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Web Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
22	Single	ϕW_n	15.7	11.5	8.8	7.0	5.7	4.7	3.9	3.3	2.9	2.5	2.2
		L/240	8.0	5.0	3.4	2.4	1.7	1.3	1.0	0.8	0.6	0.5	0.4
	Double	ϕW_n	16.1	11.9	9.2	7.3	5.9	4.9	4.1	3.5	3.0	2.6	2.3
		L/240	22.1	13.9	9.3	6.6	4.8	3.6	2.8	2.2	1.7	1.4	1.2
	Triple	ϕW_n	19.9	14.8	11.4	9.1	7.4	6.1	5.1	4.4	3.8	3.3	2.9
		L/240	17.3	10.9	7.3	5.1	3.7	2.8	2.2	1.7	1.4	1.1	0.9
20	Single	ϕW_n	20.8	15.3	11.7	9.2	7.5	6.2	5.2	4.4	3.8	3.3	2.9
		L/240	10.2	6.4	4.3	3.0	2.2	1.6	1.3	1.0	0.8	0.7	0.5
	Double	ϕW_n	20.6	15.2	11.7	9.3	7.6	6.3	5.3	4.5	3.9	3.4	3.0
		L/240	27.0	17.0	11.4	8.0	5.8	4.4	3.4	2.6	2.1	1.7	1.4
	Triple	ϕW_n	25.3	18.8	14.5	11.6	9.4	7.8	6.6	5.6	4.8	4.2	3.7
		L/240	21.1	13.3	8.9	6.3	4.6	3.4	2.6	2.1	1.7	1.4	1.1
18	Single	ϕW_n	28.4	20.9	16.0	12.6	10.2	8.5	7.1	6.1	5.2	4.5	4.0
		L/240	14.3	9.0	6.0	4.2	3.1	2.3	1.8	1.4	1.1	0.9	0.8
	Double	ϕW_n	28.4	21.1	16.3	12.9	10.5	8.7	7.3	6.2	5.4	4.7	4.1
		L/240	36.0	22.7	15.2	10.7	7.8	5.8	4.5	3.5	2.8	2.3	1.9
	Triple	ϕW_n	35.0	26.1	20.1	16.0	13.0	10.8	9.1	7.8	6.7	5.9	5.2
		L/240	28.2	17.8	11.9	8.4	6.1	4.6	3.5	2.8	2.2	1.8	1.5
16	Single	ϕW_n	36.5	26.8	20.5	16.2	13.1	10.9	9.1	7.8	6.7	5.8	5.1
		L/240	18.8	11.8	7.9	5.6	4.1	3.0	2.3	1.8	1.5	1.2	1.0
	Double	ϕW_n	35.9	26.7	20.5	16.3	13.3	11.0	9.2	7.9	6.8	5.9	5.2
		L/240	45.6	28.7	19.2	13.5	9.8	7.4	5.7	4.5	3.6	2.9	2.4
	Triple	ϕW_n	44.2	32.9	25.4	20.2	16.5	13.7	11.5	9.8	8.5	7.4	6.5
		L/240	35.7	22.5	15.1	10.6	7.7	5.8	4.5	3.5	2.8	2.3	1.9

Note:

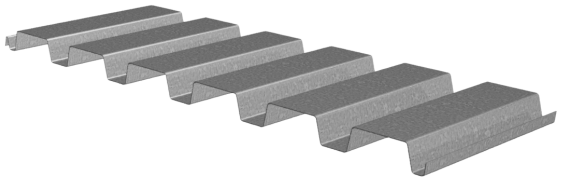
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

1.5B-36/1.5BI-36 ROOF DECKS
GRADE 50 STEEL

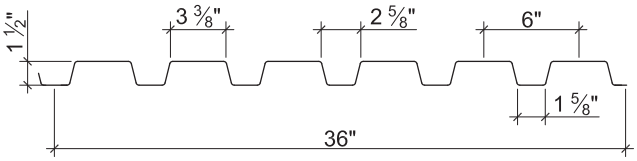
Imperial LSD

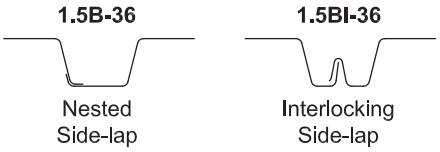
1.5B ROOF DECKS

- **1.5B-36 Deck used with Side-lap Screws**
- **1.5BI-36 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.6	0.0295	50	0.155	0.178	0.169	0.179	634	671	3398
20	2.0	0.0358	50	0.197	0.217	0.224	0.229	840	859	4105
18	2.6	0.0474	50	0.277	0.290	0.306	0.318	1148	1193	5388
16	3.3	0.0598	50	0.364	0.367	0.393	0.402	1474	1508	6734

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"
22	1098	1207	1389	1517	1945	2103	1061	1143	1281	1377	2407	2617
20	1567	1717	1969	2140	2792	3005	1605	1723	1921	2057	3494	3782
18	2626	2863	3261	3519	4707	5029	2894	3092	3423	3637	5966	6410
16	4023	4369	4949	5304	7241	7685	4679	4977	5477	5783	9253	9874

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- UL and FM Listed
- Standard lengths – 6'-0" to 42'-0"
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Web Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
22	Single	$øW_n$	1267	563	317	203	141	103	79	63	51	42	35
		L/240	1270	376	159	81	47	30	20	14	10	8	6
	Double	$øW_n$	1204	567	326	211	147	109	83	66	53	44	37
		L/240	3514	1041	439	225	130	82	55	39	28	21	16
	Triple	$øW_n$	1444	694	402	261	183	135	104	82	67	55	46
		L/240	2754	816	344	176	102	64	43	30	22	17	13
20	Single	$øW_n$	1679	746	420	269	187	137	105	83	67	56	47
		L/240	1614	478	202	103	60	38	25	18	13	10	7
	Double	$øW_n$	1522	721	415	269	188	139	106	84	68	57	48
		L/240	4283	1269	535	274	159	100	67	47	34	26	20
	Triple	$øW_n$	1818	880	512	333	233	172	133	105	85	71	59
		L/240	3357	995	420	215	124	78	52	37	27	20	16
18	Single	$øW_n$	2295	1020	574	367	255	187	143	113	92	76	64
		L/240	2270	673	284	145	84	53	35	25	18	14	11
	Double	$øW_n$	2087	994	575	373	261	192	148	117	95	78	66
		L/240	5724	1696	716	366	212	134	89	63	46	34	27
	Triple	$øW_n$	2484	1212	707	461	323	239	184	146	118	98	82
		L/240	4487	1329	561	287	166	105	70	49	36	27	21
16	Single	$øW_n$	2948	1310	737	472	328	241	184	146	118	97	82
		L/240	2983	884	373	191	110	70	47	33	24	18	14
	Double	$øW_n$	2631	1255	726	471	329	243	187	148	120	99	83
		L/240	7244	2146	906	464	268	169	113	79	58	44	34
	Triple	$øW_n$	3129	1529	893	582	409	302	232	184	149	124	104
		L/240	5678	1682	710	363	210	132	89	62	45	34	26

Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

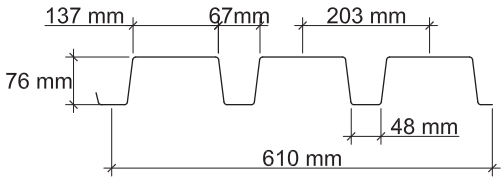
3N-24/3NI-24 ROOF DECKS
GRADE 50 STEEL

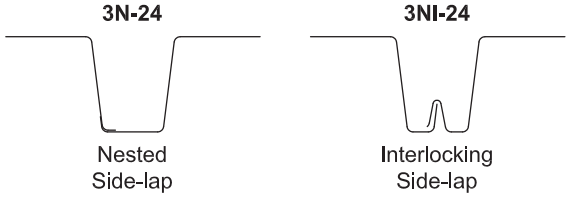
Metric LSD

24" WIDE 3N ROOF DECKS

- **3N-24 Deck used with Side-lap Screws**
- **3NI-24 Deck used with TSWs or BPs**

Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	9.76	**0.75**	345	958.2	1172.1	18.97	20.87	5884	6475	46
20	12.21	**0.91**	345	1203.5	1449.3	24.77	27.58	7684	8558	75
18	16.11	**1.20**	345	1691.1	1940.0	35.68	38.63	11071	11985	131
16	20.02	**1.52**	345	2246.4	2451.2	46.39	49.79	14394	15449	168

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	Interior Bearing 100	200	Two-Flange Loading End Bearing 40	50	75	100	Interior Bearing 100	200
22	11.7	12.6	14.4	16.0	24.1	28.2	10.3	10.9	12.2	13.4	28.3	33.4
20	16.8	18.0	20.7	22.9	34.6	43.0	16.0	16.9	18.8	20.4	41.3	52.1
18	28.4	30.4	34.6	38.2	58.0	72.6	29.5	31.0	34.3	37.1	70.7	89.9
16	43.9	46.8	53.0	58.2	88.8	110.1	48.4	50.8	55.9	60.2	109.8	138.5

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- UL and FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Web Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800
22	Single	ϕW_n	14.6	10.7	8.2	6.5	5.2	4.3	3.6	3.1	2.7	2.3	2.0
		L/240	10.7	6.8	4.5	3.2	2.3	1.7	1.3	1.1	0.8	0.7	0.6
	Double	ϕW_n	14.9	11.2	8.7	6.9	5.6	4.7	3.9	3.4	2.9	2.5	2.2
		L/240	31.6	19.9	13.3	9.4	6.8	5.1	3.9	3.1	2.5	2.0	1.7
	Triple	ϕW_n	18.2	13.7	10.6	8.5	6.9	5.8	4.9	4.2	3.6		
		L/240	24.8	15.6	10.4	7.3	5.3	4.0	3.1	2.4	1.9		
20	Single	ϕW_n	19.0	14.0	10.7	8.5	6.8	5.7	4.8	4.1	3.5	3.0	2.7
		L/240	13.5	8.5	5.7	4.0	2.9	2.2	1.7	1.3	1.1	0.9	0.7
	Double	ϕW_n	20.2	15.0	11.6	9.2	7.5	6.2	5.2	4.5	3.9	3.4	3.0
		L/240	39.1	24.6	16.5	11.6	8.4	6.3	4.9	3.8	3.1	2.5	2.1
	Triple	ϕW_n	24.7	18.5	14.3	11.4	9.3	7.7	6.5	5.6	4.8		
		L/240	30.6	19.3	12.9	9.1	6.6	5.0	3.8	3.0	2.4		
18	Single	ϕW_n	27.4	20.1	15.4	12.2	9.9	8.2	6.9	5.8	5.0	4.4	3.9
		L/240	18.9	11.9	8.0	5.6	4.1	3.1	2.4	1.9	1.5	1.2	1.0
	Double	ϕW_n	28.8	21.3	16.4	13.0	10.6	8.7	7.4	6.3	5.4	4.7	4.2
		L/240	52.3	32.9	22.1	15.5	11.3	8.5	6.5	5.1	4.1	3.3	2.8
	Triple	ϕW_n	35.5	26.4	20.3	16.2	13.1	10.9	9.2	7.8	6.8		
		L/240	41.0	25.8	17.3	12.1	8.9	6.7	5.1	4.0	3.2		
16	Single	ϕW_n	35.6	26.2	20.0	15.8	12.8	10.6	8.9	7.6	6.5	5.7	5.0
		L/240	25.1	15.8	10.6	7.4	5.4	4.1	3.1	2.5	2.0	1.6	1.3
	Double	ϕW_n	37.1	27.4	21.1	16.8	13.6	11.3	9.5	8.1	7.0	6.1	5.4
		L/240	66.1	41.6	27.9	19.6	14.3	10.7	8.3	6.5	5.2	4.2	3.5
	Triple	ϕW_n	45.7	34.0	26.2	20.8	16.9	14.0	11.8	10.1	8.7		
		L/240	51.8	32.6	21.8	15.3	11.2	8.4	6.5	5.1	4.1		

Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

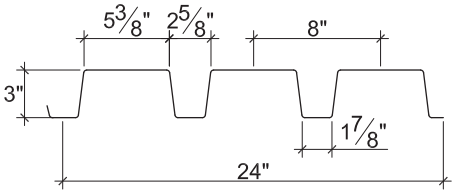
3N-24/3NI-24 ROOF DECKS
GRADE 50 STEEL

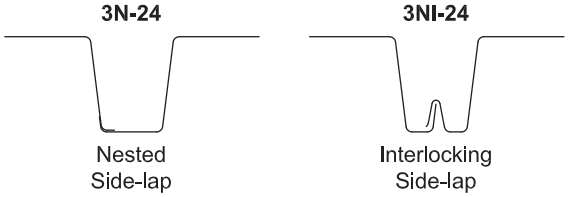
Imperial LSD

24” WIDE 3N ROOF DECKS

- **3N-24 Deck used with Side-lap Screws**
- **3NI-24 Deck used with TSWs or BPs**

Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	2.0	0.0295	50	0.702	0.858	0.353	0.388	1323	1456	3185
20	2.5	0.0358	50	0.881	1.061	0.461	0.513	1727	1924	5136
18	3.3	0.0474	50	1.238	1.421	0.664	0.719	2489	2694	9008
16	4.1	0.0598	50	1.645	1.795	0.863	0.926	3236	3473	11526

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"
22	787	865	996	1106	1663	1933	699	753	843	920	1951	2289
20	1134	1243	1425	1578	2380	2947	1081	1160	1294	1406	2843	3569
18	1922	2095	2387	2632	3991	4999	1999	2135	2363	2556	4869	6197
16	2966	3221	3649	4010	6113	7586	3285	3495	3846	4142	7562	9541

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- UL and FM Listed
- Standard lengths – 6’-0” to 42’-0”
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6’-0”
  - -Sheet Lengths > 42’-0”
  - -Alternative metallic and painted finishes
- Web Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 4'-0"	6'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
22	Single	$øW_n$	661	294	165	131	106	87	73	54	41	33	26
		L/240	719	213	90	63	46	35	27	17	11	8	6
	Double	$øW_n$	632	302	175	139	114	94	79	59	45	36	29
		L/240	2118	628	265	186	136	102	78	49	33	23	17
	Triple	$øW_n$	750	368	215	172	140	117	99	73			
		L/240	1660	492	207	146	106	80	61	39			
20	Single	$øW_n$	864	384	216	171	138	114	96	71	54	43	35
		L/240	903	267	113	79	58	43	33	21	14	10	7
	Double	$øW_n$	871	408	234	186	151	125	106	78	60	47	38
		L/240	2619	776	327	230	168	126	97	61	41	29	21
	Triple	$øW_n$	1048	500	289	230	188	156	131	97			
		L/240	2053	608	257	180	131	99	76	48			
18	Single	$øW_n$	1244	553	311	246	199	165	138	102	78	61	50
		L/240	1268	376	159	111	81	61	47	30	20	14	10
	Double	$øW_n$	1262	581	331	263	213	177	149	109	84	66	54
		L/240	3505	1039	438	308	224	169	130	82	55	38	28
	Triple	$øW_n$	1536	717	411	326	265	220	185	136			
		L/240	2747	814	343	241	176	132	102	64			
16	Single	$øW_n$	1618	719	404	320	259	214	180	132	101	80	65
		L/240	1685	499	211	148	108	81	62	39	26	18	13
	Double	$øW_n$	1625	749	427	338	275	227	191	141	108	85	69
		L/240	4429	1312	554	389	283	213	164	103	69	49	35
	Triple	$øW_n$	1978	924	529	420	342	283	238	176			
		L/240	3471	1029	434	305	222	167	129	81			

Note:

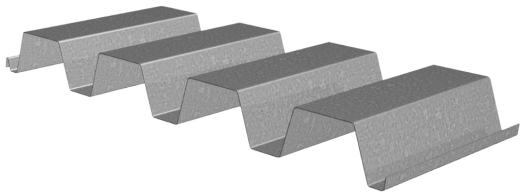
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NL-32/3NI-32 ROOF DECKS
GRADE 50 STEEL

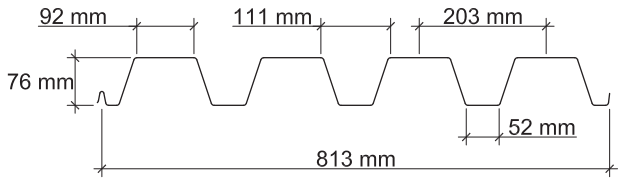
Metric LSD

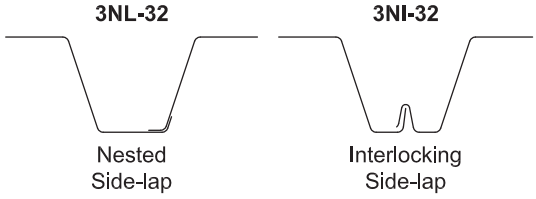
32" WIDE 3N ROOF DECKS

- **3NL-32 Deck used with Side-lap Screws**
- **3NI-32 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	8.78	**0.75**	345	878.1	976.4	18.55	20.00	5757	6205	41
20	10.74	**0.91**	345	1100.7	1209.9	24.09	25.59	7474	7939	70
18	14.15	**1.20**	345	1533.6	1638.7	35.48	36.29	11009	11262	123
16	18.06	**1.52**	345	2019.7	2081.2	46.72	47.58	14496	14765	169

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	100	200	40	50	75	100	100	200
22	10.8	11.6	13.4	14.9	22.6	26.4	9.5	10.0	11.2	12.2	26.3	31.0
20	15.6	16.7	19.2	21.2	32.3	40.2	14.7	15.5	17.3	18.8	38.4	48.4
18	26.4	28.3	32.2	35.5	54.3	67.9	27.2	28.6	31.7	34.3	65.8	83.7
16	40.9	43.6	49.3	54.2	83.2	103.2	44.8	47.0	51.8	55.7	102.4	129.2

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- UL and FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Web Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800
22	Single	$øW_n$	14.3	10.5	8.0	6.3	5.1	4.2	3.6	3.0	2.6	2.3	2.0
		L/240	9.8	6.2	4.1	2.9	2.1	1.6	1.2	1.0	0.8	0.6	0.5
	Double	$øW_n$	14.1	10.6	8.2	6.6	5.4	4.5	3.8	3.2	2.8	2.4	2.1
		L/240	26.3	16.6	11.1	7.8	5.7	4.3	3.3	2.6	2.1	1.7	1.4
	Triple	$øW_n$	17.1	12.9	10.1	8.1	6.6	5.5	4.7	4.0	3.4		
		L/240	20.6	13.0	8.7	6.1	4.5	3.3	2.6	2.0	1.6		
20	Single	$øW_n$	18.5	13.6	10.4	8.2	6.7	5.5	4.6	3.9	3.4	3.0	2.6
		L/240	12.3	7.8	5.2	3.6	2.7	2.0	1.5	1.2	1.0	0.8	0.6
	Double	$øW_n$	18.7	13.9	10.8	8.5	7.0	5.8	4.9	4.1	3.6	3.1	2.7
		L/240	32.6	20.5	13.8	9.7	7.0	5.3	4.1	3.2	2.6	2.1	1.7
	Triple	$øW_n$	23.0	17.2	13.3	10.6	8.6	7.2	6.0	5.2	4.5		
		L/240	25.6	16.1	10.8	7.6	5.5	4.1	3.2	2.5	2.0		
18	Single	$øW_n$	27.3	20.0	15.3	12.1	9.8	8.1	6.8	5.8	5.0	4.4	3.8
		L/240	17.2	10.8	7.2	5.1	3.7	2.8	2.1	1.7	1.4	1.1	0.9
	Double	$øW_n$	27.0	20.0	15.4	12.2	9.9	8.2	6.9	5.9	5.1	4.4	3.9
		L/240	44.2	27.8	18.6	13.1	9.5	7.2	5.5	4.3	3.5	2.8	2.3
	Triple	$øW_n$	33.3	24.8	19.1	15.2	12.3	10.2	8.6	7.4	6.3		
		L/240	34.6	21.8	14.6	10.3	7.5	5.6	4.3	3.4	2.7		
16	Single	$øW_n$	35.9	26.4	20.2	15.9	12.9	10.7	9.0	7.6	6.6	5.7	5.0
		L/240	22.6	14.2	9.5	6.7	4.9	3.7	2.8	2.2	1.8	1.4	1.2
	Double	$øW_n$	35.5	26.3	20.2	16.0	13.0	10.8	9.1	7.7	6.7	5.8	5.1
		L/240	56.1	35.3	23.7	16.6	12.1	9.1	7.0	5.5	4.4	3.6	3.0
	Triple	$øW_n$	43.9	32.6	25.1	19.9	16.2	13.4	11.3	9.6	8.3		
		L/240	44.0	27.7	18.5	13.0	9.5	7.1	5.5	4.3	3.5		

Note:

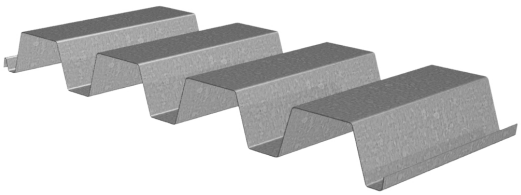
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NL-32/3NI-32 ROOF DECKS
GRADE 50 STEEL

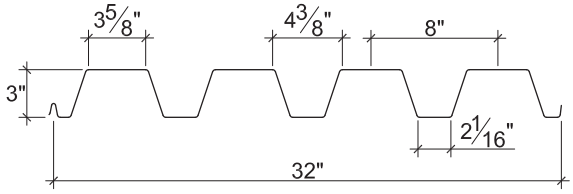
Imperial LSD

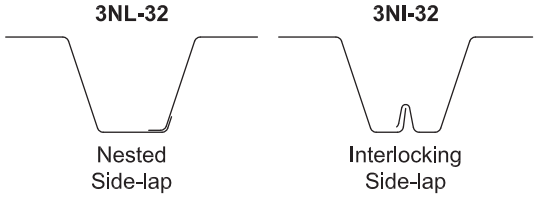
32” WIDE 3N ROOF DECKS

- **3NL-32 Deck used with Side-lap Screws**
- **3NI-32 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.8	0.0295	50	0.643	0.715	0.345	0.372	1294	1395	2785
20	2.2	0.0358	50	0.806	0.886	0.448	0.476	1680	1785	4814
18	2.9	0.0474	50	1.123	1.200	0.660	0.675	2475	2532	8445
16	3.7	0.0598	50	1.479	1.524	0.869	0.885	3259	3319	11602

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"
22	729	801	922	1024	1555	1808	640	689	772	842	1812	2126
20	1053	1153	1322	1464	2227	2758	993	1067	1189	1292	2643	3320
18	1786	1947	2218	2447	3736	4680	1844	1970	2181	2359	4534	5771
16	2762	3000	3399	3735	5729	7109	3041	3235	3560	3835	7054	8900

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- UL and FM Listed
- Standard lengths – 6’-0” to 42’-0”
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6’-0”
  - -Sheet Lengths > 42’-0”
  - -Alternative metallic and painted finishes
- Web Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 4'-0"	6'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
22	Single	$øW_n$	647	288	162	128	104	86	72	53	40	32	26
		L/240	659	195	82	58	42	32	24	15	10	7	5
	Double	$øW_n$	591	286	166	133	108	90	76	56	43	34	28
		L/240	1764	523	221	155	113	85	65	41	28	19	14
	Triple	$øW_n$	697	346	204	163	134	111	94	70			
		L/240	1383	410	173	121	88	66	51	32			
20	Single	$øW_n$	840	373	210	166	134	111	93	69	53	41	34
		L/240	826	245	103	72	53	40	31	19	13	9	7
	Double	$øW_n$	810	379	217	173	140	116	98	72	55	44	36
		L/240	2186	648	273	192	140	105	81	51	34	24	17
	Triple	$øW_n$	975	465	269	214	174	145	122	90			
		L/240	1713	508	214	150	110	82	63	40			
18	Single	$øW_n$	1238	550	309	244	198	164	138	101	77	61	50
		L/240	1150	341	144	101	74	55	43	27	18	13	9
	Double	$øW_n$	1185	546	311	247	200	166	140	103	79	62	50
		L/240	2961	877	370	260	189	142	110	69	46	32	24
	Triple	$øW_n$	1443	674	386	306	249	206	174	128			
		L/240	2321	688	290	204	149	112	86	54			
16	Single	$øW_n$	1629	724	407	322	261	215	181	133	102	80	65
		L/240	1515	449	189	133	97	73	56	35	24	17	12
	Double	$øW_n$	1563	717	408	324	263	218	183	135	103	82	66
		L/240	3760	1114	470	330	241	181	139	88	59	41	30
	Triple	$øW_n$	1906	886	507	403	327	271	228	168			
		L/240	2947	873	368	259	189	142	109	69			

Note:

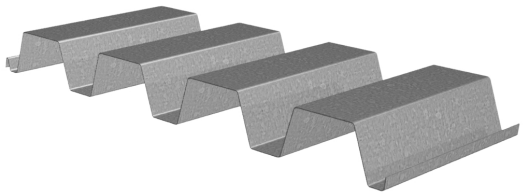
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NL-32/3NI-32 ROOF DECKS
GRADE 80 STEEL

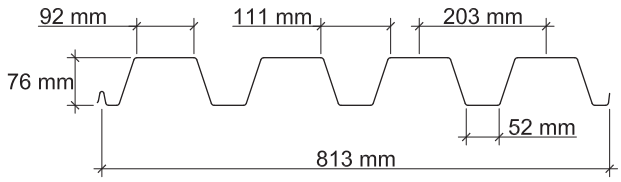
Metric LSD

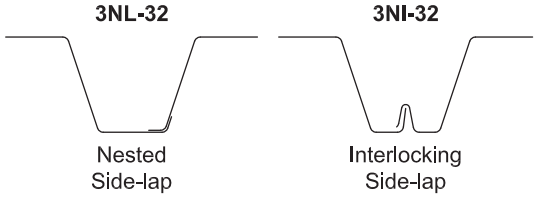
32” WIDE 3N ROOF DECKS

- **3NL-32 Deck used with Side-lap Screws**
- **3NI-32 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 414 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	8.78	**0.75**	414	867.1	965.5	18.01	18.60	6706	6926	41
20	10.74	**0.91**	414	1084.3	1196.3	23.33	24.89	8687	9268	73
18	14.15	**1.20**	414	1506.2	1631.9	34.25	35.43	12751	13191	135

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	100	200	40	50	75	100	100	200
22	13.0	14.0	16.1	17.8	27.1	31.7	11.3	12.0	13.5	14.7	31.5	37.2
20	18.7	20.1	23.0	25.5	38.8	48.3	17.6	18.6	20.7	22.5	46.0	58.1
18	31.7	33.9	38.6	42.6	65.1	81.5	32.6	34.4	38.0	41.1	79.0	100.5

Standard Features

- ASTM A653/A653M SS GR80, with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- UL and FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Web Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800
22	Single	$øW_n$	16.6	12.2	9.3	7.4	6.0	4.9	4.1	3.5	3.0	2.7	2.3
		L/240	9.7	6.1	4.1	2.9	2.1	1.6	1.2	1.0	0.8	0.6	0.5
	Double	$øW_n$	15.5	11.7	9.1	7.3	5.9	4.9	4.2	3.6	3.1	2.7	2.4
		L/240	26.0	16.4	11.0	7.7	5.6	4.2	3.3	2.6	2.0	1.7	1.4
	Triple	$øW_n$	18.6	14.2	11.1	8.9	7.3	6.1	5.2	4.4	3.8		
		L/240	20.4	12.8	8.6	6.0	4.4	3.3	2.5	2.0	1.6		
20	Single	$øW_n$	21.5	15.8	12.1	9.6	7.7	6.4	5.4	4.6	3.9	3.4	3.0
		L/240	12.1	7.6	5.1	3.6	2.6	2.0	1.5	1.2	1.0	0.8	0.6
	Double	$øW_n$	21.6	16.1	12.5	9.9	8.1	6.7	5.6	4.8	4.2	3.6	3.2
		L/240	32.2	20.3	13.6	9.6	7.0	5.2	4.0	3.2	2.5	2.1	1.7
	Triple	$øW_n$	26.4	19.8	15.4	12.3	10.0	8.3	7.0	6.0	5.2		
		L/240	25.3	15.9	10.7	7.5	5.5	4.1	3.2	2.5	2.0		
18	Single	$øW_n$	31.6	23.2	17.8	14.0	11.4	9.4	7.9	6.7	5.8	5.0	4.4
		L/240	16.9	10.6	7.1	5.0	3.6	2.7	2.1	1.7	1.3	1.1	0.9
	Double	$øW_n$	31.5	23.4	18.0	14.3	11.6	9.6	8.1	6.9	6.0	5.2	4.6
		L/240	44.0	27.7	18.6	13.0	9.5	7.1	5.5	4.3	3.5	2.8	2.3
	Triple	$øW_n$	38.8	28.9	22.3	17.7	14.4	12.0	10.1	8.6	7.4		
		L/240	34.5	21.7	14.5	10.2	7.4	5.6	4.3	3.4	2.7		

Note:

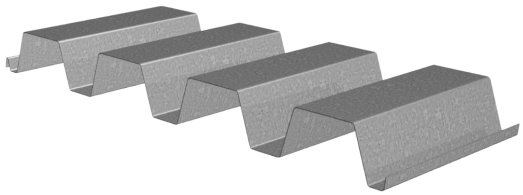
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NL-32/3NI-32 ROOF DECKS
GRADE 80 STEEL

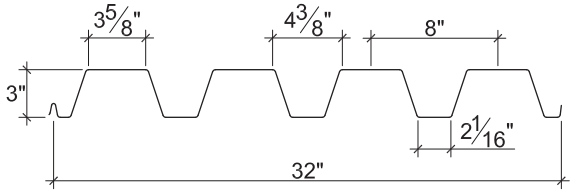
Imperial LSD

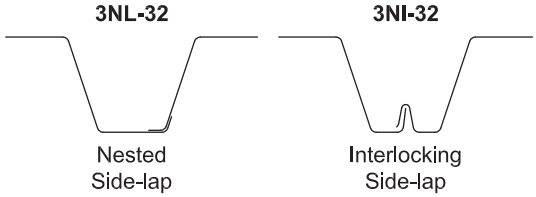
32” WIDE 3N ROOF DECKS

- **3NL-32 Deck used with Side-lap Screws**
- **3NI-32 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 60 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.8	0.0295	60	0.635	0.707	0.335	0.346	1508	1557	2785
20	2.2	0.0358	60	0.794	0.876	0.434	0.463	1953	2084	4990
18	2.9	0.0474	60	1.103	1.195	0.637	0.659	2867	2966	9250

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"
22	874	961	1107	1229	1866	2169	768	827	927	1011	2174	2551
20	1263	1384	1586	1757	2673	3310	1192	1280	1427	1551	3172	3983
18	2143	2337	2662	2936	4483	5616	2213	2364	2617	2830	5441	6925

Standard Features

- ASTM A653/A653M SS GR80, with Z275/G90 galvanized or ZF75/A25 galvannealed
- UL and FM Listed
- Standard lengths – 6’-0” to 42’-0”
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6’-0”
  - -Sheet Lengths > 42’-0”
  - -Alternative metallic and painted finishes
- Web Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 4'-0"	6'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
22	Single	$øW_n$	754	335	188	149	121	100	84	62	47	37	30
		L/240	650	193	81	57	42	31	24	15	10	7	5
	Double	$øW_n$	638	314	184	147	120	100	84	62	48	38	31
		L/240	1744	517	218	153	112	84	65	41	27	19	14
	Triple	$øW_n$	746	378	224	180	148	123	104	77			
		L/240	1367	405	171	120	88	66	51	32			
20	Single	$øW_n$	977	434	244	193	156	129	109	80	61	48	39
		L/240	813	241	102	71	52	39	30	19	13	9	7
	Double	$øW_n$	924	437	252	200	163	135	114	84	65	51	41
		L/240	2161	640	270	190	138	104	80	50	34	24	17
	Triple	$øW_n$	1104	534	311	248	202	168	142	105			
		L/240	1694	502	212	149	108	81	63	40			
18	Single	$øW_n$	1433	637	358	283	229	190	159	117	90	71	57
		L/240	1130	335	141	99	72	54	42	26	18	12	9
	Double	$øW_n$	1376	637	363	288	234	194	163	120	92	73	59
		L/240	2949	874	369	259	189	142	109	69	46	32	24
	Triple	$øW_n$	1670	784	451	358	291	241	203	150			
		L/240	2311	685	289	203	148	111	86	54			

Note:

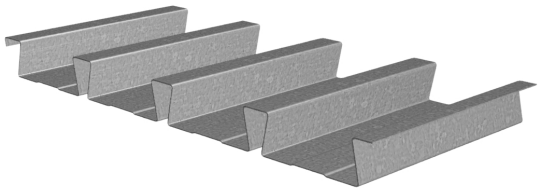
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

2.0D DOVETAIL ROOF DECK
GRADE 40 STEEL

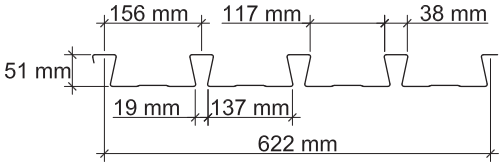
Metric LSD

2.0D DOVETAIL ROOF DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions



Nested
Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 276 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	10.25	**0.75**	276	528.5	490.2	14.62	14.62	3631	3631	54
20	12.69	**0.91**	276	644.6	610.4	18.44	17.96	4576	4456	65
18	16.59	**1.20**	276	854.9	835.7	24.89	24.19	6177	6005	86
16	20.98	**1.52**	276	1081.5	1080.2	31.56	30.97	7835	7687	107

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	75	125	40	50	75	100	75	125
22	13.2	14.2	16.3	18.1	24.4	28.9	13.1	13.9	15.5	16.9	29.9	35.7
20	18.8	20.1	23.1	25.6	34.8	40.9	19.7	20.8	23.2	25.2	43.0	51.2
18	31.3	33.5	38.2	42.1	57.9	67.5	35.2	37.1	41.0	44.3	72.7	85.9
16	47.8	51.0	57.8	63.5	88.3	102.3	56.5	59.3	65.3	70.3	111.8	131.2

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized
- Standard lengths – 1.83 m to 12.8 m
- UL and FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200
22	Single	$øW_n$	20.2	12.9	9.0	6.6	5.1	4.0	3.2	2.7	2.2	1.9	1.7
		L/240	20.0	10.2	5.9	3.7	2.5	1.8	1.3	1.0	0.7	0.6	0.5
	Double	$øW_n$	19.5	12.6	8.8	6.5	5.0	4.0	3.2	2.7	2.2	1.9	1.6
		L/240	44.6	22.8	13.2	8.3	5.6	3.9	2.9	2.1	1.7	1.3	1.0
	Triple	$øW_n$	24.0	15.6	11.0	8.1	6.2	4.9	4.0	3.3	2.8	2.4	2.1
		L/240	35.0	17.9	10.4	6.5	4.4	3.1	2.2	1.7	1.3	1.0	0.8
20	Single	$øW_n$	25.5	16.3	11.3	8.3	6.4	5.0	4.1	3.4	2.8	2.4	2.1
		L/240	24.3	12.5	7.2	4.5	3.0	2.1	1.6	1.2	0.9	0.7	0.6
	Double	$øW_n$	23.9	15.5	10.8	8.0	6.1	4.9	3.9	3.3	2.7	2.3	2.0
		L/240	55.5	28.4	16.5	10.4	6.9	4.9	3.6	2.7	2.1	1.6	1.3
	Triple	$øW_n$	29.4	19.2	13.4	9.9	7.6	6.1	4.9	4.1	3.4	2.9	2.5
		L/240	43.5	22.3	12.9	8.1	5.4	3.8	2.8	2.1	1.6	1.3	1.0
18	Single	$øW_n$	34.4	22.0	15.3	11.2	8.6	6.8	5.5	4.5	3.8	3.3	2.8
		L/240	32.3	16.5	9.6	6.0	4.0	2.8	2.1	1.6	1.2	0.9	0.8
	Double	$øW_n$	32.1	20.8	14.6	10.8	8.3	6.6	5.3	4.4	3.7	3.2	2.7
		L/240	76.0	38.9	22.5	14.2	9.5	6.7	4.9	3.7	2.8	2.2	1.8
	Triple	$øW_n$	39.5	25.8	18.1	13.4	10.3	8.2	6.6	5.5	4.6	3.9	3.4
		L/240	59.6	30.5	17.7	11.1	7.4	5.2	3.8	2.9	2.2	1.7	1.4
16	Single	$øW_n$	43.6	27.9	19.4	14.2	10.9	8.6	7.0	5.8	4.8	4.1	3.6
		L/240	40.8	20.9	12.1	7.6	5.1	3.6	2.6	2.0	1.5	1.2	1.0
	Double	$øW_n$	41.0	26.6	18.7	13.8	10.6	8.4	6.8	5.6	4.7	4.0	3.5
		L/240	98.3	50.3	29.1	18.3	12.3	8.6	6.3	4.7	3.6	2.9	2.3
	Triple	$øW_n$	50.4	32.9	23.1	17.1	13.2	10.4	8.5	7.0	5.9	5.0	4.3
		L/240	77.0	39.4	22.8	14.4	9.6	6.8	4.9	3.7	2.9	2.2	1.8

Note:

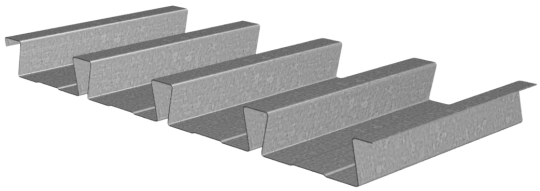
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

2.0D DOVETAIL ROOF DECK
GRADE 40 STEEL

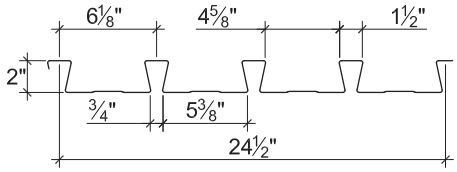
Imperial LSD

2.0D DOVETAIL ROOF DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions



Nested
Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 40 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	2.1	0.0295	40	0.387	0.359	0.272	0.272	816	816	3706
20	2.6	0.0358	40	0.472	0.447	0.343	0.334	1029	1002	4477
18	3.4	0.0474	40	0.626	0.612	0.463	0.450	1389	1350	5868
16	4.3	0.0598	40	0.792	0.791	0.587	0.576	1761	1728	7325

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	5"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	5"
22	888	976	1123	1248	1681	1990	885	953	1068	1165	2057	2463
20	1267	1388	1591	1762	2393	2817	1333	1431	1595	1734	2963	3530
18	2116	2308	2629	2899	3985	4652	2386	2548	2821	3051	5005	5916
16	3234	3512	3979	4372	6075	7035	3835	4079	4489	4835	7699	9031

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized
- Standard lengths – 6'-0" to 42'-0"
- UL and FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (psf)

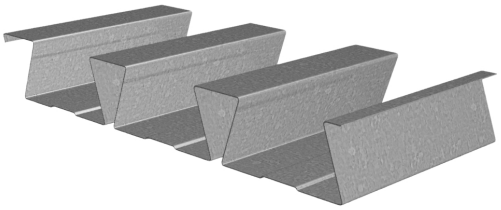
Deck Gage	Spans	Criteria	Span (ft-in.) 4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"
22	Single	$øW_n$	408	261	181	133	102	81	65	54	45	39	33
		L/240	396	203	117	74	50	35	25	19	15	12	9
	Double	$øW_n$	394	255	178	132	101	80	65	54	45	39	33
		L/240	886	454	262	165	111	78	57	43	33	26	21
	Triple	$øW_n$	484	316	221	164	126	100	81	67	56	48	41
		L/240	694	355	206	130	87	61	44	33	26	20	16
20	Single	$øW_n$	514	329	229	168	129	102	82	68	57	49	42
		L/240	483	248	143	90	60	42	31	23	18	14	11
	Double	$øW_n$	482	313	219	161	124	98	80	66	55	47	41
		L/240	1103	565	327	206	138	97	71	53	41	32	26
	Triple	$øW_n$	594	387	272	201	154	122	99	82	69	59	51
		L/240	864	443	256	161	108	76	55	42	32	25	20
18	Single	$øW_n$	694	444	309	227	174	137	111	92	77	66	57
		L/240	641	328	190	120	80	56	41	31	24	19	15
	Double	$øW_n$	649	421	295	217	167	132	107	89	75	64	55
		L/240	1510	773	447	282	189	133	97	73	56	44	35
	Triple	$øW_n$	798	521	365	270	208	165	134	111	93	79	69
		L/240	1184	606	351	221	148	104	76	57	44	34	28
16	Single	$øW_n$	881	564	391	288	220	174	141	116	98	83	72
		L/240	811	415	240	151	101	71	52	39	30	24	19
	Double	$øW_n$	829	538	377	278	214	169	137	114	96	81	70
		L/240	1952	999	578	364	244	171	125	94	72	57	46
	Triple	$øW_n$	1018	665	467	346	266	211	171	142	119	102	88
		L/240	1530	783	453	285	191	134	98	74	57	45	36

Note:

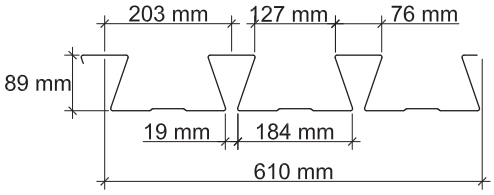
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

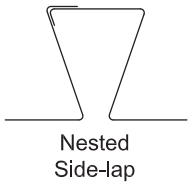
3.5D DOVETAIL ROOF DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 276 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
20	16.10	**0.91**	276	2406.2	2247.8	36.34	41.99	9020	10421	64
18	20.98	**1.20**	276	3297.9	3102.6	52.69	57.53	13079	14280	112
16	26.35	**1.52**	276	4278.4	4053.1	70.81	74.03	17575	18376	155

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 50	75	100	125	Interior Bearing 100	150	Two-Flange Loading End Bearing 50	75	100	125	Interior Bearing 100	150
20	13.7	15.7	17.4	18.8	27.8	33.6	13.1	14.6	15.8	16.9	32.8	37.9
18	23.1	26.3	29.0	31.3	46.2	52.5	24.0	26.6	28.7	30.6	55.8	64.0
16	35.4	40.1	44.1	47.6	70.2	83.3	39.2	43.1	46.4	49.3	86.1	98.2

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized
- Standard lengths – 1.83 m to 12.8 m
- UL and FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (kPa)

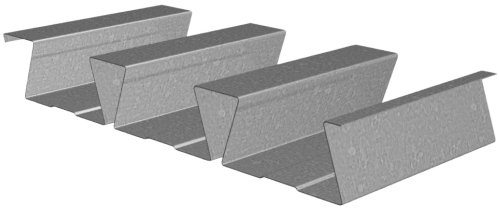
Deck Gage	Spans	Criteria	Span (mm) 3300	3600	3900	4200	4500	4800	5100	5400	5700	6000	6300
20	Single	$øW_n$	6.6	5.6	4.8	4.1	3.6	3.1	2.8	2.5	2.2	2.0	1.8
		L/240	4.4	3.4	2.6	2.1	1.7	1.4	1.2	1.0	0.8	0.7	0.6
	Double	$øW_n$	7.5	6.3	5.4	4.7	4.1	3.6	3.2	2.8	2.5	2.3	2.1
		L/240	9.8	7.6	6.0	4.8	3.9	3.2	2.7	2.2	1.9	1.6	1.4
	Triple	$øW_n$	9.2	7.8	6.7	5.8							
		L/240	7.7	5.9	4.7	3.7							
18	Single	$øW_n$	9.6	8.1	6.9	5.9	5.2	4.6	4.0	3.6	3.2	2.9	2.6
		L/240	6.0	4.6	3.6	2.9	2.4	1.9	1.6	1.4	1.2	1.0	0.9
	Double	$øW_n$	10.3	8.7	7.4	6.4	5.6	4.9	4.4	3.9	3.5	3.2	2.9
		L/240	13.6	10.5	8.2	6.6	5.4	4.4	3.7	3.1	2.6	2.3	2.0
	Triple	$øW_n$	12.8	10.8	9.2	8.0							
		L/240	10.6	8.2	6.4	5.2							
16	Single	$øW_n$	12.9	10.9	9.3	8.0	7.0	6.1	5.4	4.8	4.3	3.9	3.6
		L/240	7.8	6.0	4.7	3.8	3.1	2.5	2.1	1.8	1.5	1.3	1.1
	Double	$øW_n$	13.3	11.2	9.6	8.3	7.2	6.3	5.6	5.0	4.5	4.1	3.7
		L/240	17.7	13.7	10.7	8.6	7.0	5.8	4.8	4.0	3.4	2.9	2.5
	Triple	$øW_n$	16.5	13.9	11.9	10.3							
		L/240	13.9	10.7	8.4	6.7							

Note:

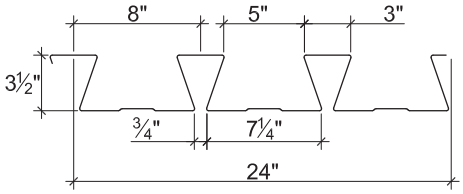
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

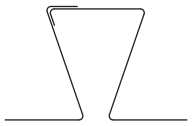
3.5D DOVETAIL ROOF DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 40 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
20	3.3	0.0358	40	1.762	1.646	0.676	0.781	2028	2343	4397
18	4.3	0.0474	40	2.415	2.272	0.980	1.070	2940	3210	7695
16	5.4	0.0598	40	3.133	2.968	1.317	1.377	3951	4131	10640

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 2"	3"	4"	5"	One-Flange Loading, Interior Bearing 4"	6"	Two-Flange Loading, End Bearing 2"	3"	4"	5"	Two-Flange Loading, Interior Bearing 4"	6"
20	942	1080	1197	1299	1915	2192	900	1003	1090	1167	2263	2613
18	1588	1809	1995	2159	3178	3614	1650	1827	1976	2107	3841	4410
16	2439	2763	3036	3277	4831	5462	2693	2964	3192	3393	5926	6768

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized
- Standard lengths – 6'-0" to 42'-0"
- UL and FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Perforated Acoustical Versions

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"
20	Single	$øW_n$	134	113	96	83	72	63	56	50	45	41	37
		L/240	87	67	53	42	34	28	24	20	17	14	12
	Double	$øW_n$	151	127	109	94	82	72	64	57	51	46	42
		L/240	195	150	118	95	77	63	53	45	38	32	28
	Triple	$øW_n$	186	157	135	117							
		L/240	153	118	93	74							
18	Single	$øW_n$	194	163	139	120	105	92	81	73	65	59	53
		L/240	119	92	72	58	47	39	32	27	23	20	17
	Double	$øW_n$	209	176	150	130	113	99	88	79	71	64	58
		L/240	270	208	163	131	106	88	73	62	52	45	39
	Triple	$øW_n$	259	218	187	161							
		L/240	211	163	128	102							
16	Single	$øW_n$	261	220	187	161	140	123	109	98	88	79	72
		L/240	154	119	93	75	61	50	42	35	30	26	22
	Double	$øW_n$	269	227	193	167	146	128	114	101	91	82	75
		L/240	352	271	213	171	139	114	95	80	68	59	51
	Triple	$øW_n$	334	282	241	208							
		L/240	276	213	167	134							

Note:

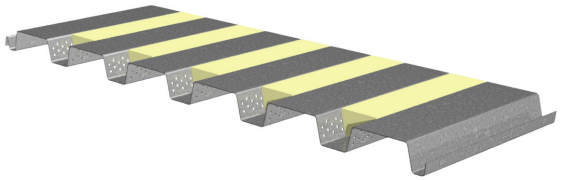
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

1.5BA-36/1.5BIA-36 ACOUSTICAL ROOF DECKS
GRADE 50 STEEL

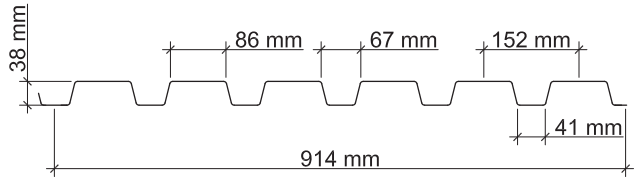
Metric LSD

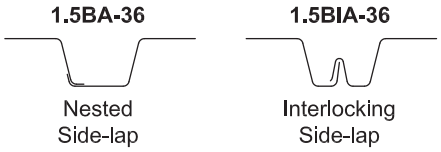
1.5B ACOUSTICAL ROOF DECKS

- **1.5BA-36 Deck used with Side-lap Screws**
- **1.5BIA-36 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	7.32	**0.75**	345	202.1	230.8	8.66	9.14	2686	2834	38
20	9.27	**0.91**	345	255.4	281.3	11.45	11.72	3555	3635	45
18	12.20	**1.20**	345	359.2	376.9	15.59	16.24	4836	5036	59
16	15.62	**1.52**	345	472.5	475.2	20.11	20.54	6237	6373	74

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	75	100	40	50	75	100	75	100
22	15.8	17.0	19.6	21.5	28.1	30.6	14.8	15.7	17.6	19.0	34.1	37.3
20	22.6	24.3	27.8	30.4	40.4	43.7	22.6	23.9	26.6	28.6	49.7	54.1
18	38.0	40.6	46.3	50.2	68.2	73.2	41.0	43.2	47.8	51.0	85.1	91.9
16	58.3	62.2	70.4	75.9	104.9	111.8	66.6	69.9	76.9	81.5	132.3	141.9

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm)										
			1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
22	Single	$øW_n$	15.0	11.0	8.4	6.6	5.4	4.5	3.7	3.2	2.7	2.4	2.1
		L/240	7.6	4.8	3.2	2.3	1.6	1.2	1.0	0.8	0.6	0.5	0.4
	Double	$øW_n$	15.1	11.2	8.6	6.9	5.6	4.6	3.9	3.3	2.9	2.5	2.2
		L/240	21.0	13.2	8.9	6.2	4.5	3.4	2.6	2.1	1.7	1.3	1.1
	Triple	$øW_n$	18.5	13.8	10.7	8.5	6.9	5.7	4.8	4.1	3.6	3.1	2.7
		L/240	16.5	10.4	6.9	4.9	3.6	2.7	2.1	1.6	1.3	1.1	0.9
20	Single	$øW_n$	19.8	14.5	11.1	8.8	7.1	5.9	4.9	4.2	3.6	3.2	2.8
		L/240	9.6	6.1	4.1	2.9	2.1	1.6	1.2	0.9	0.8	0.6	0.5
	Double	$øW_n$	19.2	14.3	11.0	8.8	7.1	5.9	5.0	4.3	3.7	3.2	2.8
		L/240	25.6	16.1	10.8	7.6	5.5	4.2	3.2	2.5	2.0	1.6	1.3
	Triple	$øW_n$	23.5	17.6	13.6	10.9	8.9	7.4	6.2	5.3	4.6	4.0	3.5
		L/240	20.1	12.6	8.5	5.9	4.3	3.3	2.5	2.0	1.6	1.3	1.1
18	Single	$øW_n$	26.9	19.8	15.2	12.0	9.7	8.0	6.7	5.7	4.9	4.3	3.8
		L/240	13.6	8.5	5.7	4.0	2.9	2.2	1.7	1.3	1.1	0.9	0.7
	Double	$øW_n$	26.4	19.7	15.2	12.1	9.9	8.2	6.9	5.9	5.1	4.4	3.9
		L/240	34.3	21.6	14.5	10.2	7.4	5.6	4.3	3.4	2.7	2.2	1.8
	Triple	$øW_n$	32.3	24.2	18.8	15.0	12.2	10.2	8.6	7.3	6.3	5.5	4.9
		L/240	26.9	16.9	11.3	8.0	5.8	4.4	3.4	2.6	2.1	1.7	1.4
16	Single	$øW_n$	34.7	25.5	19.5	15.4	12.5	10.3	8.7	7.4	6.4	5.6	4.9
		L/240	17.8	11.2	7.5	5.3	3.9	2.9	2.2	1.8	1.4	1.1	0.9
	Double	$øW_n$	33.4	24.9	19.3	15.3	12.5	10.4	8.7	7.5	6.4	5.6	4.9
		L/240	43.2	27.2	18.2	12.8	9.3	7.0	5.4	4.2	3.4	2.8	2.3
	Triple	$øW_n$	40.7	30.6	23.7	18.9	15.5	12.8	10.8	9.3	8.0	7.0	6.2
		L/240	33.9	21.3	14.3	10.0	7.3	5.5	4.2	3.3	2.7	2.2	1.8

Note:

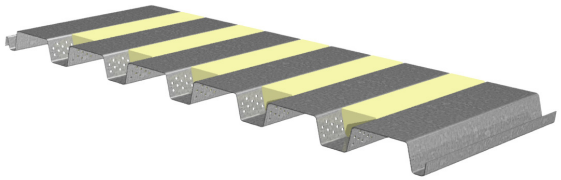
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

1.5BA-36/1.5BIA-36 ACOUSTICAL ROOF DECKS
GRADE 50 STEEL

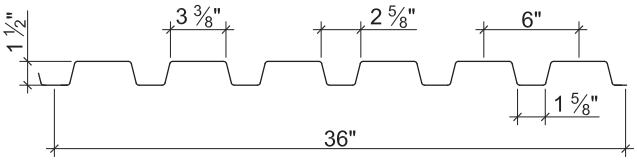
Imperial LSD

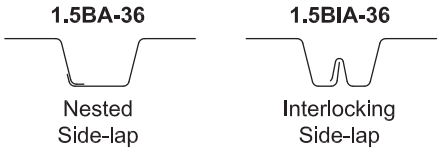
1.5B ACOUSTICAL ROOF DECKS

- **1.5BA-36 Deck used with Side-lap Screws**
- **1.5BIA-36 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.5	0.0295	50	0.148	0.169	0.161	0.170	604	637	2570
20	1.9	0.0358	50	0.187	0.206	0.213	0.218	799	817	3098
18	2.5	0.0474	50	0.263	0.276	0.290	0.302	1087	1132	4052
16	3.2	0.0598	50	0.346	0.348	0.374	0.382	1402	1433	5045

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"
22	1066	1171	1348	1472	1937	2094	1005	1083	1213	1304	2353	2558
20	1526	1672	1917	2084	2782	2994	1530	1643	1831	1960	3423	3705
18	2567	2799	3188	3440	4692	5012	2780	2970	3288	3494	5862	6298
16	3943	4282	4851	5198	7220	7662	4518	4806	5289	5584	9110	9721

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- FM Listed
- Standard lengths – 6'-0" to 42'-0"
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 2'-0"	3'-0"	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
22	Single	$øW_n$	1208	537	302	193	134	99	75	60	48	40	34
		L/240	1213	359	152	78	45	28	19	13	10	7	6
	Double	$øW_n$	1083	523	304	198	139	102	79	62	51	42	35
		L/240	3336	988	417	213	124	78	52	37	27	20	15
	Triple	$øW_n$	1278	634	373	244	172	127	98	78	63	52	44
		L/240	2615	775	327	167	97	61	41	29	21	16	12
20	Single	$øW_n$	1598	710	400	256	178	130	100	79	64	53	44
		L/240	1532	454	192	98	57	36	24	17	12	9	7
	Double	$øW_n$	1364	665	388	253	177	131	101	80	65	54	45
		L/240	4066	1205	508	260	151	95	64	45	33	24	19
	Triple	$øW_n$	1602	803	475	312	219	163	125	99	81	67	56
		L/240	3187	944	398	204	118	74	50	35	25	19	15
18	Single	$øW_n$	2174	966	544	348	242	178	136	107	87	72	60
		L/240	2155	639	269	138	80	50	34	24	17	13	10
	Double	$øW_n$	1856	912	534	349	245	181	139	110	90	74	62
		L/240	5448	1614	681	349	202	127	85	60	44	33	25
	Triple	$øW_n$	2169	1098	653	429	303	225	173	137	112	93	78
		L/240	4270	1265	534	273	158	100	67	47	34	26	20
16	Single	$øW_n$	2804	1246	701	449	312	229	175	138	112	93	78
		L/240	2835	840	354	181	105	66	44	31	23	17	13
	Double	$øW_n$	2337	1151	675	441	310	229	176	140	113	94	79
		L/240	6869	2035	859	440	254	160	107	75	55	41	32
	Triple	$øW_n$	2727	1384	824	542	383	284	219	174	141	117	99
		L/240	5384	1595	673	345	199	126	84	59	43	32	25

Note:

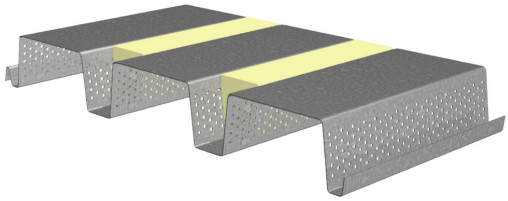
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NA-24/3NIA-24 ACOUSTICAL ROOF DECKS
GRADE 50 STEEL

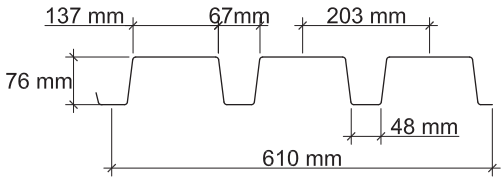
Metric LSD

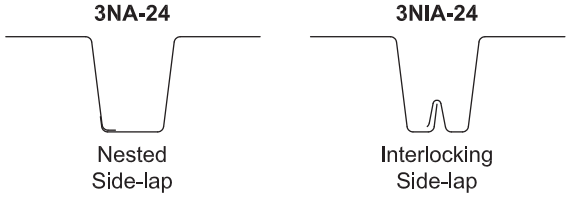
24" WIDE 3N ACOUSTICAL ROOF DECKS

- **3NA-24 Deck used with Side-lap Screws**
- **3NIA-24 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	9.28	**0.75**	345	910.8	1113.0	18.02	19.83	5590	6151	34
20	11.72	**0.91**	345	1142.0	1376.5	23.53	26.20	7300	8130	55
18	15.14	**1.20**	345	1605.9	1843.5	33.90	36.70	10518	11386	97
16	19.04	**1.52**	345	2134.4	2328.3	44.07	47.30	13674	14677	124

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	Interior Bearing 100	200	Two-Flange Loading End Bearing 40	50	75	100	Interior Bearing 100	200
22	11.1	11.9	13.7	15.2	24.0	28.0	9.3	9.9	11.0	12.0	27.2	32.2
20	16.1	17.3	19.8	21.9	34.4	42.8	14.6	15.4	17.2	18.7	39.9	50.4
18	27.4	29.3	33.4	36.8	57.7	72.2	27.5	28.9	32.0	34.6	68.7	87.4
16	42.5	45.3	51.3	56.3	88.4	109.6	45.6	47.8	52.6	56.7	107.1	135.0

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800
22	Single	$øW_n$	13.8	10.2	7.8	6.1	5.0	4.1	3.5	2.9	2.5	2.2	1.9
		L/240	10.2	6.4	4.3	3.0	2.2	1.7	1.3	1.0	0.8	0.7	0.5
	Double	$øW_n$	13.6	10.3	8.0	6.4	5.3	4.4	3.7	3.2	2.7	2.4	2.1
		L/240	30.0	18.9	12.7	8.9	6.5	4.9	3.7	2.9	2.4	1.9	1.6
	Triple	$øW_n$	16.3	12.5	9.8	7.9	6.5	5.4	4.6	3.9	3.4		
		L/240	23.5	14.8	9.9	7.0	5.1	3.8	2.9	2.3	1.9		
20	Single	$øW_n$	18.1	13.3	10.2	8.0	6.5	5.4	4.5	3.8	3.3	2.9	2.5
		L/240	12.8	8.1	5.4	3.8	2.8	2.1	1.6	1.3	1.0	0.8	0.7
	Double	$øW_n$	18.6	14.0	10.8	8.6	7.0	5.8	4.9	4.2	3.6	3.2	2.8
		L/240	37.1	23.4	15.7	11.0	8.0	6.0	4.6	3.6	2.9	2.4	2.0
	Triple	$øW_n$	22.6	17.0	13.3	10.6	8.7	7.2	6.1	5.2	4.5		
		L/240	29.1	18.3	12.3	8.6	6.3	4.7	3.6	2.9	2.3		
18	Single	$øW_n$	26.0	19.1	14.6	11.6	9.4	7.7	6.5	5.5	4.8	4.2	3.7
		L/240	18.0	11.3	7.6	5.3	3.9	2.9	2.2	1.8	1.4	1.1	0.9
	Double	$øW_n$	26.8	19.9	15.4	12.2	10.0	8.3	7.0	5.9	5.1	4.5	3.9
		L/240	49.7	31.3	21.0	14.7	10.7	8.1	6.2	4.9	3.9	3.2	2.6
	Triple	$øW_n$	32.8	24.5	19.0	15.2	12.3	10.3	8.6	7.4	6.4		
		L/240	38.9	24.5	16.4	11.5	8.4	6.3	4.9	3.8	3.1		
16	Single	$øW_n$	33.8	24.9	19.0	15.0	12.2	10.1	8.5	7.2	6.2	5.4	4.8
		L/240	23.9	15.0	10.1	7.1	5.2	3.9	3.0	2.3	1.9	1.5	1.3
	Double	$øW_n$	34.5	25.7	19.8	15.8	12.8	10.6	9.0	7.7	6.6	5.8	5.1
		L/240	62.7	39.5	26.5	18.6	13.6	10.2	7.8	6.2	4.9	4.0	3.3
	Triple	$øW_n$	42.3	31.6	24.5	19.5	15.9	13.2	11.1	9.5	8.2		
		L/240	49.2	31.0	20.7	14.6	10.6	8.0	6.1	4.8	3.9		

Note:

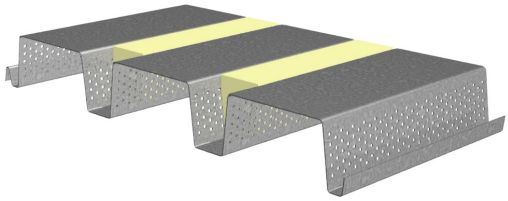
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NA-24/3NIA-24 ACOUSTICAL ROOF DECKS
GRADE 50 STEEL

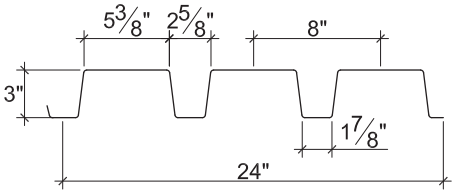
Imperial LSD

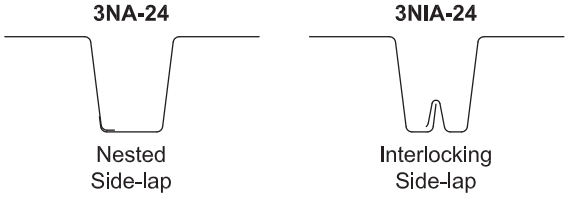
24” WIDE 3N ACOUSTICAL ROOF DECKS

- **3NA-24 Deck used with Side-lap Screws**
- **3NIA-24 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.9	0.0295	50	0.667	0.815	0.335	0.369	1257	1383	2357
20	2.4	0.0358	50	0.837	1.008	0.438	0.487	1641	1828	3801
18	3.1	0.0474	50	1.176	1.350	0.631	0.683	2364	2560	6666
16	3.9	0.0598	50	1.563	1.705	0.820	0.880	3074	3299	8529

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"
22	748	822	946	1051	1653	1921	630	678	760	829	1877	2203
20	1084	1188	1362	1509	2367	2931	989	1062	1184	1287	2748	3450
18	1850	2018	2298	2535	3971	4974	1861	1988	2200	2380	4730	6021
16	2870	3117	3531	3881	6086	7553	3092	3289	3620	3899	7374	9304

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- FM Listed
- Standard lengths – 6’-0” to 42’-0”
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6’-0”
  - -Sheet Lengths > 42’-0”
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 4'-0"	6'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
22	Single	$øW_n$	628	279	157	124	101	83	70	51	39	31	25
		L/240	683	202	85	60	44	33	25	16	11	7	5
	Double	$øW_n$	558	276	162	130	106	88	75	55	43	34	27
		L/240	2011	596	251	177	129	97	74	47	31	22	16
	Triple	$øW_n$	649	331	198	159	130	109	92	68			
		L/240	1576	467	197	138	101	76	58	37			
20	Single	$øW_n$	821	365	205	162	131	109	91	67	51	41	33
		L/240	857	254	107	75	55	41	32	20	13	9	7
	Double	$øW_n$	783	377	219	174	142	118	100	74	56	45	36
		L/240	2487	737	311	218	159	120	92	58	39	27	20
	Triple	$øW_n$	926	458	269	215	176	146	123	91			
		L/240	1949	578	244	171	125	94	72	45			
18	Single	$øW_n$	1182	525	296	234	189	156	131	97	74	58	47
		L/240	1205	357	151	106	77	58	45	28	19	13	10
	Double	$øW_n$	1154	542	311	247	201	167	140	104	79	63	51
		L/240	3331	987	416	292	213	160	123	78	52	37	27
	Triple	$øW_n$	1386	664	384	306	249	207	175	129			
		L/240	2611	774	326	229	167	126	97	61			
16	Single	$øW_n$	1537	683	384	304	246	203	171	125	96	76	61
		L/240	1601	474	200	141	102	77	59	37	25	18	13
	Double	$øW_n$	1485	698	401	319	259	215	181	133	102	81	66
		L/240	4207	1246	526	369	269	202	156	98	66	46	34
	Triple	$øW_n$	1784	855	495	394	321	267	225	166			
		L/240	3297	977	412	289	211	159	122	77			

Note:

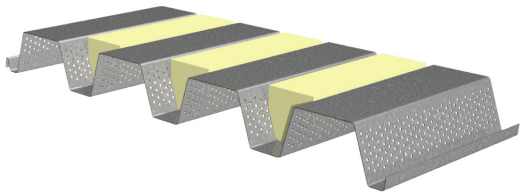
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS
GRADE 50 STEEL

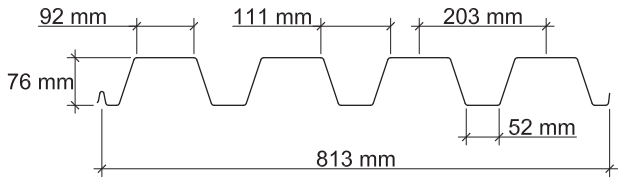
Metric LSD

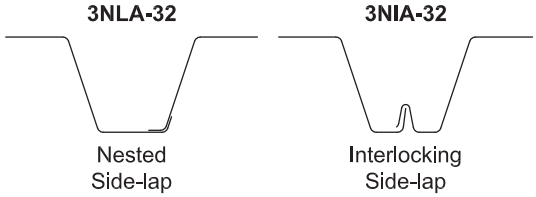
32” WIDE 3N ACOUSTICAL ROOF DECKS

- **3NLA-32 Deck used with Side-lap Screws**
- **3NIA-32 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	8.30	**0.75**	345	834.4	928.6	17.63	18.98	5473	5889	30
20	10.25	**0.91**	345	1046.0	1149.8	22.90	24.30	7106	7538	53
18	13.66	**1.20**	345	1457.1	1556.8	33.71	34.46	10461	10693	92
16	17.08	**1.52**	345	1918.7	1977.4	44.41	45.21	13780	14028	127

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	One-Flange Loading Interior Bearing 100	200	Two-Flange Loading End Bearing 40	50	75	100	Two-Flange Loading Interior Bearing 100	200
22	10.3	11.1	12.7	14.1	22.4	26.2	8.5	9.1	10.1	11.1	25.3	29.9
20	14.9	16.0	18.4	20.5	32.2	40.0	13.5	14.2	15.9	17.2	37.1	46.9
18	25.5	27.3	31.1	34.2	54.0	67.6	25.4	26.7	29.6	32.0	64.0	81.5
16	39.6	42.2	47.8	52.5	82.9	102.8	42.3	44.4	48.8	52.6	100.0	126.1

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800
22	Single	øW$_n$	13.5	10.0	7.6	6.0	4.9	4.0	3.4	2.9	2.5	2.2	1.9
		L/240	9.3	5.9	3.9	2.8	2.0	1.5	1.2	0.9	0.7	0.6	0.5
	Double	øW$_n$	12.8	9.7	7.6	6.1	5.0	4.2	3.5	3.0	2.6	2.3	2.0
		L/240	25.0	15.8	10.6	7.4	5.4	4.1	3.1	2.5	2.0	1.6	1.3
	Triple	øW$_n$	15.3	11.7	9.2	7.4	6.1	5.1	4.3	3.7	3.2		
		L/240	19.6	12.4	8.3	5.8	4.2	3.2	2.5	1.9	1.5		
20	Single	øW$_n$	17.6	12.9	9.9	7.8	6.3	5.2	4.4	3.7	3.2	2.8	2.5
		L/240	11.7	7.4	4.9	3.5	2.5	1.9	1.5	1.2	0.9	0.7	0.6
	Double	øW$_n$	17.3	13.0	10.1	8.0	6.5	5.4	4.6	3.9	3.4	2.9	2.6
		L/240	31.0	19.5	13.1	9.2	6.7	5.0	3.9	3.0	2.4	2.0	1.6
	Triple	øW$_n$	21.1	15.9	12.4	9.9	8.1	6.7	5.7	4.9	4.2		
		L/240	24.3	15.3	10.2	7.2	5.2	3.9	3.0	2.4	1.9		
18	Single	øW$_n$	25.9	19.0	14.6	11.5	9.3	7.7	6.5	5.5	4.8	4.1	3.6
		L/240	16.3	10.3	6.9	4.8	3.5	2.6	2.0	1.6	1.3	1.0	0.9
	Double	øW$_n$	25.2	18.7	14.5	11.5	9.4	7.8	6.5	5.6	4.8	4.2	3.7
		L/240	42.0	26.4	17.7	12.4	9.1	6.8	5.2	4.1	3.3	2.7	2.2
	Triple	øW$_n$	30.9	23.1	17.9	14.2	11.6	9.6	8.1	6.9	6.0		
		L/240	32.9	20.7	13.9	9.7	7.1	5.3	4.1	3.2	2.6		
16	Single	øW$_n$	34.1	25.1	19.2	15.2	12.3	10.1	8.5	7.3	6.3	5.5	4.8
		L/240	21.5	13.5	9.1	6.4	4.6	3.5	2.7	2.1	1.7	1.4	1.1
	Double	øW$_n$	33.2	24.7	19.0	15.1	12.3	10.2	8.6	7.3	6.3	5.5	4.9
		L/240	53.3	33.6	22.5	15.8	11.5	8.6	6.7	5.2	4.2	3.4	2.8
	Triple	øW$_n$	40.7	30.4	23.5	18.7	15.3	12.7	10.7	9.1	7.9		
		L/240	41.8	26.3	17.6	12.4	9.0	6.8	5.2	4.1	3.3		

Note:

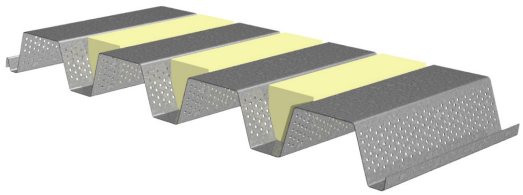
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS
GRADE 50 STEEL

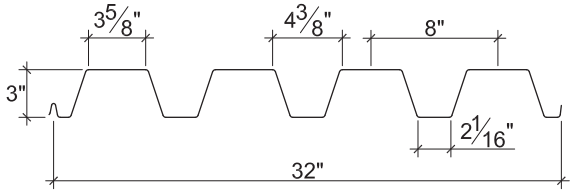
Imperial LSD

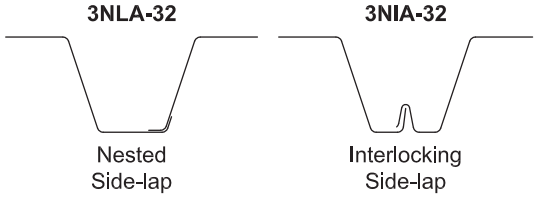
32” WIDE 3N ACOUSTICAL ROOF DECKS

- **3NLA-32 Deck used with Side-lap Screws**
- **3NIA-32 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.7	0.0295	50	0.611	0.680	0.328	0.353	1230	1324	2089
20	2.1	0.0358	50	0.766	0.842	0.426	0.452	1598	1695	3610
18	2.8	0.0474	50	1.067	1.140	0.627	0.641	2352	2404	6334
16	3.5	0.0598	50	1.405	1.448	0.826	0.841	3098	3154	8702

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"
22	694	763	878	975	1546	1797	579	623	698	762	1746	2049
20	1008	1104	1266	1402	2215	2743	912	979	1091	1186	2559	3213
18	1722	1878	2139	2360	3719	4658	1721	1839	2036	2202	4411	5614
16	2677	2907	3294	3619	5705	7079	2869	3052	3359	3618	6886	8689

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- FM Listed
- Standard lengths – 6’-0” to 42’-0”
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6’-0”
  - -Sheet Lengths > 42’-0”
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 4'-0"	6'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
22	Single	$øW_n$	615	273	154	122	98	81	68	50	38	30	25
		L/240	626	185	78	55	40	30	23	15	10	7	5
	Double	$øW_n$	519	260	154	123	101	84	71	53	41	32	26
		L/240	1678	497	210	147	107	81	62	39	26	18	13
	Triple	$øW_n$	600	311	187	151	124	103	88	65			
		L/240	1315	390	164	115	84	63	49	31			
20	Single	$øW_n$	799	355	200	158	128	106	89	65	50	39	32
		L/240	785	232	98	69	50	38	29	18	12	9	6
	Double	$øW_n$	731	351	203	162	132	110	92	68	52	41	34
		L/240	2078	616	260	182	133	100	77	48	32	23	17
	Triple	$øW_n$	866	426	250	200	163	136	115	85			
		L/240	1628	482	204	143	104	78	60	38			
18	Single	$øW_n$	1176	523	294	232	188	155	131	96	73	58	47
		L/240	1093	324	137	96	70	53	40	25	17	12	9
	Double	$øW_n$	1086	509	292	232	189	157	132	97	75	59	48
		L/240	2813	833	352	247	180	135	104	66	44	31	23
	Triple	$øW_n$	1306	624	361	288	234	195	164	121			
		L/240	2205	653	276	194	141	106	82	51			
16	Single	$øW_n$	1549	688	387	306	248	205	172	126	97	76	62
		L/240	1439	426	180	126	92	69	53	34	22	16	12
	Double	$øW_n$	1436	671	384	305	248	206	173	128	98	77	63
		L/240	3573	1059	447	314	229	172	132	83	56	39	29
	Triple	$øW_n$	1732	824	475	378	308	256	215	159			
		L/240	2800	830	350	246	179	135	104	65			

Note:

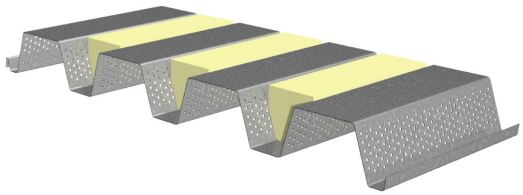
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS
GRADE 80 STEEL

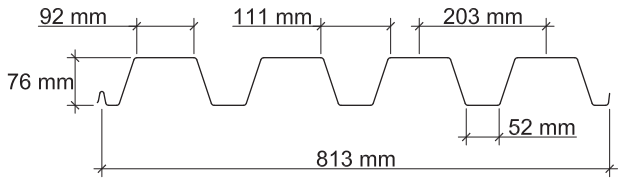
Metric LSD

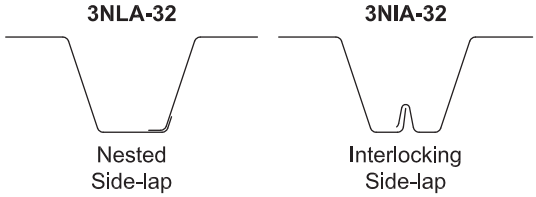
32” WIDE 3N ACOUSTICAL ROOF DECKS

- **3NLA-32 Deck used with Side-lap Screws**
- **3NIA-32 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 414 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	8.30	**0.75**	414	824.8	917.7	17.10	17.69	6365	6586	30
20	10.25	**0.91**	414	1029.7	1136.2	22.15	23.66	8247	8807	55
18	13.66	**1.20**	414	1431.1	1551.3	32.53	33.66	12110	12531	101

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	100	200	40	50	75	100	100	200
22	12.3	13.3	15.3	17.0	26.9	31.5	10.3	10.9	12.2	13.3	30.4	35.9
20	17.9	19.2	22.0	24.4	38.6	48.0	16.2	17.1	19.0	20.7	44.6	56.3
18	30.6	32.7	37.3	41.1	64.8	81.1	30.5	32.1	35.5	38.4	76.8	97.8

Standard Features

- ASTM A653/A653M SS GR80, with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1800	2100	2400	2700	3000	3300	3600	3900	4200	4500	4800
22	Single	$øW_n$	15.8	11.6	8.9	7.0	5.7	4.7	3.9	3.4	2.9	2.5	2.2
		L/240	9.2	5.8	3.9	2.7	2.0	1.5	1.2	0.9	0.7	0.6	0.5
	Double	$øW_n$	14.0	10.7	8.4	6.7	5.5	4.6	3.9	3.3	2.9	2.5	2.2
		L/240	24.7	15.6	10.4	7.3	5.3	4.0	3.1	2.4	1.9	1.6	1.3
	Triple	$øW_n$	16.5	12.7	10.1	8.2	6.7	5.6	4.8	4.1	3.6		
		L/240	19.4	12.2	8.2	5.7	4.2	3.1	2.4	1.9	1.5		
20	Single	$øW_n$	20.4	15.0	11.5	9.1	7.3	6.1	5.1	4.3	3.7	3.3	2.9
		L/240	11.5	7.3	4.9	3.4	2.5	1.9	1.4	1.1	0.9	0.7	0.6
	Double	$øW_n$	19.9	15.0	11.6	9.3	7.6	6.3	5.3	4.5	3.9	3.4	3.0
		L/240	30.6	19.3	12.9	9.1	6.6	5.0	3.8	3.0	2.4	2.0	1.6
	Triple	$øW_n$	24.0	18.2	14.2	11.4	9.3	7.8	6.6	5.6	4.9		
		L/240	24.0	15.1	10.1	7.1	5.2	3.9	3.0	2.4	1.9		
18	Single	$øW_n$	30.0	22.0	16.9	13.3	10.8	8.9	7.5	6.4	5.5	4.8	4.2
		L/240	16.0	10.1	6.8	4.7	3.5	2.6	2.0	1.6	1.3	1.0	0.8
	Double	$øW_n$	29.3	21.9	16.9	13.4	10.9	9.1	7.6	6.5	5.6	4.9	4.3
		L/240	41.8	26.3	17.6	12.4	9.0	6.8	5.2	4.1	3.3	2.7	2.2
	Triple	$øW_n$	35.8	26.9	20.8	16.6	13.5	11.3	9.5	8.1	7.0		
		L/240	32.8	20.6	13.8	9.7	7.1	5.3	4.1	3.2	2.6		

Note:

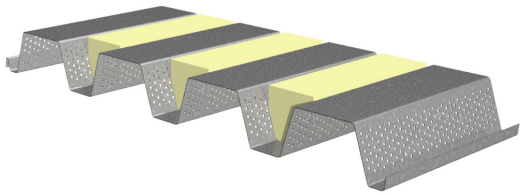
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS
GRADE 80 STEEL

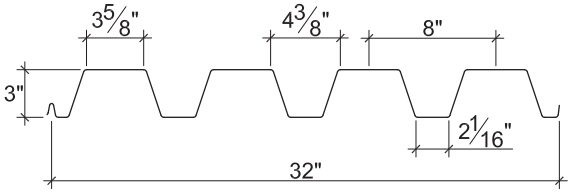
Imperial LSD

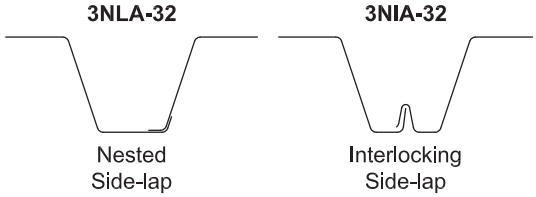
32” WIDE 3N ACOUSTICAL ROOF DECKS

- **3NLA-32 Deck used with Side-lap Screws**
- **3NIA-32 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 60 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.7	0.0295	60	0.604	0.672	0.318	0.329	1431	1481	2089
20	2.1	0.0358	60	0.754	0.832	0.412	0.440	1854	1980	3743
18	2.8	0.0474	60	1.048	1.136	0.605	0.626	2723	2817	6938

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"
22	833	915	1053	1170	1855	2156	694	748	838	914	2096	2459
20	1210	1325	1519	1683	2658	3292	1094	1175	1310	1424	3071	3856
18	2067	2254	2567	2832	4462	5589	2066	2207	2443	2642	5293	6737

Standard Features

- ASTM A653/A653M SS GR80, with Z275/G90 galvanized or ZF75/A25 galvannealed
- FM Listed
- Standard lengths – 6’-0” to 42’-0”
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6’-0”
  - -Sheet Lengths > 42’-0”
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 4'-0"	6'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
22	Single	$øW_n$	716	318	179	141	114	95	80	58	45	35	29
		L/240	619	183	77	54	40	30	23	14	10	7	5
	Double	$øW_n$	554	283	169	136	112	93	79	59	45	36	29
		L/240	1658	491	207	146	106	80	61	39	26	18	13
	Triple	$øW_n$	634	336	204	165	136	114	97	72			
		L/240	1300	385	162	114	83	62	48	30			
20	Single	$øW_n$	927	412	232	183	148	123	103	76	58	46	37
		L/240	772	229	97	68	49	37	29	18	12	8	6
	Double	$øW_n$	826	403	235	188	153	127	107	79	61	48	39
		L/240	2053	608	257	180	131	99	76	48	32	23	16
	Triple	$øW_n$	969	486	288	231	189	157	133	99			
		L/240	1609	477	201	141	103	77	60	38			
18	Single	$øW_n$	1361	605	340	269	218	180	151	111	85	67	54
		L/240	1073	318	134	94	69	52	40	25	17	12	9
	Double	$øW_n$	1256	593	341	271	221	183	154	114	87	69	56
		L/240	2803	831	350	246	179	135	104	65	44	31	22
	Triple	$øW_n$	1504	725	421	336	274	227	192	142			
		L/240	2197	651	275	193	141	106	81	51			

Note:

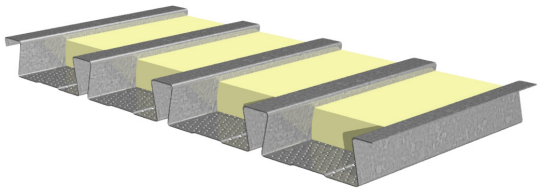
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

2.0DA ACOUSTICAL DOVETAIL ROOF DECK
GRADE 40 STEEL

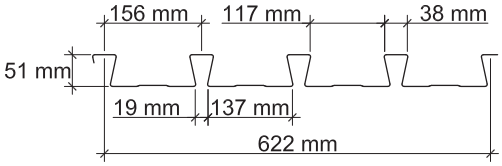
Metric LSD

2.0DA ACOUSTICAL DOVETAIL ROOF DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions



Nested
Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 276 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	9.76	**0.75**	276	464.3	423.3	14.03	13.87	3483	3443	54
20	11.71	**0.91**	276	566.7	525.8	17.74	17.04	4404	4232	65
18	15.62	**1.20**	276	752.4	721.0	23.93	22.96	5937	5697	86
16	19.52	**1.52**	276	951.8	934.1	30.32	29.36	7526	7286	107

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	Interior Bearing 75	125	Two-Flange Loading End Bearing 40	50	75	100	Interior Bearing 75	125
22	13.2	14.2	16.3	18.1	24.4	28.9	13.1	13.9	15.5	16.9	29.9	35.7
20	18.8	20.1	23.1	25.6	34.8	40.9	19.7	20.8	23.2	25.2	43.0	51.2
18	31.3	33.5	38.2	42.1	57.9	67.5	35.2	37.1	41.0	44.3	72.7	85.9
16	47.8	51.0	57.8	63.5	88.3	102.3	56.5	59.3	65.3	70.3	111.8	131.2

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized
- Standard lengths – 1.83 m to 12.8 m
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (kPa)

Deck Gage	Spans	Criteria	Span (mm) 1200	1500	1800	2100	2400	2700	3000	3300	3600	3900	4200
22	Single	$øW_n$	19.4	12.4	8.6	6.3	4.8	3.8	3.1	2.6	2.2	1.8	1.6
		L/240	17.5	9.0	5.2	3.3	2.2	1.5	1.1	0.8	0.6	0.5	0.4
	Double	$øW_n$	18.5	12.0	8.4	6.2	4.8	3.8	3.1	2.5	2.1	1.8	1.6
		L/240	38.5	19.7	11.4	7.2	4.8	3.4	2.5	1.9	1.4	1.1	0.9
	Triple	$øW_n$	22.8	14.9	10.4	7.7	5.9	4.7	3.8	3.1	2.6	2.3	1.9
		L/240	30.2	15.5	8.9	5.6	3.8	2.6	1.9	1.5	1.1	0.9	0.7
20	Single	$øW_n$	24.5	15.7	10.9	8.0	6.1	4.8	3.9	3.2	2.7	2.3	2.0
		L/240	21.4	11.0	6.3	4.0	2.7	1.9	1.4	1.0	0.8	0.6	0.5
	Double	$øW_n$	22.8	14.7	10.3	7.6	5.8	4.6	3.7	3.1	2.6	2.2	1.9
		L/240	47.8	24.5	14.2	8.9	6.0	4.2	3.1	2.3	1.8	1.4	1.1
	Triple	$øW_n$	28.0	18.3	12.8	9.5	7.3	5.8	4.7	3.9	3.3	2.8	2.4
		L/240	37.5	19.2	11.1	7.0	4.7	3.3	2.4	1.8	1.4	1.1	0.9
18	Single	$øW_n$	33.1	21.2	14.7	10.8	8.3	6.5	5.3	4.4	3.7	3.1	2.7
		L/240	28.4	14.5	8.4	5.3	3.6	2.5	1.8	1.4	1.1	0.8	0.7
	Double	$øW_n$	30.6	19.8	13.9	10.2	7.9	6.2	5.0	4.2	3.5	3.0	2.6
		L/240	65.6	33.6	19.4	12.2	8.2	5.8	4.2	3.2	2.4	1.9	1.5
	Triple	$øW_n$	37.6	24.5	17.2	12.7	9.8	7.7	6.3	5.2	4.4	3.7	3.2
		L/240	51.4	26.3	15.2	9.6	6.4	4.5	3.3	2.5	1.9	1.5	1.2
16	Single	$øW_n$	41.9	26.8	18.6	13.7	10.5	8.3	6.7	5.5	4.7	4.0	3.4
		L/240	35.9	18.4	10.6	6.7	4.5	3.2	2.3	1.7	1.3	1.0	0.8
	Double	$øW_n$	39.0	25.3	17.7	13.1	10.0	8.0	6.5	5.3	4.5	3.8	3.3
		L/240	85.0	43.5	25.2	15.9	10.6	7.5	5.4	4.1	3.1	2.5	2.0
	Triple	$øW_n$	48.0	31.3	22.0	16.3	12.5	9.9	8.0	6.7	5.6	4.8	4.1
		L/240	66.6	34.1	19.7	12.4	8.3	5.8	4.3	3.2	2.5	1.9	1.6

Note:

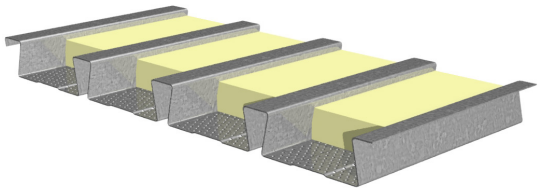
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

2.0DA ACOUSTICAL DOVETAIL ROOF DECK
GRADE 40 STEEL

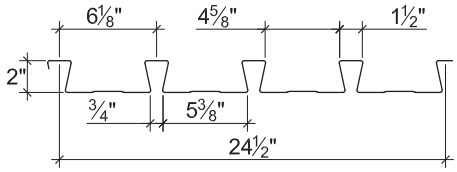
Imperial LSD

2.0DA ACOUSTICAL DOVETAIL ROOF DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions



Nested
Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 40 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	2.0	0.0295	40	0.340	0.310	0.261	0.258	783	774	3706
20	2.4	0.0358	40	0.415	0.385	0.330	0.317	990	951	4477
18	3.2	0.0474	40	0.551	0.528	0.445	0.427	1335	1281	5868
16	4.0	0.0598	40	0.697	0.684	0.564	0.546	1692	1638	7325

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	5"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	5"
22	888	976	1123	1248	1681	1990	885	953	1068	1165	2057	2463
20	1267	1388	1591	1762	2393	2817	1333	1431	1595	1734	2963	3530
18	2116	2308	2629	2899	3985	4652	2386	2548	2821	3051	5005	5916
16	3234	3512	3979	4372	6075	7035	3835	4079	4489	4835	7699	9031

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized
- Standard lengths – 6'-0" to 42'-0"
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"
22	Single	øW$_n$	392	251	174	128	98	77	63	52	44	37	32
		L/240	348	178	103	65	44	31	22	17	13	10	8
	Double	øW$_n$	374	242	169	125	96	76	62	51	43	37	32
		L/240	765	392	227	143	96	67	49	37	28	22	18
	Triple	øW$_n$	462	300	210	155	119	95	77	64	53	46	39
		L/240	600	307	178	112	75	53	38	29	22	17	14
20	Single	øW$_n$	495	317	220	162	124	98	79	65	55	47	40
		L/240	425	218	126	79	53	37	27	20	16	12	10
	Double	øW$_n$	460	298	208	154	118	93	76	63	53	45	39
		L/240	950	486	281	177	119	83	61	46	35	28	22
	Triple	øW$_n$	566	369	258	191	147	116	94	78	66	56	48
		L/240	745	381	221	139	93	65	48	36	28	22	17
18	Single	øW$_n$	667	427	297	218	167	132	107	88	74	63	54
		L/240	564	289	167	105	71	50	36	27	21	16	13
	Double	øW$_n$	618	400	280	207	159	126	102	84	71	60	52
		L/240	1303	667	386	243	163	114	83	63	48	38	30
	Triple	øW$_n$	761	496	348	257	197	156	127	105	88	75	65
		L/240	1021	523	303	191	128	90	65	49	38	30	24
16	Single	øW$_n$	846	541	376	276	212	167	135	112	94	80	69
		L/240	714	366	212	133	89	63	46	34	26	21	17
	Double	øW$_n$	789	512	358	264	203	161	130	108	91	77	67
		L/240	1688	864	500	315	211	148	108	81	63	49	39
	Triple	øW$_n$	971	633	444	328	252	200	162	134	113	96	83
		L/240	1323	677	392	247	165	116	85	64	49	39	31

Note:

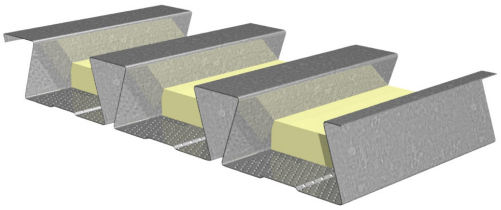
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

3.5DA ACOUSTICAL DOVETAIL ROOF DECK
GRADE 40 STEEL

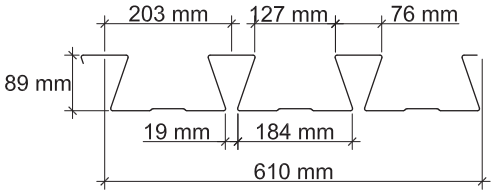
Metric LSD

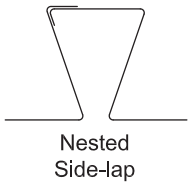
3.5DA ACOUSTICAL DOVETAIL ROOF DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 276 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
20	15.1	**0.91**	276	2090.7	1952.8	35.22	35.32	8739	8767	64
18	20.0	**1.20**	276	2865.0	2662.9	50.22	49.89	12463	12383	112
16	24.9	**1.52**	276	3713.0	3459.0	67.47	66.72	16746	16562	155

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 50	75	100	125	Interior Bearing 100	150	Two-Flange Loading End Bearing 50	75	100	125	Interior Bearing 100	150
20	13.7	15.7	17.4	18.8	27.8	31.8	13.1	14.6	15.8	16.9	32.8	37.9
18	23.1	26.3	29.0	31.3	46.2	52.5	24.0	26.6	28.7	30.6	55.8	64.0
16	35.4	40.1	44.1	47.6	70.2	79.3	39.2	43.1	46.4	49.3	86.1	98.2

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized
- Standard lengths – 1.83 m to 12.8 m
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

Inward Uniform Factored Loads, LSD (kPa)

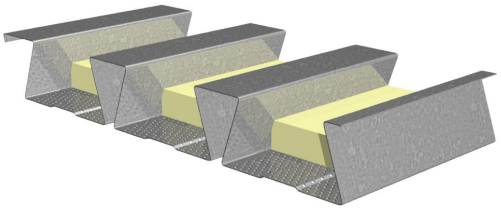
Deck Gage	Spans	Criteria	Span (mm) 3300	3600	3900	4200	4500	4800	5100	5400	5700	6000	6300
20	Single	$øW_n$	6.4	5.4	4.6	4.0	3.5	3.0	2.7	2.4	2.2	1.9	1.8
		L/240	3.8	2.9	2.3	1.8	1.5	1.2	1.0	0.9	0.7	0.6	0.5
	Double	$øW_n$	6.3	5.3	4.6	3.9	3.4	3.0	2.7	2.4	2.1	1.9	1.8
		L/240	8.5	6.6	5.2	4.1	3.4	2.8	2.3	1.9	1.7	1.4	1.2
	Triple	$øW_n$	7.8	6.6	5.7	4.9							
		L/240	6.7	5.2	4.1	3.2							
18	Single	$øW_n$	9.2	7.7	6.6	5.7	4.9	4.3	3.8	3.4	3.1	2.8	2.5
		L/240	5.2	4.0	3.2	2.5	2.1	1.7	1.4	1.2	1.0	0.9	0.7
	Double	$øW_n$	9.0	7.6	6.5	5.6	4.9	4.3	3.8	3.4	3.0	2.7	2.5
		L/240	11.6	9.0	7.1	5.6	4.6	3.8	3.2	2.7	2.3	1.9	1.7
	Triple	$øW_n$	11.2	9.4	8.0	7.0							
		L/240	9.1	7.0	5.5	4.4							
16	Single	$øW_n$	12.3	10.4	8.8	7.6	6.6	5.8	5.2	4.6	4.1	3.7	3.4
		L/240	6.7	5.2	4.1	3.3	2.7	2.2	1.8	1.5	1.3	1.1	1.0
	Double	$øW_n$	12.0	10.1	8.7	7.5	6.5	5.7	5.1	4.5	4.1	3.7	3.3
		L/240	15.1	11.7	9.2	7.3	6.0	4.9	4.1	3.5	2.9	2.5	2.2
	Triple	$øW_n$	15.0	12.6	10.8	9.3							
		L/240	11.9	9.1	7.2	5.8							

Note:

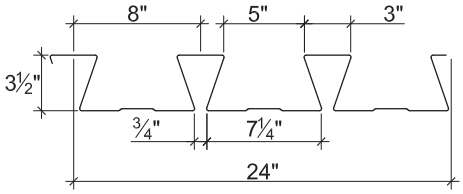
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

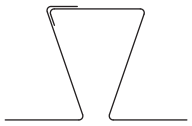
3.5DA ACOUSTICAL DOVETAIL ROOF DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 40 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
20	3.1	0.0358	40	1.531	1.430	0.655	0.657	1965	1971	4397
18	4.1	0.0474	40	2.098	1.950	0.934	0.928	2802	2784	7695
16	5.1	0.0598	40	2.719	2.533	1.255	1.241	3765	3723	10640

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 2"	3"	4"	5"	Interior Bearing 4"	6"	Two-Flange Loading, End Bearing 2"	3"	4"	5"	Interior Bearing 4"	6"
20	942	1080	1197	1299	1915	2192	900	1003	1090	1167	2263	2613
18	1588	1809	1995	2159	3178	3614	1650	1827	1976	2107	3841	4410
16	2439	2763	3036	3277	4831	5462	2693	2964	3192	3393	5926	6768

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized
- Standard lengths – 6'-0" to 42'-0"
- FM Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes

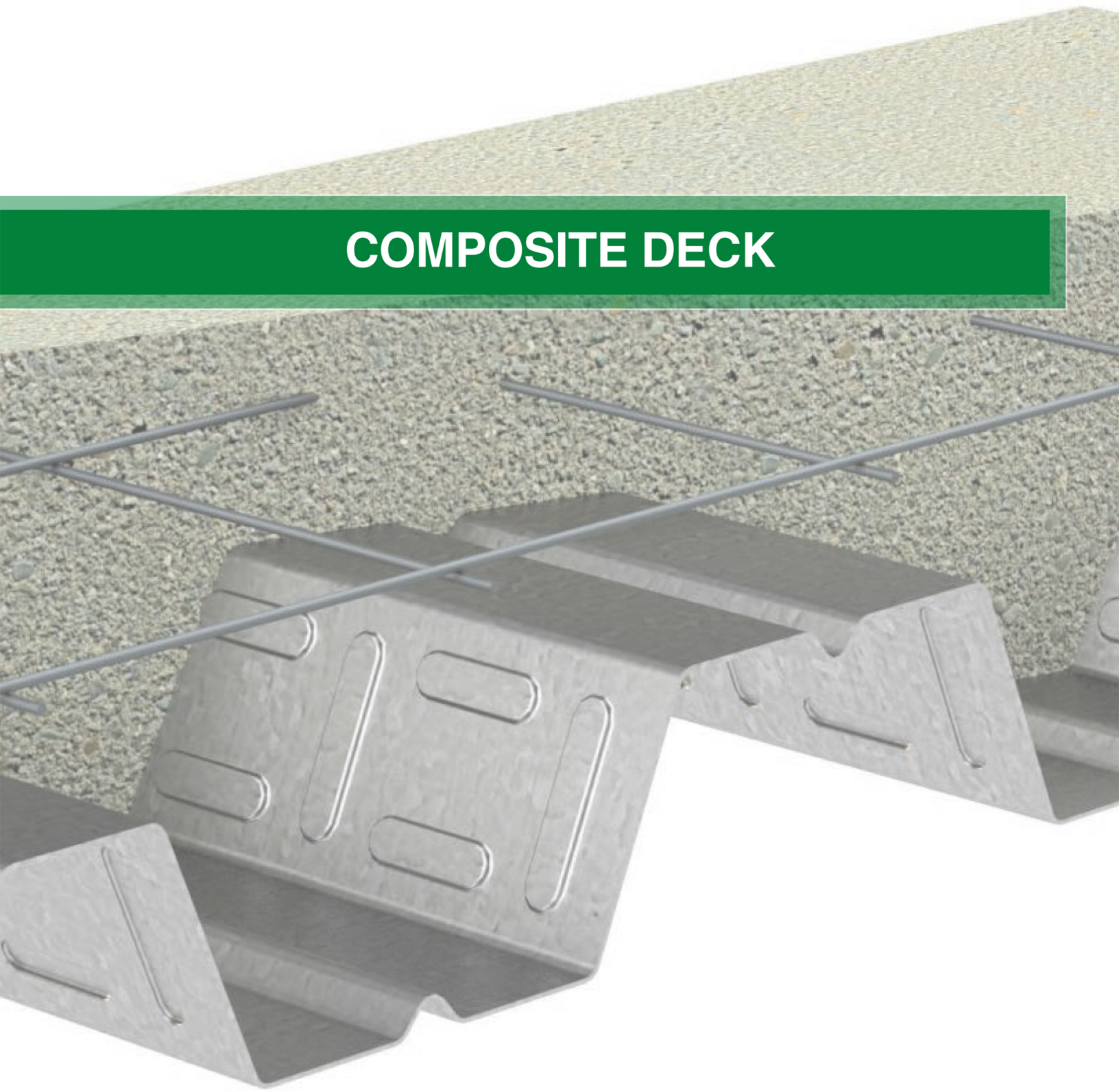
Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"
20	Single	ϕW_n	130	109	93	80	70	61	54	49	44	39	36
		L/240	75	58	46	37	30	25	20	17	15	13	11
	Double	ϕW_n	128	108	92	79	69	61	54	48	43	39	36
		L/240	170	131	103	82	67	55	46	39	33	28	24
	Triple	ϕW_n	158	134	114	99							
		L/240	133	102	81	65							
18	Single	ϕW_n	185	156	133	114	100	88	78	69	62	56	51
		L/240	103	80	63	50	41	34	28	24	20	17	15
	Double	ϕW_n	182	153	131	113	98	86	77	68	61	55	50
		L/240	231	178	140	112	91	75	63	53	45	38	33
	Triple	ϕW_n	226	190	162	140							
		L/240	181	140	110	88							
16	Single	ϕW_n	249	209	178	154	134	118	104	93	83	75	68
		L/240	134	103	81	65	53	44	36	31	26	22	19
	Double	ϕW_n	243	205	175	151	131	116	103	92	82	74	67
		L/240	301	231	182	146	119	98	81	69	58	50	43
	Triple	ϕW_n	302	255	217	188							
		L/240	236	181	143	114							

Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

COMPOSITE DECK

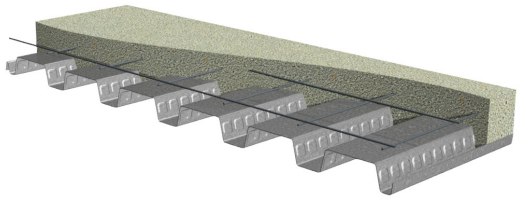


1.5VL-36/1.5VLI-36 COMPOSITE DECKS
GRADE 50 STEEL

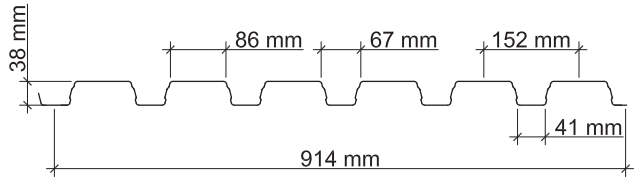
Metric LSD

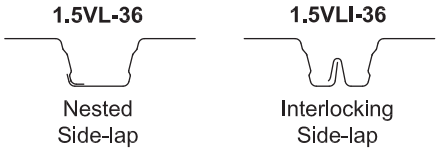
1.5VL COMPOSITE DECKS

- **1.5VL-36 Deck used with Side-lap Screws**
- **1.5VLI-36 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	7.81	**0.75**	345	211.7	243.1	9.09	9.62	2818	2987	50
20	9.76	**0.91**	345	269.0	296.3	12.04	12.31	3735	3819	60
18	12.69	**1.20**	345	378.3	396.0	16.45	17.10	5104	5305	79
16	16.11	**1.52**	345	497.1	501.2	21.13	21.61	6558	6706	98

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	75	100	40	50	75	100	75	100
22	16.3	17.5	20.2	22.1	28.2	30.7	15.7	16.6	18.6	20.1	34.9	38.2
20	23.2	24.9	28.6	31.2	40.6	43.9	23.7	25.0	27.9	30.0	50.7	55.2
18	38.9	41.6	47.3	51.4	68.4	73.4	42.7	45.0	49.7	53.1	86.6	93.5
16	59.5	63.5	71.9	77.4	105.2	112.1	69.0	72.4	79.6	84.4	134.4	144.1

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- ULC Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

1.5VL-36/1.5VLI-36 COMPOSITE DECK-SLABS
NORMAL WEIGHT CONCRETE (2325 kg/m^3)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
90	52	22	2190	2575	2540
		20	2375	2953	3029
		18	2645	3464	3317
		16	2877	3798	3563
125	87	22	1919	2255	2210
		20	2073	2601	2642
		18	2313	3056	2901
		16	2522	3390	3124
150	112	22	1786	2092	2057
		20	1930	2415	2438
		18	2156	2838	2703
		16	2352	3161	2913

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^{4}x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
1.6	3707.46	11.61	41
1.6	3994.95	13.68	41
1.6	4479.16	17.30	41
1.6	4935.24	20.88	41
2.4	9834.40	19.55	65
2.4	10556.44	23.22	65
2.4	11779.29	29.73	65
2.4	12947.02	36.31	65
2.9	16911.76	25.74	84
3.0	18092.77	30.67	84
3.0	20106.68	39.46	84
3.0	22049.57	48.44	84

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

NWC (2325 kg/m^3), f'$_c$ = 20 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		1200	1500	1800	2100	2400	2700	3000	3600
90	22	62.5/93.1	39.3/47.6	26.7/27.6	19.1/17.3	14.1/11.6	10.8/8.1	8.3/5.9	5.2/3.4
	20	66.6/100.3	46.6/51.3	31.7/29.7	22.8/18.7	17/12.5	13/8.8	10.2/6.4	6.4/3.7
	18	66.5/112.5	52.8/57.6	40.7/33.3	29.4/21	22/14	16.9/9.9	13.3/7.2	8.6/4.2
	16	66.5/123.9	52.8/63.4	43.6/36.7	35.8/23.1	26.9/15.5	20.8/10.9	16.5/7.9	10.8/4.5
125	22	104.7/246.9	66.5/126.4	45.3/73.2	32.5/46.1	24.2/30.8	18.5/21.6	14.4/15.8	9.1/9.1
	20	104.7/265.1	79.5/135.7	54.3/78.5	39.1/49.5	29.3/33.1	22.5/23.3	17.6/16.9	11.3/9.8
	18	104.6/295.8	83.1/151.4	68.7/87.6	50.9/55.2	38.3/37	29.6/26	23.4/18.9	15.3/10.9
	16	104.6/325.1	83/166.4	68.7/96.3	58.4/60.6	47.4/40.6	36.8/28.5	29.2/20.8	19.3/12
150	22	136.1/424.7	87.8/217.4	59.9/125.8	43/79.2	32/53.1	24.6/37.3	19.2/27.1	12.2/15.7
	20	136.1/454.3	105.3/232.6	72/134.6	51.9/84.7	38.9/56.8	29.9/39.9	23.6/29.1	15.2/16.8
	18	136.1/504.8	108.1/258.5	89.5/149.6	67.8/94.2	51/63.1	39.5/44.3	31.3/32.3	20.6/18.7
	16	136/553.6	108.1/283.5	89.4/164	76.1/103.3	63.5/69.2	49.4/48.6	39.3/35.4	26.1/20.5

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

1.5VL-36/1.5VLI-36 COMPOSITE DECK-SLABS
LIGHT WEIGHT CONCRETE (1840 kg/m^3)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
90	52	22	2332	2751	2718
		20	2554	3134	3239
		18	2840	3674	3562
		16	3084	4002	3764
100	62	22	2246	2644	2616
		20	2444	3025	3117
		18	2720	3548	3411
		16	2957	3877	3647
120	82	22	2101	2467	2438
		20	2270	2837	2895
		18	2530	3330	3173
		16	2754	3676	3411

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^{4}x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
1.3	3210.30	11.25	46
1.3	3471.68	13.22	46
1.3	3908.06	16.65	46
1.3	4314.57	20.03	46
1.4	4379.26	13.24	53
1.5	4732.37	15.62	53
1.5	5321.27	19.77	53
1.5	5870.80	23.91	53
1.8	7505.34	17.89	68
1.8	8096.70	21.18	68
1.8	9086.55	26.98	68
1.9	10017.66	32.80	68

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

LWC (1840 kg/m^3), f'$_c$ = 25 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		1200	1500	1800	2100	2400	2700	3000	3600
90	22	60.9/80.6	38.4/41.3	26.2/23.8	18.8/15	14/10.1	10.8/7	8.4/5.1	5.4/3
	20	71.8/87.1	45.4/44.6	31/25.8	22.4/16.2	16.8/10.9	12.9/7.6	10.2/5.6	6.6/3.2
	18	75/98.1	57.6/50.2	39.5/29.1	28.5/18.3	21.5/12.3	16.6/8.6	13.2/6.3	8.6/3.6
	16	75/108.3	59.6/55.4	47.7/32.1	34.6/20.2	26.1/13.5	20.3/9.5	16.1/6.9	10.7/4
100	22	71.7/109.9	45.2/56.3	30.9/32.6	22.2/20.5	16.6/13.7	12.7/9.6	10/7	6.4/4.1
	20	84.9/118.8	53.7/60.8	36.7/35.2	26.5/22.2	19.8/14.8	15.3/10.4	12/7.6	7.8/4.4
	18	86.5/133.6	68.4/68.4	46.9/39.5	34/24.9	25.6/16.7	19.8/11.7	15.7/8.5	10.3/4.9
	16	86.4/147.4	68.8/75.5	57/43.7	41.5/27.5	31.3/18.4	24.3/12.9	19.3/9.4	12.8/5.5
120	22	97.1/188.5	61.3/96.5	41.9/55.8	30.2/35.1	22.6/23.6	17.3/16.5	13.6/12	8.8/6.9
	20	111.3/203.3	73/104.1	50/60.2	36.1/37.9	27.1/25.4	20.9/17.8	16.5/13	10.8/7.5
	18	111.3/228.1	88.6/116.8	64.3/67.6	46.6/42.6	35.1/28.5	27.3/20	21.6/14.6	14.3/8.4
	16	111.3/251.5	88.5/128.8	73.4/74.5	57.1/46.9	43.2/31.4	33.6/22.1	26.8/16.1	17.9/9.3

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

1.5VL-36/1.5VLI-36 Composite Deck-Slab Information

Total Slab Depth (mm)	Cover Depth (mm)	Theoretical Concrete Volume (m^3/m^2)	Min. A_s for T&S (mm^2/m)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (2325 kg/m³)				
90	**52**	0.064	60	152x152-MW9.1xMW9.1
100	**62**	0.077	60	152x152-MW9.1xMW9.1
115	**77**	0.090	60	152x152-MW9.1xMW9.1
125	**87**	0.102	81	152x152-MW13.3xMW13.3
140	**102**	0.115	126	152x152-MW18.7xMW18.7
150	**112**	0.128	150	152x152-MW25.8xMW25.8
Light Weight Concrete (1840 kg/m³)				
90	**52**	0.064	60	152x152-MW9.1xMW9.1
100	**62**	0.077	60	152x152-MW9.1xMW9.1
115	**77**	0.090	60	152x152-MW9.1xMW9.1
120	**82**	0.096	66	152x152-MW11.1xMW11.1
125	**87**	0.102	81	152x152-MW13.3xMW13.3
145	**107**	0.122	141	152x152-MW22.6xMW22.6

Notes:

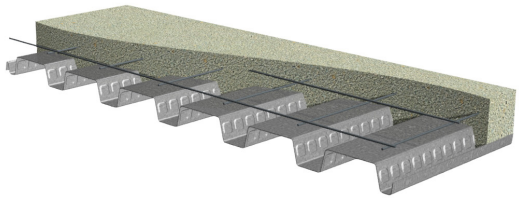
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

1.5VL-36/1.5VLI-36 COMPOSITE DECKS
GRADE 50 STEEL

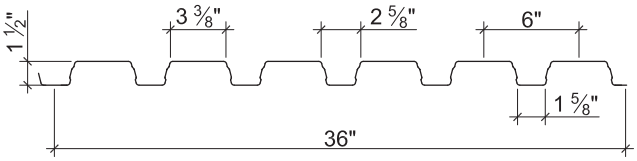
Imperial LSD

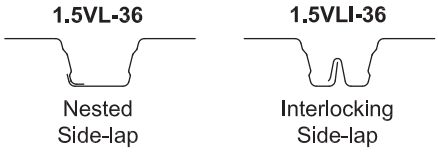
1.5VL COMPOSITE DECKS

- **1.5VL-36 Deck used with Side-lap Screws**
- **1.5VLI-36 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.6	0.0295	50	0.155	0.178	0.169	0.179	634	671	3398
20	2.0	0.0358	50	0.197	0.217	0.224	0.229	840	859	4105
18	2.6	0.0474	50	0.277	0.290	0.306	0.318	1148	1193	5388
16	3.3	0.0598	50	0.364	0.367	0.393	0.402	1474	1508	6734

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"
22	1098	1207	1389	1517	1945	2103	1061	1143	1281	1377	2407	2617
20	1567	1717	1969	2140	2792	3005	1605	1723	1921	2057	3494	3782
18	2626	2863	3261	3519	4707	5029	2894	3092	3423	3637	5966	6410
16	4023	4369	4949	5304	7241	7685	4679	4977	5477	5783	9253	9874

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- ULC Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

1.5VL-36/1.5VLI-36 COMPOSITE DECK-SLABS
NORMAL WEIGHT CONCRETE (145 pcf)

Imperial LSD

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
3½”	2”	22	7'-3"	8'-6"	8'-4"
		20	7'-10"	9'-9"	10'-0"
		18	8'-9"	11'-5"	10'-11"
		16	9'-6"	12'-6"	11'-9"
5”	3½”	22	6'-3"	7'-4"	7'-3"
		20	6'-9"	8'-6"	8'-7"
		18	7'-7"	9'-11"	9'-6"
		16	8'-3"	11'-1"	10'-2"
6”	4½”	22	5'-10"	6'-10"	6'-8"
		20	6'-4"	7'-10"	8'-0"
		18	7'-0"	9'-3"	8'-10"
		16	7'-8"	10'-4"	9'-6"

Composite Deck-Slab Properties

Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
32.2	2.64	2.57	2.82
32.6	2.85	3.03	2.82
33.2	3.19	3.83	2.82
33.9	3.52	4.63	2.82
50.3	7.62	4.51	4.60
50.7	8.18	5.36	4.60
51.3	9.12	6.87	4.60
52.0	10.02	8.39	4.60
62.4	13.11	5.93	5.98
62.8	14.02	7.07	5.98
63.4	15.57	9.10	5.98
64.1	17.06	11.18	5.98

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

NWC (145 pcf), f'_c = 3000 psi

Total Slab Depth	Deck Gage	Span (ft-in.) 4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	12'-0"
3½”	22	1245/1804	782/923	531/534	379/336	281/225	213/158	165/115	102/66
	20	1369/1944	928/995	632/576	453/362	337/243	258/170	201/124	127/72
	18	1368/2179	1086/1115	809/645	584/406	437/272	336/191	265/139	171/80
	16	1367/2401	1085/1229	897/711	712/448	535/300	414/210	327/153	214/88
5”	22	2192/5206	1380/2665	939/1542	673/971	500/650	382/457	297/333	187/192
	20	2238/5585	1651/2859	1127/1654	811/1042	606/698	465/490	365/357	234/206
	18	2237/6228	1777/3188	1461/1845	1056/1162	794/778	614/546	485/398	317/230
	16	2236/6842	1776/3503	1469/2027	1250/1276	984/855	763/600	606/437	401/253
6”	22	2886/8955	1819/4585	1239/2653	890/1670	663/1119	507/786	396/573	251/331
	20	2913/9574	2183/4902	1492/2836	1075/1786	804/1196	619/840	486/612	314/354
	18	2912/10630	2314/5443	1915/3149	1406/1983	1058/1328	819/933	648/680	426/393
	16	2911/11651	2313/5965	1914/3452	1629/2174	1316/1456	1023/1022	813/745	540/431

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

1.5VL-36/1.5VLI-36 COMPOSITE DECK-SLABS
LIGHT WEIGHT CONCRETE (115 pcf)

Imperial LSD

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
3½”	2”	22	7'-8"	9'-1"	8'-11"
		20	8'-5"	10'-4"	10'-8"
		18	9'-4"	12'-1"	11'-9"
		16	10'-2"	13'-2"	12'-5"
4”	2½”	22	7'-4"	8'-7"	8'-6"
		20	8'-0"	9'-10"	10'-2"
		18	8'-10"	11'-7"	11'-1"
		16	9'-8"	12'-8"	11'-11"
4¾”	3¼”	22	6'-11"	8'-1"	7'-11"
		20	7'-5"	9'-3"	9'-6"
		18	8'-3"	10'-11"	10'-5"
		16	9'-0"	12'-1"	11'-2"

Composite Deck-Slab Properties

Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
25.9	2.34	2.50	3.26
26.3	2.53	2.94	3.26
26.9	2.84	3.71	3.26
27.6	3.14	4.46	3.26
30.7	3.46	3.08	3.90
31.1	3.74	3.63	3.90
31.7	4.20	4.61	3.90
32.4	4.63	5.58	3.90
37.8	5.76	4.08	4.94
38.2	6.21	4.83	4.94
38.8	6.96	6.16	4.94
39.5	7.67	7.50	4.94

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

LWC (115 pcf), f'_c = 4000 psi

Total Slab Depth	Deck Gage	Span (ft-in.) 4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	12'-0"
3½”	22	1220/1595	769/816	524/472	376/297	280/199	215/140	168/102	106/59
	20	1439/1724	909/882	621/510	447/321	335/215	257/151	202/110	130/63
	18	1594/1940	1153/993	790/574	572/362	430/242	332/170	263/124	172/71
	16	1593/2141	1268/1096	957/634	694/399	523/267	406/188	322/137	213/79
4”	22	1500/2366	946/1211	645/701	464/441	346/295	265/207	207/151	132/87
	20	1777/2554	1123/1307	768/756	554/476	415/319	319/224	251/163	162/94
	18	1909/2869	1434/1469	984/850	712/535	536/358	415/251	328/183	216/106
	16	1908/3164	1518/1620	1198/937	869/590	656/395	510/277	405/202	269/117
4¾”	22	1991/3934	1257/2014	858/1165	618/734	462/491	355/345	278/251	179/145
	20	2367/4240	1498/2170	1025/1256	740/791	556/530	429/372	338/271	220/157
	18	2423/4753	1922/2433	1320/1408	957/886	721/594	559/417	444/304	293/176
	16	2422/5238	1928/2682	1598/1552	1174/977	887/654	691/459	550/335	367/194

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

1.5VL-36/1.5VLI-36 Composite Deck-Slab Information

Total Slab Depth (in.)	Cover Depth (in.)	Theoretical Concrete Volume ($yd^3/100\ ft^2$)	Min. A_s for T&S ($in.^2$)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (145 pcf)				
3½	**2**	0.78	0.028	6x6-W1.4xW1.4
4	**2½**	0.94	0.028	6x6-W1.4xW1.4
4½	**3**	1.09	0.028	6x6-W1.4xW1.4
5	**3½**	1.24	0.038	6x6-W2.1xW2.1
5½	**4**	1.40	0.060	6x6-W2.9xW2.9
6	**4½**	1.55	0.074	6x6-W4.0xW4.0
Light Weight Concrete (110 pcf)				
3½	**2**	0.78	0.028	6x6-W1.4xW1.4
4	**2½**	0.94	0.028	6x6-W1.4xW1.4
4½	**3**	1.09	0.028	6x6-W1.4xW1.4
4¾	**3¼**	1.17	0.031	6x6-W1.7xW1.7
5	**3½**	1.24	0.038	6x6-W2.1xW2.1
5¾	**4¼**	1.48	0.067	6x6-W3.5xW3.5

Notes:

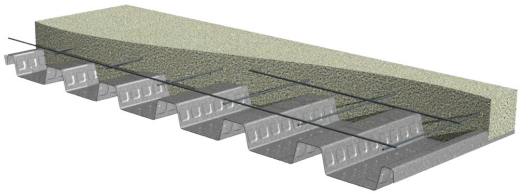
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

1.5VLR-36 COMPOSITE DECK
GRADE 50 STEEL

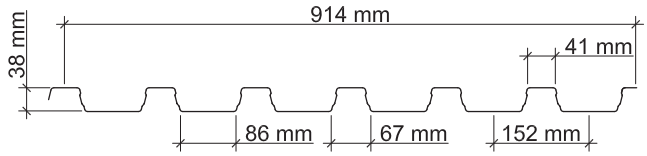
Metric
LSD

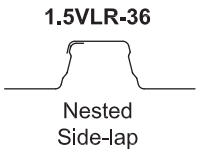
1.5VLR COMPOSITE DECK

- **1.5VLR-36 Deck used with Side-lap Screws**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	7.81	**0.75**	345	243.1	211.7	9.62	9.09	2987	2818	50
20	9.76	**0.91**	345	296.3	269.0	12.31	12.04	3819	3735	60
18	12.69	**1.20**	345	396.0	378.3	17.10	16.45	5305	5104	79
16	16.11	**1.52**	345	501.2	497.1	21.61	21.13	6706	6558	98

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	Interior Bearing 75	100	Two-Flange Loading End Bearing 40	50	75	100	Interior Bearing 75	100
22	16.3	17.5	20.2	22.1	28.2	30.7	15.7	16.6	18.6	20.1	34.9	38.2
20	23.2	24.9	28.6	31.2	40.6	43.9	23.7	25.0	27.9	30.0	50.7	55.2
18	38.9	41.6	47.3	51.4	68.4	73.4	42.7	45.0	49.7	53.1	86.6	93.5
16	59.5	63.5	71.9	77.4	105.2	112.1	69.0	72.4	79.6	84.4	134.4	144.1

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- ULC Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

1.5VLR-36 COMPOSITE DECK-SLABS
NORMAL WEIGHT CONCRETE (2325 kg/m^3)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
90	52	22	2179	2435	2515
		20	2334	2795	2792
		18	2558	3254	3111
		16	2751	3657	3388
125	87	22	1936	2164	2210
		20	2070	2486	2476
		18	2272	2897	2764
		16	2448	3271	3015
150	112	22	1808	2017	2057
		20	1940	2318	2320
		18	2130	2704	2591
		16	2296	3055	2828

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^{4}x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
1.8	4805.53	16.35	68
1.8	5156.13	19.39	68
1.9	5746.71	24.76	68
1.9	6304.28	30.16	68
2.6	12069.22	23.15	101
2.6	12897.63	27.59	103
2.7	14303.21	35.54	103
2.7	15649.44	43.67	103
3.2	20184.53	29.48	112
3.2	21504.45	35.22	122
3.2	23758.91	45.54	125
3.3	25939.07	56.15	125

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

NWC (2325 kg/m^3), f'$_c$ = 20 MPa

Total Slab Depth	Deck Gage	Span (mm) 1200	1500	1800	2100	2400	2700	3000	3600
90	22	88.6/120.7	55.8/61.8	38.1/35.7	27.4/22.5	20.4/15.1	15.7/10.6	12.3/7.7	7.8/4.5
	20	105.4/129.5	66.6/66.3	45.5/38.4	32.8/24.1	24.6/16.2	19/11.3	14.9/8.3	9.6/4.8
	18	111.7/144.3	85.7/73.9	58.7/42.7	42.6/26.9	32/18	24.8/12.6	19.6/9.2	12.9/5.3
	16	111.7/158.3	88.9/81	72.1/46.9	52.3/29.5	39.5/19.8	30.7/13.9	24.4/10.1	16.2/5.8
125	22	125.3/303	79/155.1	53.9/89.8	38.7/56.5	28.8/37.9	22.1/26.6	17.3/19.4	11/11.2
	20	150/323.9	94.8/165.8	64.8/96	46.7/60.4	35/40.5	27/28.4	21.2/20.7	13.7/12
	18	167.5/359.1	123/183.9	84.4/106.4	61.1/67	46/44.9	35.6/31.5	28.2/23	18.6/13.3
	16	167.4/393	133.3/201.2	104.4/116.4	75.8/73.3	57.3/49.1	44.5/34.5	35.4/25.1	23.6/14.5
150	22	159.8/506.8	100.8/259.5	68.8/150.2	49.5/94.6	36.9/63.3	28.3/44.5	22.2/32.4	14.2/18.8
	20	191.7/539.9	121.2/276.5	82.9/160	59.9/100.7	44.9/67.5	34.6/47.4	27.3/34.5	17.7/20
	18	204.3/596.6	157.9/305.4	108.4/176.7	78.5/111.3	59.2/74.5	45.9/52.3	36.4/38.2	24/22.1
	16	204.2/651.3	162.6/333.5	134.5/193	97.8/121.5	73.9/81.4	57.5/57.2	45.8/41.7	30.5/24.1

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

1.5VLR-36 COMPOSITE DECK-SLABS
LIGHT WEIGHT CONCRETE (1840 kg/m^3)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
90	52	22	2331	2597	2684
		20	2512	2980	3004
		18	2749	3467	3344
		16	2952	3856	3627
100	62	22	2251	2513	2591
		20	2418	2884	2891
		18	2648	3357	3220
		16	2845	3751	3504
120	82	22	2116	2366	2438
		20	2264	2717	2707
		18	2482	3164	3019
		16	2670	3569	3289

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^{4}x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
1.5	4137.79	15.96	77
1.5	4457.03	18.88	77
1.5	4989.78	24.03	77
1.5	5486.93	29.19	77
1.6	5544.42	17.80	82
1.7	5966.82	21.09	87
1.7	6672.07	26.91	87
1.7	7332.13	32.77	87
2.0	9218.54	21.56	90
2.0	9902.92	25.62	101
2.0	11050.79	32.83	109
2.1	12134.18	40.14	109

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

LWC (1840 kg/m^3), f'$_c$ = 25 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		1200	1500	1800	2100	2400	2700	3000	3600
90	22	86.9/103.9	54.9/53.2	37.6/30.7	27.1/19.3	20.3/13	15.7/9.1	12.4/6.6	8/3.8
	20	103/111.9	65.3/57.3	44.8/33.1	32.4/20.9	24.4/14	18.9/9.8	14.9/7.1	9.8/4.1
	18	125.6/125.3	83.6/64.1	57.5/37.1	41.7/23.4	31.5/15.7	24.5/11	19.4/8	12.9/4.6
	16	125.6/137.8	100.1/70.5	70.1/40.8	51/25.7	38.6/17.2	30.1/12.1	24/8.8	16.1/5.1
100	22	96.8/139.2	61.2/71.2	41.9/41.2	30.2/26	22.6/17.4	17.5/12.2	13.7/8.9	8.9/5.1
	20	115.1/149.8	72.9/76.7	50/44.4	36.1/27.9	27.2/18.7	21.1/13.1	16.7/9.6	10.9/5.5
	18	142.7/167.5	93.6/85.8	64.3/49.6	46.7/31.2	35.2/20.9	27.4/14.7	21.8/10.7	14.5/6.2
	16	142.7/184.1	113.7/94.2	78.7/54.5	57.3/34.3	43.3/23	33.8/16.1	27/11.8	18.1/6.8
120	22	117.2/231.5	74.1/118.5	50.7/68.6	36.6/43.2	27.4/28.9	21.1/20.3	16.7/14.8	10.8/8.6
	20	139.8/248.6	88.5/127.3	60.7/73.6	43.9/46.4	33/31.1	25.6/21.8	20.2/15.9	13.3/9.2
	18	178.9/277.5	114.1/142.1	78.5/82.2	57/51.8	43/34.7	33.4/24.3	26.6/17.7	17.7/10.2
	16	178.8/304.7	140.1/156	96.5/90.3	70.2/56.8	53.1/38.1	41.4/26.7	33/19.5	22.2/11.3

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

1.5VLR-36 Composite Deck-Slab Information

Total Slab Depth (mm)	Cover Depth (mm)	Theoretical Concrete Volume (m^3/m^2)	Min. A_s for T&S (mm^2/m)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (2325 kg/m^3)				
90	**52**	0.076	60	152x152-MW9.1xMW9.1
100	**62**	0.088	60	152x152-MW9.1xMW9.1
115	**77**	0.100	60	152x152-MW9.1xMW9.1
125	**87**	0.114	81	152x152-MW13.3xMW13.3
140	**102**	0.126	126	152x152-MW18.7xMW18.7
150	**112**	0.139	150	152x152-MW25.8xMW25.8
Light Weight Concrete (1840 kg/m^3)				
90	**52**	0.076	60	152x152-MW9.1xMW9.1
100	**62**	0.088	60	152x152-MW9.1xMW9.1
115	**77**	0.100	60	152x152-MW9.1xMW9.1
120	**82**	0.107	66	152x152-MW11.1xMW11.1
125	**87**	0.114	81	152x152-MW13.3xMW13.3
145	**107**	0.132	141	152x152-MW22.6xMW22.6

Notes:

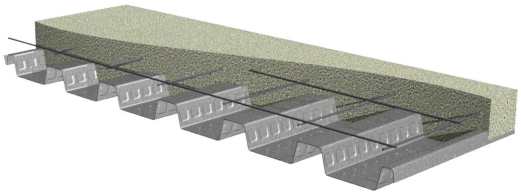
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

1.5VLR-36 COMPOSITE DECK
GRADE 50 STEEL

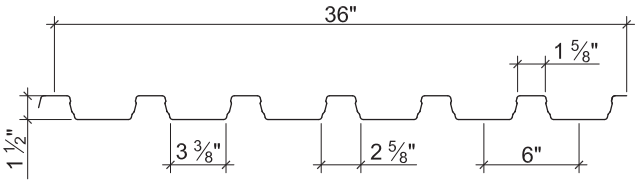
Imperial LSD

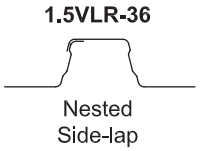
1.5VLR COMPOSITE DECK

- **1.5VLR-36 Deck used with Side-lap Screws**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$		Effective Section Modulus at F_y = 50 ksi		Factored Moment		Vertical Web Shear
				I_d+ (in⁴/ft)	I_d- (in⁴/ft)	S_e+ (in³/ft)	S_e- (in³/ft)	øM_n+ (lb-ft/ft)	øM_n- (lb-ft/ft)	øV_n (lb/ft)
22	1.6	0.0295	50	0.178	0.155	0.179	0.169	671	634	3398
20	2.0	0.0358	50	0.217	0.197	0.229	0.224	859	840	4105
18	2.6	0.0474	50	0.290	0.277	0.318	0.306	1193	1148	5388
16	3.3	0.0598	50	0.367	0.364	0.393	0.402	1474	1508	6734

Factored Reactions at Supports Based on Web Crippling, øR_n (lb/ft)

Deck Gage	Bearing Length of Webs											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	1½"	2"	3"	4"	3"	4"	1½"	2"	3"	4"	3"	4"
22	1098	1207	1389	1517	1945	2103	1061	1143	1281	1377	2407	2617
20	1567	1717	1969	2140	2792	3005	1605	1723	1921	2057	3494	3782
18	2626	2863	3261	3519	4707	5029	2894	3092	3423	3637	5966	6410
16	4023	4369	4949	5304	7241	7685	4679	4977	5477	5783	9253	9874

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- ULC Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes

1.5VLR-36 COMPOSITE DECK-SLABS
NORMAL WEIGHT CONCRETE (145 pcf)

Imperial LSD

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
3½”	2”	22	7'-2"	8'-0"	8'-3"
		20	7'-8"	9'-2"	9'-2"
		18	8'-5"	10'-9"	10'-3"
		16	9'-1"	12'-1"	11'-2"
5”	3½”	22	6'-4"	7'-1"	7'-3"
		20	6'-9"	8'-1"	8'-1"
		18	7'-5"	9'-5"	9'-0"
		16	8'-0"	10'-8"	9'-10"
6”	4½”	22	5'-11"	6'-7"	6'-9"
		20	6'-4"	7'-7"	7'-7"
		18	6'-11"	8'-10"	8'-5"
		16	7'-6"	9'-11"	9'-3"

Composite Deck-Slab Properties

Concrete + Deck	Deflection	Moment	Shear
	$I_d = (I_{cr}+I_u)/2$	ϕM_{no}	ϕV_{no}
(psf)	(in^4/ft)	(kip-ft/ft)	(kip/ft)
37.5	3.43	3.64	4.70
37.9	3.68	4.31	4.70
38.5	4.11	5.50	4.70
39.2	4.50	6.71	4.70
55.6	9.34	5.32	7.04
56.0	9.97	6.35	7.29
56.6	11.05	8.18	7.29
57.3	12.09	10.06	7.29
67.7	15.62	6.77	7.83
68.1	16.63	8.09	8.53
68.7	18.36	10.47	8.86
69.4	20.03	12.92	8.86

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

NWC (145 pcf), f'_c = 3000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	12'-0"
3½”	22	1771/2344	1116/1200	761/694	546/437	407/293	312/205	244/150	155/86
	20	2107/2515	1332/1287	910/745	656/469	491/314	378/220	297/160	192/93
	18	2301/2803	1713/1435	1175/830	850/523	639/350	495/246	392/179	257/103
	16	2300/3074	1830/1574	1441/911	1045/573	789/384	613/269	487/196	323/113
5”	22	2591/6375	1633/3264	1113/1889	799/1189	595/796	456/559	356/408	226/236
	20	3103/6809	1960/3486	1340/2017	966/1270	723/851	556/597	437/435	282/252
	18	3572/7546	2546/3863	1746/2235	1264/1408	951/943	737/662	583/482	383/279
	16	3571/8253	2843/4225	2162/2445	1570/1539	1185/1031	921/724	732/528	487/305
6”	22	3301/10667	2082/5461	1420/3160	1021/1990	762/1333	584/936	457/682	291/395
	20	3962/11357	2505/5815	1713/3365	1236/2119	926/1419	714/997	562/726	364/420
	18	4343/12537	3264/6419	2240/3714	1623/2339	1222/1567	948/1100	751/802	495/464
	16	4342/13681	3456/7004	2783/4053	2021/2552	1527/1710	1188/1201	946/875	630/506

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

1.5VLR-36 COMPOSITE DECK-SLABS
LIGHT WEIGHT CONCRETE (115 pcf)

Imperial **LSD**

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
3½”	2”	22	7'-8"	8'-6"	8'-10"
		20	8'-3"	9'-10"	9'-11"
		18	9'-1"	11'-5"	11'-0"
		16	9'-9"	12'-8"	11'-11"
4”	2½”	22	7'-4"	8'-2"	8'-6"
		20	7'-11"	9'-5"	9'-5"
		18	8'-8"	10'-11"	10'-6"
		16	9'-3"	12'-3"	11'-5"
4¾”	3¼”	22	6'-11"	7'-9"	8'-0"
		20	7'-5"	8'-11"	8'-10"
		18	8'-1"	10'-4"	9'-11"
		16	8'-9"	11'-8"	10'-9"

Composite Deck-Slab Properties

Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
30.1	3.02	3.56	5.43
30.5	3.25	4.22	5.43
31.1	3.64	5.37	5.43
31.8	4.00	6.52	5.43
34.9	4.38	4.09	5.79
35.3	4.71	4.85	6.38
35.9	5.26	6.19	6.38
36.6	5.78	7.55	6.38
42.0	7.08	4.90	6.36
42.4	7.60	5.82	7.06
43.0	8.47	7.46	7.89
43.7	9.29	9.14	7.89

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

LWC (115 pcf), f'_c = 4000 psi

Total Slab Depth	Deck Gage	Span (ft-in.) 4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	12'-0"
3½”	22	1743/2063	1102/1056	754/611	544/384	407/257	314/181	247/132	160/76
	20	2069/2221	1310/1137	898/658	650/414	488/277	378/194	299/142	196/82
	18	2645/2484	1678/1272	1154/736	837/463	632/310	491/218	390/159	259/92
	16	2673/2731	2047/1398	1409/809	1025/509	775/341	604/239	482/174	322/101
4”	22	2001/2991	1265/1531	865/886	624/558	467/373	360/262	283/191	183/110
	20	2380/3215	1507/1646	1033/952	747/600	562/401	434/282	343/205	225/119
	18	3051/3592	1937/1839	1331/1064	966/670	729/449	566/315	450/229	299/133
	16	3143/3945	2369/2020	1631/1169	1186/736	897/493	699/346	558/252	373/146
4¾”	22	2395/4833	1514/2474	1035/1432	746/901	559/604	430/424	339/309	219/179
	20	2857/5187	1809/2655	1240/1536	897/967	674/648	521/455	412/331	270/192
	18	3678/5782	2334/2960	1604/1713	1164/1078	879/722	683/507	543/370	360/214
	16	3889/6345	2870/3248	1976/1880	1437/1183	1087/793	848/557	676/406	453/235

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

1.5VLR-36 Composite Deck-Slab Information

Total Slab Depth (in.)	Cover Depth (in.)	Theoretical Concrete Volume ($yd^3/100\ ft^2$)	Min. A_s for T&S ($in.^2$)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (145 pcf)				
3½	**2**	0.92	0.028	6x6-W1.4xW1.4
4	**2½**	1.07	0.028	6x6-W1.4xW1.4
4½	**3**	1.22	0.028	6x6-W1.4xW1.4
5	**3½**	1.38	0.038	6x6-W2.1xW2.1
5½	**4**	1.53	0.060	6x6-W2.9xW2.9
6	**4½**	1.69	0.074	6x6-W4.0xW4.0
Light Weight Concrete (110 pcf)				
3½	**2**	0.92	0.028	6x6-W1.4xW1.4
4	**2½**	1.07	0.028	6x6-W1.4xW1.4
4½	**3**	1.22	0.028	6x6-W1.4xW1.4
4¾	**3¼**	1.3	0.031	6x6-W1.7xW1.7
5	**3½**	1.38	0.038	6x6-W2.1xW2.1
5¾	**4¼**	1.61	0.067	6x6-W3.5xW3.5

Notes:

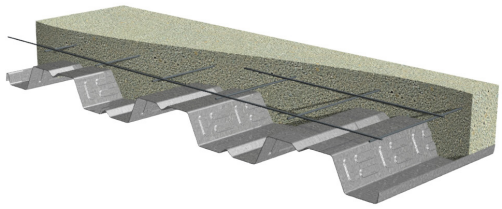
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

2VLI-36/2VLJ-36 COMPOSITE DECKS
GRADE 50 STEEL

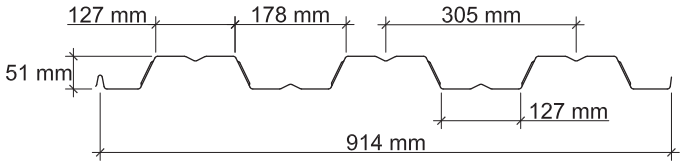
Metric LSD

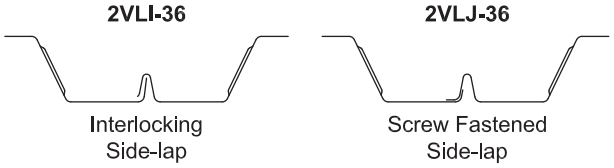
2VLI COMPOSITE DECKS

- **2VLI-36 Deck used with TSWs or BPs**
- **2VLJ-36 Deck used with Side-lap Screws**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	7.81	**0.75**	345	442.5	442.5	13.12	13.71	4071	4256	31
20	9.28	**0.91**	345	558.5	555.8	17.53	18.12	5437	5621	45
18	12.21	**1.20**	345	760.6	760.6	26.08	26.88	8091	8339	61
16	15.62	**1.52**	345	960.0	960.0	34.57	35.05	10725	10877	76

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	100	150	40	50	75	100	100	150
22	7.3	7.9	9.1	10.1	14.6	16.8	6.7	7.1	8.0	8.7	17.6	20.4
20	10.5	11.3	12.9	14.3	20.9	23.9	10.3	10.9	12.1	13.2	25.6	29.5
18	17.7	18.9	21.6	23.8	35.1	39.9	18.8	19.8	21.9	23.7	43.7	50.1
16	27.2	29.0	32.9	36.1	53.9	60.9	30.7	32.2	35.5	38.2	67.7	77.3

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- ULC Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

2VLI-36/2VLJ-36 COMPOSITE DECK-SLABS
NORMAL WEIGHT CONCRETE (2325 kg/m³)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
102	51	22	2677	2962	3060
		20	2885	3413	3527
		18	3182	4087	3844
		16	3418	4313	4057
140	89	22	2344	2601	2667
		20	2537	3004	3104
		18	2802	3652	3461
		16	3016	3926	3693
165	114	22	2184	2423	2489
		20	2380	2802	2894
		18	2630	3409	3249
		16	2833	3747	3499

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^4x10^3/m)	Moment $ØM_{no}$ (kN-m/m)	Shear $ØV_{no}$ (kN/m)
1.8	5656.54	15.08	62
1.8	6052.59	17.85	62
1.9	6724.33	22.74	62
1.9	7373.27	27.67	62
2.7	14038.27	21.60	78
2.7	14958.69	25.69	92
2.7	16521.74	32.92	94
2.8	18039.29	40.31	94
3.3	22636.01	27.37	90
3.3	24055.21	32.66	104
3.3	26476.00	42.07	118
3.3	28841.97	49.16	118

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, $øW_n$, / Deflection at L/360 (kPa)

NWC (2325 kg/m³), f'_c = 20 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		1800	2100	2400	2700	3000	3300	3600	4200
102	22	34.9/42	25/26.5	18.6/17.7	14.2/12.4	11.1/9	8.8/6.8	7/5.2	4.5/3.3
	20	41.8/45	30.1/28.3	22.5/19	17.3/13.3	13.6/9.7	10.8/7.3	8.7/5.6	5.8/3.5
	18	53.8/50	38.9/31.5	29.2/21.1	22.6/14.8	17.9/10.8	14.4/8.1	11.7/6.2	7.9/3.9
	16	65.9/54.8	47.8/34.5	36.1/23.1	28/16.2	22.2/11.8	17.9/8.9	14.7/6.8	10.2/4.3
140	22	49.9/104.4	35.8/65.7	26.6/44	20.3/30.9	15.8/22.6	12.5/16.9	10/13	6.4/8.2
	20	60/111.3	43.2/70	32.3/46.9	24.8/32.9	19.4/24	15.5/18.1	12.4/13.9	8.2/8.7
	18	77.9/122.9	56.3/77.4	42.3/51.9	32.7/36.4	25.8/26.5	20.7/19.9	16.9/15.3	11.5/9.7
	16	96/134.2	69.6/84.5	52.5/56.6	40.7/39.7	32.4/29	26.1/21.7	21.4/16.8	14.8/10.5
165	22	63.5/168.4	45.5/106.1	33.9/71	26/49.9	20.2/36.3	16/27.3	12.8/21	8.3/13.2
	20	76.5/178.9	55.1/112.7	41.2/75.5	31.7/53	24.9/38.6	19.9/29	16/22.4	10.7/14.1
	18	99.7/197	72.2/124	54.2/83.1	42/58.4	33.2/42.5	26.8/31.9	21.8/24.6	14.9/15.5
	16	117.2/214.6	85/135.1	64.1/90.5	49.7/63.5	39.5/46.3	31.9/34.8	26.1/26.8	18.1/16.9

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

2VLI-36/2VLJ-36 COMPOSITE DECK-SLABS
LIGHT WEIGHT CONCRETE (1840 kg/m^3)

Metric LSD

Maximum Unshored Spans

Composite Deck-Slab Properties

Slab Depth			Maximum Unshored Construction Clear Span (mm)			Concrete + Deck	Deflection	Moment	Shear
Total (mm)	Topping (mm)	Deck Gage	1	2	3	(kPa)	$I_d = (I_{cr}+I_u)/2$ (mm^{4}x10^3/m)	ϕM_{no} (kN-m/m)	ϕV_{no} (kN/m)
102	51	22	2883	3163	3268	1.5	4853.75	14.70	57
		20	3106	3642	3763	1.5	5219.20	17.37	69
		18	3421	4315	4059	1.5	5834.78	22.04	69
		16	3652	4549	4279	1.5	6424.70	26.75	69
115	64	22	2743	3029	3129	1.7	6816.85	16.82	61
		20	2957	3490	3606	1.7	7319.16	19.91	76
		18	3259	4162	3914	1.7	8163.12	25.32	81
		16	3500	4390	4129	1.8	8970.47	30.79	81
135	84	22	2572	2852	2946	2.1	10785.71	20.26	68
		20	2774	3288	3398	2.1	11558.70	24.03	83
		18	3060	3970	3734	2.1	12858.91	30.68	98
		16	3290	4191	3942	2.1	14106.33	37.42	100

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

LWC (1840 kg/m^3), f'$_c$ = 25 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		1800	2100	2400	2700	3000	3300	3600	4200
102	22	34.4/36.1	24.8/22.7	18.6/15.2	14.3/10.7	11.2/7.8	9/5.8	7.2/4.5	4.8/2.8
	20	41/38.8	29.6/24.4	22.3/16.4	17.2/11.5	13.6/8.4	10.9/6.3	8.9/4.8	6/3
	18	52.5/43.4	38.1/27.3	28.7/18.3	22.3/12.8	17.7/9.3	14.3/7	11.7/5.4	8.1/3.4
	16	64.1/47.8	46.6/30.1	35.2/20.2	27.4/14.1	21.8/10.3	17.7/7.8	14.6/5.9	10.2/3.7
115	22	39.4/50.7	28.4/31.9	21.2/21.4	16.3/15	12.8/10.9	10.2/8.2	8.2/6.3	5.5/4
	20	47/54.4	33.9/34.3	25.5/22.9	19.7/16.1	15.6/11.7	12.4/8.8	10.2/6.8	6.8/4.3
	18	60.3/60.7	43.8/38.2	33/25.6	25.6/18	20.3/13.1	16.4/9.8	13.5/7.6	9.3/4.7
	16	73.8/66.7	53.6/42	40.5/28.2	31.6/19.8	25.1/14.4	20.4/10.8	16.8/8.3	11.7/5.2
135	22	47.4/80.2	34.1/50.5	25.6/33.9	19.6/23.7	15.4/17.3	12.3/13	9.9/10	6.6/6.3
	20	56.7/86	41/54.2	30.8/36.2	23.7/25.5	18.8/18.5	15/13.9	12.2/10.7	8.3/6.8
	18	73.1/95.7	53/60.2	40/40.3	31/28.3	24.6/20.6	19.9/15.5	16.3/11.9	11.3/7.5
	16	89.7/104.9	65.2/66.1	49.3/44.2	38.4/31.1	30.6/22.6	24.8/17	20.4/13.1	14.3/8.2

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

2VLI-36/2VLJ-36 Composite Deck-Slab Information

Total Slab Depth (mm)	Cover Depth (mm)	Theoretical Concrete Volume (m^3/m^2)	Min. A_s for T&S (mm^2/m)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (2325 kg/m³)				
102	**51**	0.077	60	152x152-MW9.1xMW9.1
115	**64**	0.089	60	152x152-MW9.1xMW9.1
125	**74**	0.101	60	152x152-MW9.1xMW9.1
140	**89**	0.114	87	152x152-MW13.3xMW13.3
150	**99**	0.127	117	152x152-MW18.7xMW18.7
165	**114**	0.140	162	152x152-MW25.8xMW25.8
Light Weight Concrete (1840 kg/m³)				
102	**51**	0.077	60	152x152-MW9.1xMW9.1
115	**64**	0.089	60	152x152-MW9.1xMW9.1
125	**74**	0.101	60	152x152-MW9.1xMW9.1
135	**84**	0.108	72	152x152-MW11.1xMW11.1
140	**89**	0.114	87	152x152-MW13.3xMW13.3
160	**109**	0.133	147	152x152-MW22.6xMW22.6

Notes:

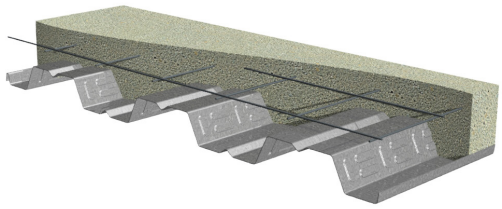
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

2VLI-36/2VLJ-36 COMPOSITE DECKS
GRADE 50 STEEL

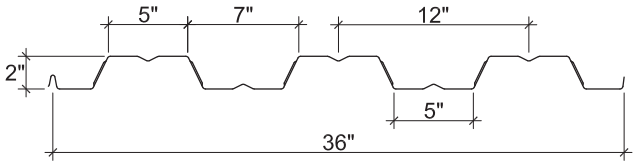
Imperial LSD

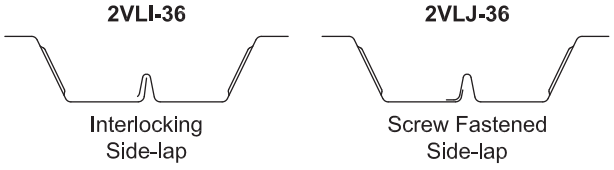
2VLI COMPOSITE DECKS

- **2VLI Deck-36 used with TSWs or BPs**
- **2VLJ Deck-36 used with Side-lap Screws**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.6	0.0295	50	0.324	0.324	0.244	0.255	915	957	2101
20	1.9	0.0358	50	0.409	0.407	0.326	0.337	1222	1264	3096
18	2.5	0.0474	50	0.557	0.557	0.485	0.500	1819	1875	4147
16	3.2	0.0598	50	0.703	0.703	0.643	0.652	2411	2445	5209

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	6"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	6"
22	494	543	625	694	1007	1157	456	491	550	600	1212	1406
20	709	777	891	987	1441	1650	698	750	836	908	1762	2035
18	1196	1304	1485	1638	2419	2750	1277	1364	1509	1633	3008	3454
16	1841	1999	2265	2489	3707	4192	2084	2216	2439	2627	4665	5327

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- ULC Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

2VLI-36/2VLJ-36 COMPOSITE DECK-SLABS
NORMAL WEIGHT CONCRETE (145 pcf)

Imperial LSD

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
4”	2”	22	8'-10"	9'-9"	10'-1"
		20	9'-6"	11'-2"	11'-7"
		18	10'-6"	13'-5"	12'-8"
		16	11'-3"	14'-2"	13'-4"
5½”	3½”	22	7'-8"	8'-6"	8'-9"
		20	8'-4"	9'-10"	10'-2"
		18	9'-2"	12'-0"	11'-4"
		16	9'-11"	12'-11"	12'-2"
6½”	4½”	22	7'-2"	7'-11"	8'-2"
		20	7'-10"	9'-2"	9'-6"
		18	8'-8"	11'-2"	10'-8"
		16	9'-4"	12'-4"	11'-6"

Composite Deck-Slab Properties

Deck Gage	Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
22	37.9	4.14	3.38	4.25
20	38.2	4.43	4.00	4.29
18	38.8	4.92	5.10	4.29
16	39.5	5.39	6.21	4.29
22	56.0	10.32	4.85	5.37
20	56.3	11.00	5.77	6.36
18	56.9	12.14	7.39	6.54
16	57.6	13.25	9.05	6.54
22	68.1	16.78	6.16	6.21
20	68.4	17.83	7.36	7.21
18	69.0	19.61	9.48	8.22
16	69.7	21.36	11.08	8.22

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

NWC (145 pcf), f'_c = 3000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"
4”	22	703/837	504/527	375/353	286/248	223/180	176/135	140/104	90/65
	20	841/895	605/563	452/377	347/265	272/193	216/145	174/111	115/70
	18	1084/994	783/626	588/419	455/294	359/214	288/161	234/124	159/78
	16	1329/1090	963/686	726/459	563/323	447/235	361/176	295/136	203/85
5½”	22	1007/2088	721/1315	536/881	408/618	317/451	250/338	199/261	127/164
	20	1211/2224	871/1401	650/938	499/659	391/480	311/361	250/278	165/175
	18	1572/2456	1136/1546	853/1036	659/727	520/530	417/398	339/307	230/193
	16	1939/2681	1406/1688	1059/1131	822/794	652/579	526/435	431/335	297/211
6½”	22	1284/3395	921/2138	685/1432	523/1006	408/733	322/551	257/424	166/267
	20	1549/3607	1115/2271	834/1521	641/1068	503/779	400/585	323/450	214/283
	18	2020/3968	1461/2498	1098/1674	849/1175	672/857	540/643	440/496	300/312
	16	2374/4321	1721/2721	1297/1823	1007/1280	799/933	645/701	528/540	365/340

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

2VLI-36/2VLJ-36 COMPOSITE DECK-SLABS
LIGHT WEIGHT CONCRETE (115 pcf)

Imperial LSD

Maximum Unshored Spans / Composite Deck-Slab Properties

Slab Depth			Maximum Unshored Construction Clear Span			Concrete + Deck	Deflection	Moment	Shear
Total	Topping	Deck Gage	1	2	3	(psf)	$I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	ϕM_{no} (kip-ft/ft)	ϕV_{no} (kip/ft)
4”	2”	22	9'-6"	10'-5"	10'-9"	30.4	3.63	3.31	3.96
		20	10'-2"	11'-11"	12'-4"	30.7	3.90	3.91	4.96
		18	11'-3"	14'-2"	13'-4"	31.3	4.35	4.97	4.96
		16	12'-0"	14'-11"	14'-1"	32.0	4.79	6.03	4.96
4½”	2½”	22	9'-0"	9'-11"	10'-3"	35.1	5.07	3.78	4.27
		20	9'-9"	11'-5"	11'-10"	35.4	5.44	4.47	5.26
		18	10'-9"	13'-8"	12'-10"	36.0	6.06	5.69	5.78
		16	11'-6"	14'-5"	13'-7"	36.7	6.65	6.92	5.78
5¼”	3¼”	22	8'-6"	9'-5"	9'-8"	42.3	7.88	4.51	4.76
		20	9'-2"	10'-10"	11'-2"	42.6	8.44	5.35	5.75
		18	10'-1"	13'-1"	12'-4"	43.2	9.38	6.84	6.81
		16	10'-10"	13'-10"	13'-0"	43.9	10.28	8.34	7.09

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

LWC (115 pcf), f'_c = 4000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	14'-0"
4”	22	697/734	502/462	375/309	288/217	226/158	180/119	145/91	97/57
	20	830/788	600/496	450/332	347/233	274/170	220/128	178/98	121/62
	18	1064/880	771/554	581/371	451/261	358/190	289/142	236/110	163/69
	16	1300/969	944/610	714/408	555/287	442/209	358/157	295/121	206/76
4½”	22	795/1025	572/645	428/432	329/303	258/221	205/166	165/128	110/80
	20	949/1099	685/692	514/463	397/325	313/237	251/178	204/137	138/86
	18	1219/1225	883/771	666/516	516/363	410/264	331/198	271/153	187/96
	16	1491/1345	1083/847	819/567	637/398	507/290	411/218	338/168	236/105
5¼”	22	949/1594	683/1003	511/672	392/472	308/344	245/258	197/199	131/125
	20	1136/1707	820/1074	615/720	475/505	375/368	300/277	244/213	165/134
	18	1465/1896	1062/1194	800/800	621/562	492/409	398/307	325/237	225/149
	16	1799/2079	1307/1309	987/877	769/616	612/449	496/337	408/259	285/163

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

2VLI-36/2VLJ-36 Composite Deck-Slab Information

Total Slab Depth (in.)	Cover Depth (in.)	Theoretical Concrete Volume ($yd^3/100\ ft^2$)	Min. A_s for T&S ($in.^2$)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (145 pcf)				
4	**2**	0.93	0.028	6x6-W1.4xW1.4
4½	**2½**	1.08	0.028	6x6-W1.4xW1.4
5	**3**	1.23	0.028	6x6-W1.4xW1.4
5½	**3½**	1.39	0.041	6x6-W2.1xW2.1
6	**4**	1.54	0.055	6x6-W2.9xW2.9
6½	**4½**	1.70	0.077	6x6-W4.0xW4.0
Light Weight Concrete (110 pcf)				
4	**2**	0.93	0.028	6x6-W1.4xW1.4
4½	**2½**	1.08	0.028	6x6-W1.4xW1.4
5	**3**	1.23	0.028	6x6-W1.4xW1.4
5¼	**3¼**	1.31	0.034	6x6-W1.7xW1.7
5½	**3½**	1.39	0.041	6x6-W2.1xW2.1
6¼	**4¼**	1.62	0.069	6x6-W3.5xW3.5

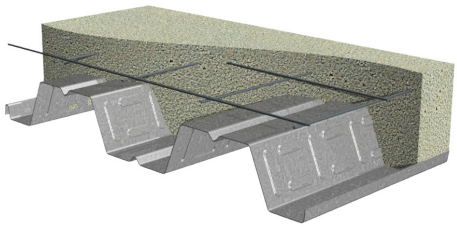
Notes:

1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

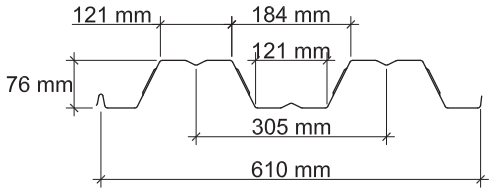
3VLI-24 COMPOSITE DECKS
GRADE 50 STEEL

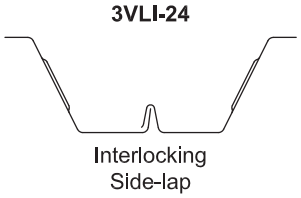
Metric LSD

3VLI COMPOSITE DECKS
- **3VLI-24 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	8.30	**0.75**	345	999.6	1006.4	20.81	22.04	6457	6838	26
20	10.25	**0.91**	345	1255.0	1257.7	27.53	28.98	8539	8992	46
18	13.18	**1.20**	345	1711.1	1711.1	40.91	42.69	12695	13243	81
16	17.09	**1.52**	345	2157.6	2157.6	54.46	54.46	16898	16898	114

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	One-Flange Loading Interior Bearing 100	200	Two-Flange Loading End Bearing 40	50	75	100	Two-Flange Loading Interior Bearing 100	200
22	7.1	7.7	8.8	9.8	14.9	17.4	6.2	6.6	7.4	8.0	17.3	20.5
20	10.3	11.0	12.6	14.0	21.4	26.6	9.6	10.2	11.3	12.3	25.3	31.9
18	17.4	18.6	21.2	23.4	35.9	44.9	17.9	18.8	20.8	22.5	43.4	55.2
16	26.9	28.7	32.5	35.8	55.0	68.2	29.5	31.0	34.1	36.7	67.6	85.2

Standard Features
- ASTM A653/A653M SS GR50 Min., with Z275/ G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- ULC Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features
- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

3VLI-24 COMPOSITE DECK-SLABS
NORMAL WEIGHT CONCRETE (2325 kg/m^3)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
127	51	22	3346	3372	3636
		20	3599	4103	4219
		18	3876	4828	4541
		16	4089	5094	4791
165	89	22	2983	2672	3036
		20	3212	3641	3761
		18	3550	4437	4174
		16	3763	4687	4409
190	114	22	2801	2351	2672
		20	3030	3409	3521
		18	3351	4166	3997
		16	3606	4491	4224

Composite Deck-Slab Properties

Deck Gage	Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^{4}x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
22	2.1	10189.20	21.58	64
20	2.1	10867.90	25.65	75
18	2.2	12027.00	32.83	75
16	2.2	13158.00	40.11	75
22	3.0	21494.99	28.42	79.58
20	3.0	22841.50	33.87	99.72
18	3.0	25132.42	43.47	106.61
16	3.1	27366.55	53.26	106.61
22	3.5	32337.05	33.25	91.04
20	3.6	34294.25	39.69	111.18
18	3.6	37631.80	51.09	129.51
16	3.6	40899.90	62.75	129.51

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

NWC (2325 kg/m^3), f'$_c$ = 20 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		2400	2700	3000	3300	3600	3900	4200	4800
127	22	27.3/31.9	21/22.5	16.5/16.3	13.2/12.3	10.7/9.4	8.7/7.4	7.1/5.9	4.8/4
	20	32.9/34.1	25.5/23.9	20.1/17.4	16.2/13.1	13.2/10.1	10.8/7.9	9/6.3	6.2/4.3
	18	42.9/37.7	33.3/26.5	26.5/19.3	21.4/14.5	17.5/11.2	14.6/8.8	12.2/7	8.7/4.7
	16	53/41.3	41.3/29	32.9/21.1	26.7/15.8	22/12.2	18.3/9.6	15.4/7.7	11.2/5.1
165	22	35.7/67.5	27.4/47.4	21.5/34.5	17.1/26	13.8/20	11.2/15.7	9.1/12.5	6.1/8.4
	20	43.3/71.7	33.4/50.3	26.3/36.7	21.1/27.6	17.1/21.2	14/16.7	11.6/13.4	8/9
	18	56.6/78.9	43.9/55.4	34.9/40.4	28.2/30.3	23/23.4	19.1/18.3	15.9/14.7	11.3/9.8
	16	70.1/85.9	54.6/60.3	43.5/44	35.3/33	29/25.4	24.2/20	20.3/16	14.7/10.7
190	22	41.7/101.5	32/71.2	25.1/52	20/39	16.1/30.1	13/23.7	10.6/18.9	7.1/12.6
	20	50.7/107.6	39.1/75.6	30.8/55.1	24.7/41.4	20/31.9	16.4/25	13.5/20.1	9.3/13.5
	18	66.5/118.1	51.6/82.9	40.9/60.5	33/45.4	27/35	22.4/27.5	18.7/22	13.2/14.7
	16	82.6/128.4	64.3/90.2	51.2/65.7	41.5/49.4	34.2/38	28.4/29.9	23.9/23.9	17.2/16

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

3VLI-24 COMPOSITE DECK-SLABS
LIGHT WEIGHT CONCRETE (1840 kg/m^3)

Metric LSD

Maximum Unshored Spans

Slab Depth Total (mm)	Slab Depth Topping (mm)	Deck Gage	Maximum Unshored Construction Clear Span (mm) 1	2	3
127	51	22	3604	3787	3910
		20	3804	4399	4459
		18	4094	5099	4796
		16	4314	5374	5054
140	64	22	3452	3575	3751
		20	3683	4227	4318
		18	3966	4940	4646
		16	4182	5209	4900
160	84	22	3259	3205	3539
		20	3506	3997	4129
		18	3802	4736	4455
		16	4013	4998	4701

Composite Deck-Slab Properties

Deck Gage	Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^{4}x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
22	1.7	8697.10	21.07	57.81
20	1.7	9330.05	25.00	77.95
18	1.7	10405.39	31.91	84.07
16	1.8	11448.27	38.89	84.07
22	1.9	11439.82	23.26	62.12
20	1.9	12251.75	27.62	82.26
18	2.0	13625.04	35.26	95.57
16	2.0	14952.05	42.99	95.57
22	2.3	16719.13	26.88	69.15
20	2.3	17874.04	31.96	89.29
18	2.3	19823.69	40.87	114.31
16	2.4	21706.61	49.91	114.31

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

LWC (1840 kg/m^3), f'$_c$ = 25 MPa

Total Slab Depth	Deck Gage	Span (mm) 2400	2700	3000	3300	3600	3900	4200	4800
127	22	27.1/27.3	21/19.2	16.6/13.9	13.4/10.5	10.9/8	9/6.3	7.4/5.1	5.2/3.4
	20	32.6/29.3	25.3/20.5	20.1/15	16.2/11.3	13.3/8.7	11/6.8	9.2/5.5	6.5/3.6
	18	42.1/32.7	32.8/22.9	26.2/16.7	21.3/12.5	17.5/9.7	14.6/7.6	12.3/6.1	8.9/4.1
	16	51.8/35.9	40.5/25.2	32.3/18.4	26.3/13.8	21.8/10.6	18.2/8.3	15.4/6.7	11.3/4.5
140	22	29.9/35.9	23.1/25.2	18.2/18.3	14.7/13.8	11.9/10.6	9.8/8.3	8.1/6.7	5.6/4.5
	20	35.9/38.4	27.9/27	22.1/19.7	17.9/14.7	14.6/11.3	12.1/9	10.1/7.1	7.1/4.8
	18	46.5/42.8	36.2/30	28.9/21.9	23.4/16.4	19.3/12.6	16/10	13.5/7.9	9.8/5.3
	16	57.2/46.9	44.6/32.9	35.7/24	29.1/18.1	24/13.9	20.1/10.9	16.9/8.7	12.4/5.8
160	22	34.5/52.5	26.6/36.8	21/26.9	16.9/20.2	13.7/15.5	11.3/12.2	9.3/9.8	6.5/6.6
	20	41.5/56.1	32.2/39.4	25.5/28.7	20.6/21.5	16.8/16.6	13.9/13.1	11.6/10.4	8.2/7
	18	53.8/62.2	41.9/43.7	33.4/31.8	27.1/23.9	22.3/18.4	18.6/14.5	15.6/11.6	11.3/7.8
	16	66.3/68.1	51.8/47.8	41.4/34.9	33.7/26.2	27.8/20.2	23.3/15.8	19.6/12.7	14.4/8.5

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

3VLI-24 Composite Deck-Slab Information

Total Slab Depth (mm)	Cover Depth (mm)	Theoretical Concrete Volume (m^3/m^2)	Min. A_s for T&S (mm^2/m)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (2325 kg/m³)				
127	**51**	0.089	60	152x152-MW9.1xMW9.1
140	**64**	0.101	60	152x152-MW9.1xMW9.1
150	**74**	0.114	60	152x152-MW9.1xMW9.1
165	**89**	0.127	87	152x152-MW13.3xMW13.3
180	**104**	0.140	132	152x152-MW22.6xMW22.6
190	**114**	0.152	162	152x152-MW25.8xMW25.8
Light Weight Concrete (1840 kg/m³)				
127	**51**	0.089	60	152x152-MW9.1xMW9.1
140	**64**	0.101	60	152x152-MW9.1xMW9.1
150	**74**	0.114	60	152x152-MW9.1xMW9.1
160	**84**	0.121	72	152x152-MW11.1xMW11.1
165	**89**	0.127	87	152x152-MW13.3xMW13.3
185	**109**	0.146	147	152x152-MW22.6xMW22.6

Notes:

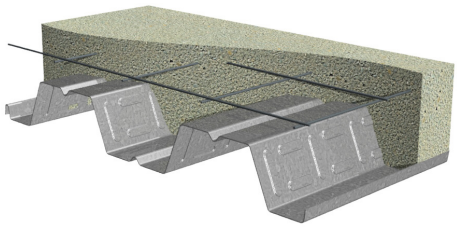
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

3VLI-24 COMPOSITE DECKS
GRADE 50 STEEL

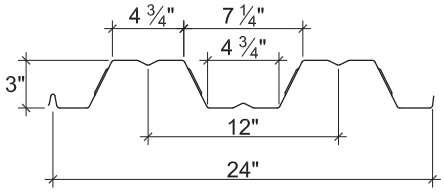
Imperial LSD

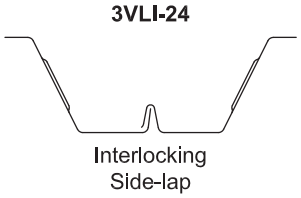
3VLI COMPOSITE DECKS

- **3VLI-24 Deck used with TSWs or BPs**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.7	0.0295	50	0.732	0.737	0.387	0.410	1452	1537	1801
20	2.1	0.0358	50	0.919	0.921	0.512	0.539	1920	2021	3181
18	2.7	0.0474	50	1.253	1.253	0.761	0.794	2854	2977	5582
16	3.5	0.0598	50	1.580	1.580	1.013	1.013	3799	3799	7842

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

	Bearing Length of Webs											
	One-Flange Loading						Two-Flange Loading					
Deck	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
Gage	1½"	2"	3"	4"	4"	8"	1½"	2"	3"	4"	4"	8"
22	480	527	607	674	1027	1194	420	452	507	553	1194	1401
20	693	760	871	965	1471	1822	653	701	781	849	1743	2189
18	1177	1284	1462	1613	2469	3092	1213	1296	1434	1551	2991	3806
16	1822	1978	2241	2463	3786	4698	2002	2129	2343	2524	4654	5873

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- ULC Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

3VLI-24 COMPOSITE DECK-SLABS
NORMAL WEIGHT CONCRETE (145 pcf)

Imperial LSD

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
5”	2”	22	11'-0"	11'-1"	11'-11"
		20	11'-10"	13'-5"	13'-10"
		18	12'-9"	15'-10"	14'-11"
		16	13'-5"	16'-9"	15'-9"
6½”	3½”	22	9'-9"	8'-9"	9'-11"
		20	10'-6"	11'-11"	12'-4"
		18	11'-8"	14'-7"	13'-8"
		16	12'-4"	15'-5"	14'-6"
7½”	4½”	22	9'-2"	7'-8"	8'-9"
		20	9'-11"	11'-2"	11'-6"
		18	11'-0"	13'-8"	13'-1"
		16	11'-10"	14'-9"	13'-10"

Composite Deck-Slab Properties

Concrete + Deck	Deflection	Moment	Shear
	$I_d = (I_{cr}+I_u)/2$	ϕM_{no}	ϕV_{no}
(psf)	(in^4/ft)	(kip-ft/ft)	(kip/ft)
44.0	7.54	4.86	4.42
44.4	8.04	5.78	5.24
45.0	8.89	7.39	5.24
45.8	9.72	9.03	5.24
62.1	15.94	6.40	5.52
62.5	16.93	7.63	6.90
63.1	18.62	9.80	7.43
63.9	20.27	12.00	7.43
74.2	24.12	7.51	6.33
74.6	25.57	8.96	7.71
75.2	28.04	11.54	9.06
76.0	30.47	14.17	9.06

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

NWC (145 pcf), f'_c = 3000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13’-0"	14'-0"	16'-0"
5"	22	552/643	424/451	333/329	266/247	214/190	174/149	143/120	96/80
	20	666/686	514/481	406/351	326/263	265/203	217/159	180/128	125/85
	18	867/758	673/533	535/388	432/291	354/224	293/176	245/141	174/94
	16	1072/829	835/582	665/424	540/319	444/245	370/193	311/154	225/103
6½"	22	722/1360	554/955	434/696	345/523	278/403	225/317	183/253	122/170
	20	875/1445	675/1014	532/739	426/555	345/428	283/336	233/269	160/180
	18	1145/1589	888/1116	704/813	568/611	465/470	384/370	320/296	227/198
	16	1420/1729	1105/1214	880/885	713/665	586/512	488/403	410/322	295/216
7½"	22	845/2059	648/1446	507/1054	403/792	324/610	262/479	213/384	141/257
	20	1027/2182	791/1533	623/1117	499/839	404/646	330/508	272/407	186/272
	18	1348/2393	1045/1681	828/1225	668/920	546/709	452/557	376/446	266/299
	16	1676/2600	1304/1826	1038/1331	842/1000	692/770	575/606	483/485	347/325

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

3VLI-24 COMPOSITE DECK-SLABS
LIGHT WEIGHT CONCRETE (115 pcf)

Imperial LSD

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
5”	2”	22	11'-10"	12'-5"	12'-10"
		20	12'-6"	14'-5"	14'-8"
		18	13'-5"	16'-9"	15'-9"
		16	14'-2"	17'-8"	16'-7"
5½”	2½”	22	11'-4"	11'-9"	12'-4"
		20	12'-1"	13'-10"	14'-2"
		18	13'-0"	16'-3"	15'-3"
		16	13'-9"	17'-1"	16'-1"
6¼”	3¼”	22	10'-9"	10'-7"	11'-8"
		20	11'-6"	13'-2"	13'-7"
		18	12'-6"	15'-7"	14'-8"
		16	13'-2"	16'-5"	15'-6"

Composite Deck-Slab Properties

Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
35.2	6.58	4.76	4.07
35.6	7.05	5.65	5.45
36.2	7.85	7.22	6.05
37.0	8.63	8.80	6.05
40.0	8.61	5.24	4.37
40.4	9.21	6.23	5.75
41.0	10.23	7.96	6.86
41.8	11.21	9.71	6.86
47.2	12.39	6.02	4.85
47.6	13.23	7.16	6.23
48.2	14.65	9.16	8.14
49.0	16.03	11.19	8.14

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

LWC (115 pcf), f'_c = 4000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13’-0"	14'-0"	16'-0"
5”	22	551/561	426/394	336/287	270/216	220/166	181/130	150/104	104/70
	20	662/602	513/422	407/308	329/231	269/178	223/140	186/112	132/75
	18	856/670	667/470	532/343	431/257	355/198	296/156	249/125	180/83
	16	1054/736	823/517	657/377	535/283	442/218	370/171	312/137	228/92
5½”	22	605/734	467/516	369/376	296/282	241/217	198/171	164/137	113/91
	20	728/786	564/552	447/402	361/302	295/232	244/183	203/146	144/98
	18	943/873	734/613	585/446	474/335	390/258	325/203	273/162	197/109
	16	1161/957	906/672	724/490	589/368	487/283	407/223	343/178	251/119
6¼”	22	693/1057	535/742	422/541	338/406	275/313	225/246	186/197	129/132
	20	835/1128	647/792	513/578	413/434	338/334	279/263	232/210	164/141
	18	1084/1250	844/878	672/640	545/481	448/370	373/291	313/233	226/156
	16	1337/1367	1044/960	834/700	678/526	560/405	468/318	395/255	288/170

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

3VLI-24 Composite Deck-Slab Information

Total Slab Depth (in.)	Cover Depth (in.)	Theoretical Concrete Volume ($yd^3/100\ ft^2$)	Min. A_s for T&S ($in.^2$)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (145 pcf)				
5	**2**	1.08	0.028	6x6-W1.4xW1.4
5½	**2½**	1.23	0.028	6x6-W1.4xW1.4
6	**3**	1.39	0.028	6x6-W1.4xW1.4
6½	**3½**	1.54	0.041	6x6-W2.1xW2.1
7	**4**	1.70	0.062	6x6-W3.5xW3.5
7½	**4½**	1.85	0.077	6x6-W4.0xW4.0
Light Weight Concrete (110 pcf)				
5	**2**	1.08	0.028	6x6-W1.4xW1.4
5½	**2½**	1.23	0.028	6x6-W1.4xW1.4
6	**3**	1.39	0.028	6x6-W1.4xW1.4
6¼	**3¼**	1.47	0.034	6x6-W1.7xW1.7
6½	**3½**	1.54	0.041	6x6-W2.1xW2.1
7¼	**4¼**	1.77	0.069	6x6-W3.5xW3.5

Notes:

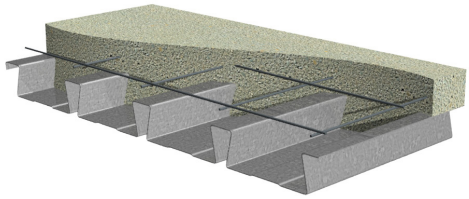
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

2.0D FORMLOK® DOVETAIL DECK
GRADE 40 STEEL

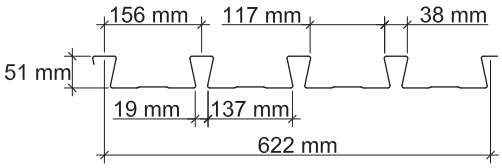
Metric LSD

2.0D FORMLOK DOVETAIL DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions



Nested
Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 276 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	10.25	**0.75**	276	528.5	490.2	14.62	14.62	3631	3631	54
20	12.69	**0.91**	276	644.6	610.4	18.44	17.96	4576	4456	65
18	16.60	**1.20**	276	854.9	835.7	24.89	24.19	6177	6005	86
16	20.99	**1.52**	276	1081.5	1080.2	31.56	30.97	7835	7687	107

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	Interior Bearing 75	125	Two-Flange Loading End Bearing 40	50	75	100	Interior Bearing 75	125
22	13.2	14.2	16.3	18.1	24.4	28.9	13.1	13.9	15.5	16.9	29.9	35.7
20	18.8	20.1	23.1	25.6	34.8	40.9	19.7	20.8	23.2	25.2	43.0	51.2
18	31.3	33.5	38.2	42.1	57.9	67.5	35.2	37.1	41.0	44.3	72.7	85.9
16	47.8	51.0	57.8	63.5	88.3	102.3	56.5	59.3	65.3	70.3	111.8	131.2

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- UL Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

2.0D FORMLOK® DOVETAIL DECK-SLABS
NORMAL WEIGHT CONCRETE (2325 kg/m³)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
102	51	22	2332	2598	2667
		20	2700	2870	2966
		18	3096	3316	3427
		16	3327	3730	3855
135	84	22	2104	2350	2413
		20	2428	2597	2684
		18	2815	3004	3105
		16	3030	3384	3497
140	89	22	2075	2318	2362
		20	2394	2562	2648
		18	2780	2964	3064
		16	2993	3339	3451

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^4x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
2.2	7854.44	21.49	80
2.2	8423.89	25.53	80
2.3	9365.84	32.59	80
2.3	10263.50	39.77	80
3.0	17049.71	27.93	106
3.0	18221.22	33.28	106
3.0	20172.43	42.72	106
3.1	22042.50	52.40	106
3.1	18861.91	28.92	109
3.1	20148.71	34.48	110
3.1	22294.88	44.30	110
3.2	24354.80	54.37	110

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

NWC (2325 kg/m³), f'_c = 20 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		3000	3600	3900	4200	4500	4800	5400	6000
102	22	16.3/12.6	10.5/7.3	8.5/5.7	6.9/4.6	5.7/3.7	4.7/3.1	3.1/2.2	2/1.5
	20	19.9/13.5	12.9/7.8	10.6/6.1	8.8/4.9	7.3/4	6/3.3	4.2/2.3	2.9/1.7
	18	26.1/15	17.2/8.7	14.3/6.8	11.9/5.5	10/4.5	8.4/3.6	6.1/2.5	4.4/1.9
	16	32.4/16.5	21.6/9.5	18/7.5	15.1/6	12.8/4.9	10.9/4	8/2.8	5.9/2.1
135	22	21.1/27.4	13.5/15.8	11/12.4	9/10	7.3/8.1	6/6.7	3.9/4.7	2.5/3.4
	20	25.8/29.3	16.8/16.9	13.7/13.3	11.3/10.6	9.4/8.7	7.8/7.1	5.4/5	3.6/3.6
	18	34.2/32.4	22.6/18.7	18.7/14.7	15.6/11.8	13.1/9.6	11/7.9	7.9/5.6	5.7/4
	16	42.7/35.4	28.5/20.5	23.7/16.1	19.9/12.9	16.9/10.5	14.3/8.6	10.5/6	7.8/4.4
140	22	21.8/30.3	14/17.5	11.3/13.8	9.2/11	7.6/9	6.2/7.4	4.1/5.2	2.5/3.8
	20	26.8/32.4	17.4/18.7	14.2/14.7	11.7/11.8	9.7/9.6	8.1/7.9	5.6/5.5	3.7/4
	18	35.4/35.8	23.4/20.7	19.3/16.3	16.1/13	13.6/10.6	11.4/8.7	8.2/6.1	5.9/4.5
	16	44.3/39.1	29.5/22.6	24.6/17.8	20.6/14.2	17.5/11.6	14.9/9.5	10.9/6.7	8.1/4.9

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

2.0D FORMLOK® DOVETAIL DECK-SLABS
LIGHT WEIGHT CONCRETE (1840 kg/m³)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
102	51	22	2511	2785	2879
		20	2916	3075	3178
		18	3326	3549	3668
		16	3570	3989	4123
115	64	22	2410	2681	2769
		20	2794	2961	3060
		18	3195	3419	3534
		16	3432	3845	3974
135	84	22	2278	2541	2616
		20	2636	2807	2901
		18	3029	3244	3353
		16	3257	3650	3773

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^4x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
1.8	6751.57	20.98	88
1.8	7269.70	24.87	90
1.8	8118.96	31.65	90
1.9	8920.56	38.52	90
2.0	9378.15	23.44	92
2.0	10083.20	27.83	101
2.1	11239.90	35.49	101
2.1	12330.85	43.28	101
2.4	14585.52	27.35	99
2.4	15656.35	32.53	110
2.4	17421.11	41.64	119
2.5	19091.91	50.93	119

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

LWC (1840 kg/m³), f'_c = 25 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		3000	3600	3900	4200	4500	4800	5400	6000
102	22	16.4/10.8	10.7/6.3	8.8/4.9	7.3/3.9	6/3.2	5/2.6	3.5/1.8	2.4/1.3
	20	19.8/11.7	13.1/6.8	10.8/5.3	9/4.2	7.6/3.4	6.4/2.8	4.5/2	3.3/1.4
	18	25.8/13	17.2/7.5	14.3/5.9	12/4.7	10.2/3.8	8.7/3.2	6.4/2.2	4.7/1.6
	16	31.9/14.3	21.4/8.3	17.9/6.5	15.1/5.2	12.8/4.2	11/3.5	8.2/2.4	6.2/1.8
115	22	18.3/15	11.9/8.7	9.8/6.8	8.1/5.5	6.7/4.5	5.6/3.6	3.9/2.5	2.7/1.9
	20	22.2/16.2	14.6/9.3	12.1/7.4	10.1/5.9	8.4/4.8	7.1/3.9	5.1/2.8	3.6/2
	18	28.9/18.1	19.3/10.4	16/8.2	13.5/6.6	11.4/5.3	9.7/4.4	7.1/3.1	5.3/2.3
	16	35.8/19.8	24/11.4	20.1/9	16.9/7.2	14.4/5.8	12.4/4.8	9.2/3.4	6.9/2.4
135	22	21.3/23.4	13.9/13.6	11.4/10.6	9.4/8.5	7.8/6.9	6.5/5.7	4.5/4	3.1/2.9
	20	25.9/25.1	17/14.6	14.1/11.4	11.7/9.1	9.8/7.4	8.3/6.1	5.9/4.3	4.2/3.1
	18	33.9/28	22.6/16.2	18.8/12.7	15.8/10.2	13.4/8.3	11.4/6.8	8.4/4.8	6.2/3.5
	16	42.1/30.6	28.3/17.7	23.7/13.9	20/11.2	17/9	14.6/7.5	10.9/5.2	8.2/3.8

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

2.0D FormLok Deck-Slab Information

Total Slab Depth (mm)	Cover Depth (mm)	Theoretical Concrete Volume (m^3/m^2)	Min. A_s for T&S (mm^2/m)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (2325 kg/m³)				
102	**51**	0.092	60	152x152-MW9.1xMW9.1
115	**64**	0.105	60	152x152-MW9.1xMW9.1
120	**69**	0.111	60	152x152-MW9.1xMW9.1
125	**74**	0.118	60	152x152-MW9.1xMW9.1
135	**84**	0.124	72	152x152-MW13.3xMW13.3
140	**89**	0.130	87	152x152-MW13.3xMW13.3
155	**104**	0.143	132	152x152-MW25.8xMW25.8
170	**119**	0.162	177	102x102-MW18.7xMW18.7
Light Weight Concrete (1840 kg/m³)				
102	**51**	0.092	60	152x152-MW9.1xMW9.1
115	**64**	0.105	60	152x152-MW9.1xMW9.1
125	**74**	0.118	60	152x152-MW9.1xMW9.1
135	**84**	0.124	72	152x152-MW11.1xMW11.1
140	**89**	0.130	87	152x152-MW13.3xMW13.3
155	**104**	0.143	132	152x152-MW22.6xMW22.6

Notes:

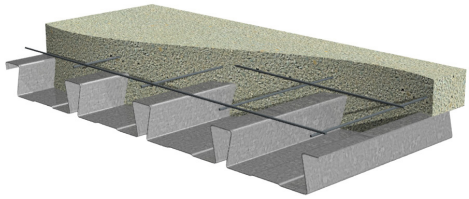
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

2.0D FORMLOK® DOVETAIL DECK
GRADE 40 STEEL

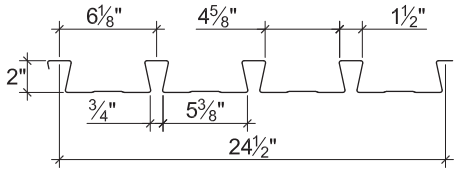
Imperial LSD

2.0D FORMLOK DOVETAIL DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions



Nested
Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 40 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	2.1	0.0295	40	0.387	0.359	0.272	0.272	816	816	3706
20	2.6	0.0358	40	0.472	0.447	0.343	0.334	1029	1002	4477
18	3.4	0.0474	40	0.626	0.612	0.463	0.450	1389	1350	5868
16	4.3	0.0598	40	0.792	0.791	0.587	0.576	1761	1728	7325

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	5"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	5"
22	888	976	1123	1248	1681	1990	885	953	1068	1165	2057	2463
20	1267	1388	1591	1762	2393	2817	1333	1431	1595	1734	2963	3530
18	2116	2308	2629	2899	3985	4652	2386	2548	2821	3051	5005	5916
16	3234	3512	3979	4372	6075	7035	3835	4079	4489	4835	7699	9031

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- UL Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes

2.0D FORMLOK® DOVETAIL DECK-SLABS
NORMAL WEIGHT CONCRETE (145 pcf)

Imperial LSD

Maximum Unshored Spans / Composite Deck-Slab Properties

Slab Depth			Maximum Unshored Construction Clear Span			Composite Deck-Slab Properties			
Total	Topping	Deck Gage	1	2	3	Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
4"	2"	22	7'-8"	8'-6"	8'-9"	46.0	5.75	4.82	5.56
		20	8'-10"	9'-5"	9'-9"	46.5	6.16	5.73	5.56
		18	10'-2"	10'-11"	11'-3"	47.3	6.85	7.31	5.56
		16	10'-11"	12'-3"	12'-8"	48.2	7.50	8.93	5.56
5¼"	3¼"	22	6'-11"	7'-9"	7'-11"	61.1	12.19	6.21	7.30
		20	8'-0"	8'-7"	8'-10"	61.6	13.03	7.40	7.30
		18	9'-3"	9'-11"	10'-3"	62.4	14.42	9.50	7.30
		16	10'-0"	11'-2"	11'-6"	63.3	15.75	11.65	7.30
5½"	3½"	22	6'-10"	7'-7"	7'-9"	64.1	13.87	6.50	7.53
		20	7'-10"	8'-5"	8'-8"	64.6	14.81	7.75	7.65
		18	9'-2"	9'-9"	10'-1"	65.4	16.39	9.95	7.65
		16	9'-10"	11'-0"	11'-4"	66.3	17.90	12.22	7.65

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf) NWC (145 pcf), f'_c = 3000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		10'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	18'-0"	20'-0"
4"	22	328/251	210/145	170/114	139/91	113/74	93/61	61/43	38/31
	20	400/269	260/155	212/122	175/98	145/79	120/65	83/46	56/33
	18	525/299	347/173	287/136	239/109	200/88	169/73	121/51	87/37
	16	653/327	435/189	362/149	304/119	257/97	218/80	160/56	118/40
5¼"	22	420/532	268/308	217/242	177/194	144/157	117/130	76/91	47/66
	20	515/569	334/329	273/259	225/207	186/168	154/138	105/97	71/71
	18	682/630	449/364	371/286	309/229	259/186	218/153	156/108	112/78
	16	853/688	568/398	472/313	396/250	335/203	285/168	208/118	153/86
5½"	22	439/606	280/350	227/275	184/220	150/179	122/148	80/103	49/75
	20	538/647	349/374	285/294	235/235	194/191	161/158	110/111	74/80
	18	714/716	471/414	389/325	324/260	272/212	229/174	163/122	117/89
	16	894/782	595/452	495/355	415/285	351/231	298/190	218/134	161/97

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

2.0D FORMLOK® DOVETAIL DECK-SLABS
LIGHT WEIGHT CONCRETE (115 pcf)

Imperial LSD

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
4"	2"	22	8'-3"	9'-2"	9'-5"
		20	9'-7"	10'-1"	10'-5"
		18	10'-11"	11'-8"	12'-0"
		16	11'-9"	13'-1"	13'-6"
4½"	2½"	22	7'-11"	8'-10"	9'-1"
		20	9'-2"	9'-9"	10'-1"
		18	10'-6"	11'-3"	11'-7"
		16	11'-3"	12'-7"	13'-1"
5¼"	3¼"	22	7'-6"	8'-4"	8'-7"
		20	8'-8"	9'-3"	9'-7"
		18	10'-0"	10'-8"	11'-0"
		16	10'-9"	12'-0"	12'-5"

Composite Deck-Slab Properties

Concrete + Deck (psf)	Deflection $I_d = (I_{cr}+I_u)/2$ (in⁴/ft)	Moment ϕM_{no} (kip-ft/ft)	Shear ϕV_{no} (kip/ft)
36.9	5.05	4.72	6.11
37.4	5.43	5.60	6.42
38.2	6.06	7.14	6.42
39.1	6.66	8.69	6.42
41.7	6.97	5.27	6.41
42.2	7.49	6.25	7.19
43.0	8.35	7.98	7.22
43.9	9.15	9.74	7.22
48.9	10.67	6.10	6.87
49.4	11.44	7.26	7.64
50.2	12.72	9.30	8.43
51.1	13.93	11.38	8.43

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

LWC (115 pcf), f'_c = 4000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		10'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	18'-0"	20'-0"
4"	22	331/220	216/127	177/100	146/80	121/65	101/53	70/37	48/27
	20	401/237	264/137	218/108	181/86	152/70	128/57	91/40	65/29
	18	523/264	348/153	289/120	243/96	205/78	175/64	128/45	94/33
	16	646/290	433/168	362/132	305/106	260/86	222/71	165/49	124/36
4½"	22	369/304	240/176	197/138	162/111	135/90	112/74	77/52	53/38
	20	447/327	294/189	243/149	202/119	169/97	142/79	101/56	72/40
	18	584/364	389/211	324/166	271/132	229/108	195/89	143/62	105/45
	16	724/399	486/231	406/182	342/145	291/118	249/97	185/68	139/49
5¼"	22	427/466	277/269	227/212	187/169	155/138	129/113	89/79	60/58
	20	519/500	341/289	281/227	234/182	196/148	165/122	117/85	83/62
	18	681/555	453/321	377/253	316/202	267/164	227/135	166/95	123/69
	16	846/608	568/352	474/277	400/221	340/180	291/148	217/104	163/76

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

2.0D FormLok Deck-Slab Information

Total Slab Depth (in.)	Cover Depth (in.)	Theoretical Concrete Volume ($yd^3/100\ ft^2$)	Min. A_s for T&S ($in.^2$)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (145 pcf)				
4	**2**	1.12	0.028	6x6-W1.4xW1.4
4½	**2½**	1.28	0.028	6x6-W1.4xW1.4
4¾	**2¾**	1.35	0.028	6x6-W1.4xW1.4
5	**3**	1.43	0.028	6x6-W1.4xW1.4
5¼	**3¼**	1.51	0.034	6x6-W2.1xW2.1
5½	**3½**	1.58	0.041	6x6-W2.1xW2.1
6	**4**	1.74	0.062	6x6-W4.0xW4.0
6¾	**4¾**	1.97	0.084	4x4-W2.9xW2.9
Light Weight Concrete (110 pcf)				
4	**2**	1.12	0.028	6x6-W1.4xW1.4
4½	**2½**	1.28	0.028	6x6-W1.4xW1.4
5	**3**	1.43	0.028	6x6-W1.4xW1.4
5¼	**3¼**	1.51	0.034	6x6-W1.7xW1.7
5½	**3½**	1.58	0.041	6x6-W2.1xW2.1
6	**4**	1.74	0.062	6x6-W3.5xW3.5

Notes:

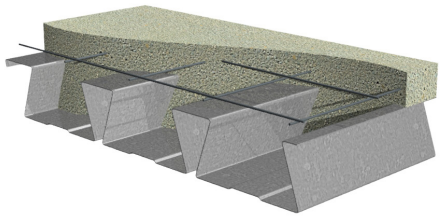
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

3.5D FORMLOK® DOVETAIL DECK
GRADE 40 STEEL

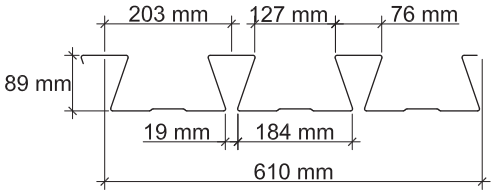
Metric LSD

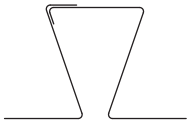
3.5D FORMLOK DOVETAIL DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 276 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* $øM_n+$ (N-m)	$øM_n-$ (N-m)	Vertical Web Shear* $øV_n$ (kN)
20	16.11	**0.91**	276	2406.2	2247.8	36.34	41.99	9020	10421	64
18	20.99	**1.20**	276	3297.9	3102.6	52.69	57.53	13079	14280	112
16	26.37	**1.52**	276	4278.4	4053.1	70.81	74.03	17575	18376	155

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, $øR_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 50	75	100	125	Interior Bearing 100	150	Two-Flange Loading End Bearing 50	75	100	125	Interior Bearing 100	150
20	13.7	15.7	17.4	18.9	27.8	31.8	13.1	14.6	15.8	16.9	32.8	37.9
18	23.1	26.3	29.0	31.3	46.2	52.5	24.0	26.6	28.7	30.6	55.8	64.0
16	35.4	40.1	44.1	47.6	70.2	79.3	39.2	43.1	46.4	49.3	86.1	98.2

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- UL Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes

3.5D FORMLOK® DOVETAIL DECK-SLABS
NORMAL WEIGHT CONCRETE (2325 kg/m³)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
140	51	20	3722	4004	4137
		18	4232	4686	4843
		16	4497	5290	5197
145	56	20	3663	3948	4079
		18	4192	4622	4777
		16	4455	5219	5149
150	61	20	3607	3895	4024
		18	4154	4561	4713
		16	4414	5150	5102

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^4x10^3/m)	Moment ϕM_{no} (kN-m/m)	Shear ϕV_{no} (kN/m)
2.9	19593.88	42.79	91
2.9	21764.82	54.40	91
3.0	23978.12	64.22	91
3.0	21567.75	44.04	94
3.0	23921.31	56.42	94
3.1	26220.05	67.91	94
3.1	23672.20	45.33	97
3.2	26223.76	58.07	97
3.2	28699.24	71.07	97

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (kPa)

NWC (2325 kg/m³), f'_c = 20 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		4500	5100	5400	5700	6000	6300	6900	7500
140	20	13.3/9.3	9.5/6.4	8.1/5.4	6.9/4.5	5.9/3.9	5/3.4	4.3/2.9	2.5/2
	18	17.8/10.3	13.1/7.1	11.3/6	9.7/5.1	8.4/4.4	7.3/3.7	6.3/3.3	4.1/2.2
	16	21.6/11.4	16/7.8	13.9/6.6	12.1/5.6	10.5/4.8	9.2/4.1	8/3.6	5.4/2.4
145	20	13.6/10.2	9.8/7	8.3/5.9	7.1/5	6/4.3	5.1/3.7	3.6/2.8	2.5/2.2
	18	18.5/11.3	13.6/7.8	11.6/6.6	10.1/5.6	8.7/4.8	7.6/4.1	5.6/3.1	4.2/2.4
	16	22.9/12.4	17/8.6	14.7/7.2	12.8/6.1	11.2/5.3	9.8/4.5	7.5/3.4	5.8/2.7
150	20	14/11.3	10.1/7.7	8.5/6.5	7.3/5.5	6.2/4.7	5.2/4.1	3.7/3.1	2.5/2.4
	18	19/12.4	13.9/8.6	12/7.2	10.3/6.1	9/5.3	7.8/4.5	5.8/3.4	4.3/2.7
	16	24/13.6	17.8/9.4	15.5/7.9	13.5/6.7	11.8/5.7	10.3/5	7.9/3.8	6.1/2.9

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

3.5D FORMLOK® DOVETAIL DECK-SLABS
LIGHT WEIGHT CONCRETE (1840 kg/m³)

Metric LSD

Maximum Unshored Spans

Slab Depth			Maximum Unshored Construction Clear Span (mm)		
Total (mm)	Topping (mm)	Deck Gage	1	2	3
140	51	20	4056	4322	4466
		18	4467	5049	5154
		16	4741	5693	5479
145	58	20	4005	4266	4408
		18	4425	4986	5106
		16	4697	5622	5429
205	116	20	3440	3731	3854
		18	4038	4373	4519
		16	4293	4941	4962

Composite Deck-Slab Properties

Concrete + Deck (kPa)	Deflection $I_d = (I_{cr}+I_u)/2$ (mm^4x10^3/m)	Moment $ØM_{no}$ (kN-m/m)	Shear $ØV_{no}$ (kN/m)
2.3	16873.40	41.70	102
2.4	18957.75	50.96	102
2.4	21138.08	60.78	102
2.4	18550.56	42.93	104
2.4	20724.69	53.86	105
2.5	22956.34	63.46	105
3.5	48199.89	59.51	120
3.5	53361.90	76.32	149
3.6	58311.37	93.48	149

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, $øW_n$, / Deflection at L/360 (kPa)

LWC (1840 kg/m³), f'_c = 25 MPa

Total Slab Depth	Deck Gage	Span (mm)							
		4500	5100	5400	5700	6000	6300	6900	7500
140	20	13.6/8	9.9/5.5	8.5/4.6	7.4/3.9	6.4/3.4	5.5/2.9	4.1/2.2	3/1.7
	18	17.1/9	12.7/6.2	11/5.2	9.6/4.4	8.3/3.8	7.3/3.3	5.6/2.5	4.3/1.9
	16	21/10.1	15.7/6.9	13.6/5.8	11.9/4.9	10.5/4.2	9.2/3.6	7.2/2.8	5.6/2.2
145	20	13.9/8.8	10.2/6	8.8/5.1	7.6/4.3	6.5/3.7	5.6/3.2	4.2/2.4	3.1/1.9
	18	18.2/9.9	13.5/6.8	11.7/5.7	10.2/4.8	8.9/4.1	7.8/3.6	6/2.7	4.6/2.1
	16	21.9/10.9	16.4/7.5	14.3/6.3	12.5/5.4	11/4.6	9.6/4	7.5/3	5.9/2.3
205	20	19.2/22.9	13.9/15.8	12/13.3	10.3/11.3	8.9/9.7	7.6/8.3	5.6/6.3	4.1/4.9
	18	25.7/25.4	19.1/17.4	16.5/14.7	14.4/12.5	12.5/10.7	11/9.2	8.4/7	6.4/5.5
	16	32.4/27.7	24.2/19.1	21.2/16	18.5/13.6	16.3/11.7	14.3/10.1	11.2/7.7	8.8/6

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

3.5D FormLok Deck-Slab Information

Total Slab Depth (mm)	Cover Depth (mm)	Theoretical Concrete Volume (m^3/m^2)	Min. A_s for T&S (mm^2/m)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (2325 kg/m³)				
140	**51**	0.119	60	152x152-MW9.1xMW9.1
145	**56**	0.125	60	152x152-MW9.1xMW9.1
155	**66**	0.132	60	152x152-MW9.1xMW9.1
165	**76**	0.144	60	152x152-MW9.1xMW9.1
180	**91**	0.157	93	152x152-MW16xMW16
185	**96**	0.163	108	152x152-MW16xMW16
190	**101**	0.170	123	152x152-MW18.7xMW18.7
205	**116**	0.183	168	102x102-MW18.7xMW18.7
Light Weight Concrete (1840 kg/m³)				
140	**51**	0.119	60	152x152-MW9.1xMW9.1
145	**56**	0.125	60	152x152-MW9.1xMW9.1
155	**66**	0.132	60	152x152-MW9.1xMW9.1
165	**76**	0.144	60	152x152-MW9.1xMW9.1
180	**91**	0.157	93	152x152-MW16xMW16
190	**101**	0.170	123	152x152-MW18.7xMW18.7
205	**116**	0.183	168	152x152-MW25.8xMW25.8

Notes:

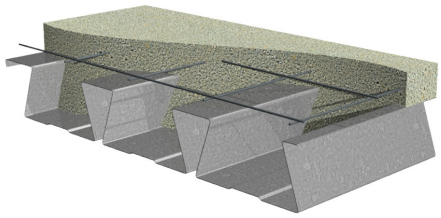
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

3.5D FORMLOK® DOVETAIL DECK
GRADE 40 STEEL

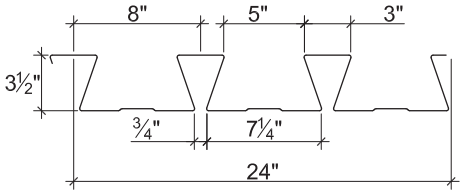
Imperial LSD

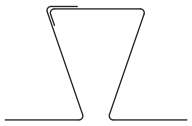
3.5D FORMLOK DOVETAIL DECK

- **Enhanced 2-Coat Polyester Paint**
- **White Factory Primer Paint**
- **Galvanized Finish**



Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2Ie+Ig)/3$		Effective Section Modulus at F_y = 40 ksi		Design Moment		Vertical Web Shear
				I_d+ (in⁴/ft)	I_d- (in⁴/ft)	S_e+ (in³/ft)	S_e- (in³/ft)	øM_n+ (lb-ft/ft)	øM_n- (lb-ft/ft)	øV_n (lb/ft)
20	3.3	0.0358	40	1.762	1.646	0.676	0.781	2028	2343	4397
18	4.3	0.0474	40	2.415	2.272	0.980	1.070	2940	3210	7695
16	5.4	0.0598	40	3.133	2.968	1.317	1.377	3951	4131	10640

Factored Reactions at Supports Based on Web Crippling, øR_n (lb/ft)

Deck Gage	Bearing Length of Webs											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	2"	3"	4"	5"	4"	6"	2"	3"	4"	5"	4"	6"
20	942	1080	1197	1299	1915	2192	900	1003	1090	1167	2263	2613
18	1588	1809	1995	2159	3178	3614	1650	1827	1976	2107	3841	4410
16	2439	2763	3036	3277	4831	5462	2693	2964	3192	3393	5926	6768

Standard Features

- ASTM A653/A653M SS GR40 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- UL Listed
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 12M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes

3.5D FORMLOK® DOVETAIL DECK-SLABS
NORMAL WEIGHT CONCRETE (145 pcf)

Imperial **LSD**

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
5½"	2"	20	12'-3"	13'-2"	13'-7"
		18	13'-11"	15'-5"	15'-11"
		16	14'-9"	17'-4"	17'-1"
5¾"	2¼"	20	12'-0"	12'-11"	13'-4"
		18	13'-9"	15'-1"	15'-7"
		16	14'-7"	17'-1"	16'-11"
6"	2½"	20	11'-9"	12'-8"	13'-1"
		18	13'-7"	14'-10"	15'-4"
		16	14'-5"	16'-9"	16'-8"

Composite Deck-Slab Properties

Concrete + Deck	Deflection $I_d = (I_{cr}+I_u)/2$	Moment ϕM_{no}	Shear ϕV_{no}
(psf)	(in^4/ft)	(kip-ft/ft)	(kip/ft)
59.9	14.40	9.62	6.33
60.9	15.99	12.24	6.33
62.0	17.61	14.45	6.33
62.9	16.27	9.98	6.61
63.9	18.03	12.78	6.61
65.0	19.75	15.54	6.61
65.9	18.29	10.35	6.90
66.9	20.24	13.26	6.90
68.0	22.14	16.23	6.90

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

NWC (145 pcf), f'_c = 3000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		15'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	23'-0"	25'-0"
5½"	20	267/186	191/128	162/107	138/91	117/78	99/67	70/51	48/40
	18	359/207	262/142	226/119	195/101	168/87	145/75	108/57	80/44
	16	436/228	322/156	279/131	242/112	211/96	184/83	141/63	107/49
5¾"	20	276/210	197/144	167/121	142/103	120/88	102/76	72/58	49/45
	18	374/233	273/160	235/135	203/114	175/98	152/85	113/64	83/50
	16	471/255	348/175	302/147	263/125	229/107	200/93	153/70	117/55
6"	20	285/236	204/162	173/137	146/116	124/99	105/86	74/65	50/51
	18	387/262	283/180	243/151	210/128	181/110	156/95	116/72	86/56
	16	492/286	364/196	315/165	274/141	239/120	209/104	160/79	122/61

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

3.5D FORMLOK® DOVETAIL DECK-SLABS
LIGHT WEIGHT CONCRETE (115 pcf)

Imperial **LSD**

Maximum Unshored Spans

Slab Depth		Deck	Maximum Unshored Construction Clear Span		
Total	Topping	Gage	1	2	3
5½"	2"	20	13'-4"	14'-2"	14'-8"
		18	14'-8"	16'-7"	16'-11"
		16	15'-7"	18'-8"	18'-0"
5¾"	2¼"	20	13'-1"	13'-11"	14'-5"
		18	14'-6"	16'-4"	16'-9"
		16	15'-5"	18'-5"	17'-9"
8"	4½"	20	11'-4"	12'-3"	12'-8"
		18	13'-3"	14'-5"	14'-10"
		16	14'-2"	16'-3"	16'-4"

Composite Deck-Slab Properties

Concrete + Deck	Deflection	Moment	Shear
	$I_d = (I_{cr}+I_u)/2$	ϕM_{no}	ϕV_{no}
(psf)	(in^4/ft)	(kip-ft/ft)	(kip/ft)
48.2	12.67	9.41	7.14
49.2	14.20	11.57	7.30
50.3	15.80	13.78	7.30
50.6	14.30	9.76	7.26
51.6	15.94	12.47	7.64
52.7	17.59	14.62	7.64
72.1	35.60	13.33	8.38
73.1	39.36	17.10	10.63
74.2	42.98	20.95	10.63

Note:

1. Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Factored Load, ϕW_n, / Deflection at L/360 (psf)

LWC (115 pcf), f'_c = 4000 psi

Total Slab Depth	Deck Gage	Span (ft-in.)							
		15'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	23'-0"	25'-0"
5½"	20	274/164	200/112	172/94	148/80	128/69	110/59	82/45	60/35
	18	349/183	258/126	224/106	194/90	169/77	148/67	113/51	86/39
	16	427/204	318/140	277/118	242/100	212/86	187/74	145/56	113/44
5¾"	20	283/185	207/127	177/107	153/91	132/78	113/67	84/51	61/39
	18	378/206	280/141	243/119	211/101	184/87	161/75	124/57	95/44
	16	453/227	338/156	295/131	258/112	226/96	199/82	155/63	121/49
8"	20	383/460	278/316	238/266	205/226	176/194	151/167	111/127	80/99
	18	516/509	381/350	330/294	287/250	250/215	218/185	167/141	127/110
	16	652/556	487/382	424/322	371/273	326/234	287/202	224/154	175/120

Notes:

1. The composite deck-slab design is based on tested performance and engineering analysis in accordance Section 7.6.1 of CSSBI 12M-2018.
2. For high loads long term concrete creep should be considered.
3. Use Composite Deck-Slab Strength Web Based Solutions for alternate slabs.

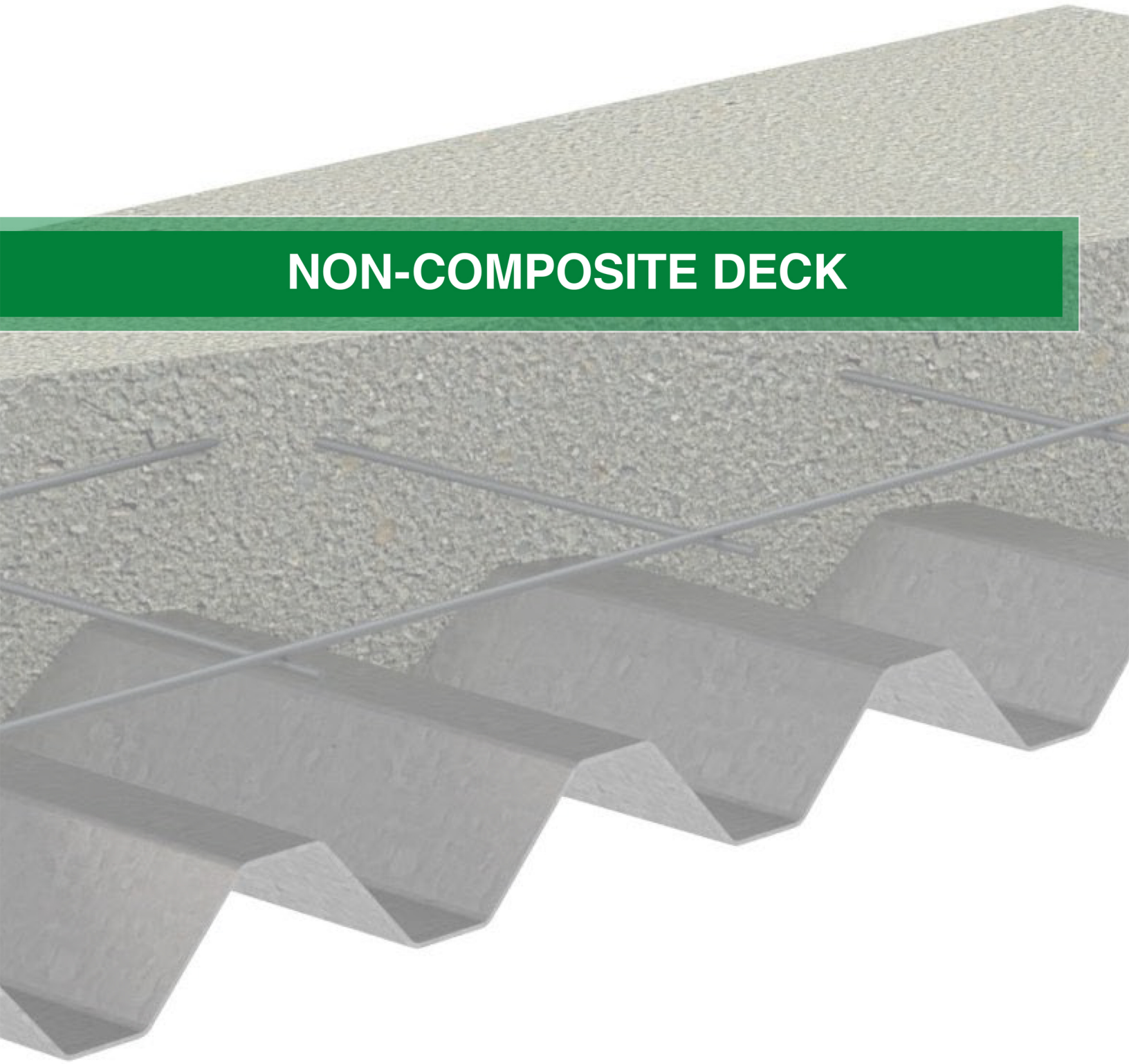
3.5D FormLok Deck-Slab Information

Total Slab Depth (in.)	Cover Depth (in.)	Theoretical Concrete Volume ($yd^3/100\ ft^2$)	Min. A_s for T&S ($in.^2$)	Recommended WWR for Temperature and Shrinkage
Normal Weight Concrete (145 pcf)				
5½	**2**	1.44	0.028	6x6-W1.4xW1.4
5¾	**2¼**	1.52	0.028	6x6-W1.4xW1.4
6	**2½**	1.60	0.028	6x6-W1.4xW1.4
6½	**3**	1.75	0.028	6x6-W1.4xW1.4
7	**3½**	1.91	0.044	6x6-W2.5xW2.5
7¼	**3¾**	1.98	0.051	6x6-W2.5xW2.5
7½	**4**	2.06	0.058	6x6-W2.9xW2.9
8	**4½**	2.22	0.079	6x6-W4.0xW4.0
Light Weight Concrete (110 pcf)				
5½	**2**	1.44	0.028	6x6-W1.4xW1.4
5¾	**2¼**	1.52	0.028	6x6-W1.4xW1.4
6	**2½**	1.60	0.028	6x6-W1.4xW1.4
6½	**3**	1.75	0.028	6x6-W1.4xW1.4
7	**3½**	1.91	0.044	6x6-W2.5xW2.5
7½	**4**	2.06	0.058	6x6-W2.9xW2.9
8	**4½**	2.22	0.079	6x6-W4.0xW4.0

Notes:

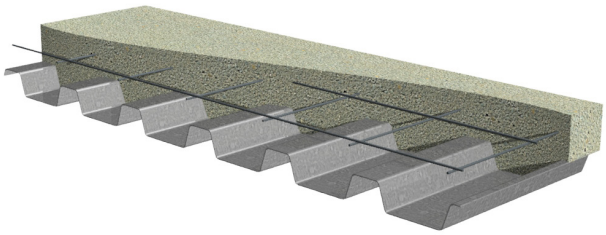
1. Recommended temperature and shrinkage reinforcement in accordance with CSSBI S3-08, Table 2.

NON-COMPOSITE DECK



1.5C-36 NON-COMPOSITE DECK
GRADE 50 STEEL

Metric LSD



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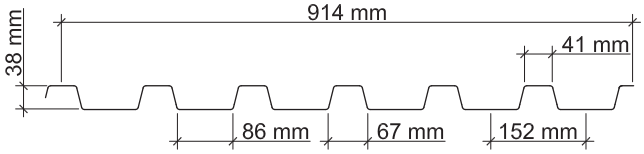
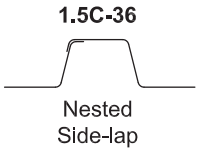




Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* $øM_n+$ (N-m)	$øM_n-$ (N-m)	Vertical Web Shear* $øV_n$ (kN)
22	7.81	**0.75**	345	243.1	211.7	9.62	9.09	2987	2818	50
20	9.76	**0.91**	345	296.3	269.0	12.31	12.04	3819	3735	60
18	12.69	**1.20**	345	396.0	378.3	17.10	16.45	5305	5104	79

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, $øR_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm)											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	40	50	75	100	75	100	40	50	75	100	75	100
22	16.3	17.5	20.2	22.1	28.2	30.7	15.7	16.6	18.6	20.1	34.9	38.2
20	23.2	24.9	28.6	31.2	40.6	43.9	23.7	25.0	27.9	30.0	50.7	55.2
18	38.9	41.6	47.3	51.4	68.4	73.4	42.7	45.0	49.7	53.1	86.7	93.5

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

Inward Uniform Factored Loads, LSD (kPa)

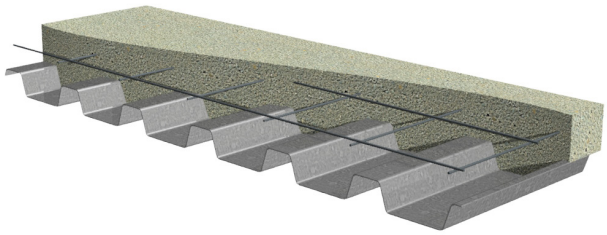
Deck Gage	Spans	Criteria	Span (mm) 1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
22	Single	$øW_n$	16.6	12.2	9.4	7.4	6.0	4.9	4.2	3.5	3.1	2.7	2.3
		L/240	9.2	5.8	3.9	2.7	2.0	1.5	1.1	0.9	0.7	0.6	0.5
	Double	$øW_n$	15.3	11.3	8.7	6.9	5.6	4.6	3.9	3.3	2.9	2.5	2.2
		L/240	19.3	12.1	8.1	5.7	4.2	3.1	2.4	1.9	1.5	1.2	1.0
	Triple	$øW_n$	18.9	14.0	10.8	8.6	7.0	5.8	4.9	4.1	3.6	3.1	2.7
		L/240	15.1	9.5	6.4	4.5	3.3	2.4	1.9	1.5	1.2	1.0	0.8
20	Single	$øW_n$	21.3	15.6	12.0	9.5	7.7	6.3	5.3	4.5	3.9	3.4	3.0
		L/240	11.2	7.0	4.7	3.3	2.4	1.8	1.4	1.1	0.9	0.7	0.6
	Double	$øW_n$	20.1	14.9	11.5	9.1	7.4	6.1	5.2	4.4	3.8	3.3	2.9
		L/240	24.5	15.4	10.3	7.3	5.3	4.0	3.1	2.4	1.9	1.6	1.3
	Triple	$øW_n$	24.8	18.5	14.2	11.3	9.2	7.6	6.4	5.5	4.7	4.1	3.6
		L/240	19.2	12.1	8.1	5.7	4.1	3.1	2.4	1.9	1.5	1.2	1.0
18	Single	$øW_n$	29.5	21.7	16.6	13.1	10.6	8.8	7.4	6.3	5.4	4.7	4.2
		L/240	15.0	9.4	6.3	4.4	3.2	2.4	1.9	1.5	1.2	1.0	0.8
	Double	$øW_n$	27.4	20.3	15.7	12.4	10.1	8.4	7.0	6.0	5.2	4.5	4.0
		L/240	34.4	21.7	14.5	10.2	7.4	5.6	4.3	3.4	2.7	2.2	1.8
	Triple	$øW_n$	33.8	25.2	19.4	15.4	12.6	10.4	8.8	7.5	6.5	5.6	5.0
		L/240	27.0	17.0	11.4	8.0	5.8	4.4	3.4	2.7	2.1	1.7	1.4

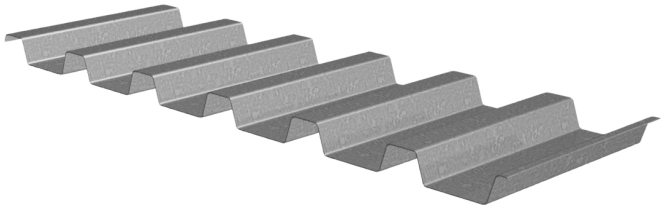
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

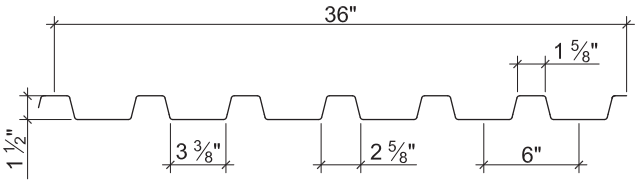
1.5C-36 NON-COMPOSITE DECK
GRADE 50 STEEL

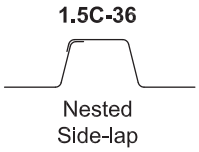
Imperial LSD





Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.6	0.0295	50	0.178	0.155	0.179	0.169	671	634	3398
20	2.0	0.0358	50	0.217	0.197	0.229	0.224	859	840	4105
18	2.6	0.0474	50	0.290	0.277	0.318	0.306	1193	1148	5388

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 3"	4"
22	1098	1207	1389	1517	1945	2103	1061	1143	1281	1377	2407	2617
20	1567	1717	1969	2140	2792	3005	1605	1723	1921	2057	3494	3782
18	2626	2863	3261	3519	4707	5029	2894	3092	3423	3637	5966	6410

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

Inward Uniform Factored Loads, LSD (psf)

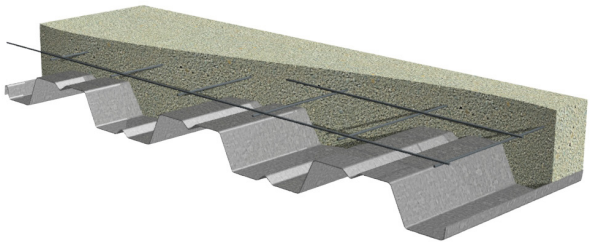
Deck Gage	Spans	Criteria	Span (ft-in.)										
			4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	9'-0"	10'-0"
22	Single	øW$_n$	336	265	215	178	149	127	110	95	84	66	54
		L/240	182	128	93	70	54	42	34	28	23	16	12
	Double	øW$_n$	309	245	199	165	139	119	103	89	79	62	50
		L/240	382	269	196	147	113	89	71	58	48	34	24
	Triple	øW$_n$	381	304	247	205	173	148	128	111	98	78	63
		L/240	300	211	153	115	89	70	56	45	37	26	19
20	Single	øW$_n$	429	339	275	227	191	163	140	122	107	85	69
		L/240	222	156	114	86	66	52	41	34	28	20	14
	Double	øW$_n$	407	323	263	218	184	157	136	118	104	82	67
		L/240	486	341	249	187	144	113	91	74	61	43	31
	Triple	øW$_n$	502	400	326	271	229	195	169	147	130	103	83
		L/240	381	268	195	147	113	89	71	58	48	33	24
18	Single	øW$_n$	596	471	382	315	265	226	195	170	149	118	95
		L/240	297	209	152	114	88	69	55	45	37	26	19
	Double	øW$_n$	554	441	359	298	251	214	185	162	142	113	91
		L/240	683	480	350	263	203	159	128	104	85	60	44
	Triple	øW$_n$	683	545	445	369	312	266	230	201	177	140	114
		L/240	536	376	274	206	159	125	100	81	67	47	34

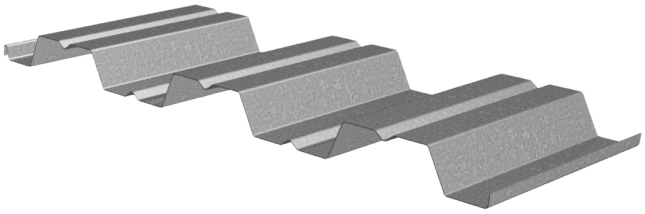
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

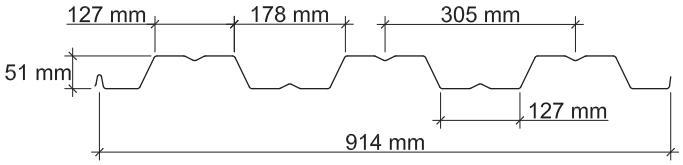
2C-36 NON-COMPOSITE DECK
GRADE 50 STEEL

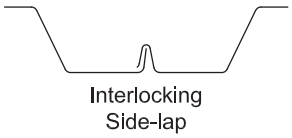
Metric LSD

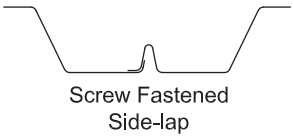




Nominal Dimensions







Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	7.81	**0.75**	345	442.5	442.5	13.12	13.71	4071	4256	31
20	9.27	**0.91**	345	558.5	555.8	17.53	18.12	5437	5621	45
18	12.20	**1.20**	345	760.6	760.6	26.08	26.88	8091	8339	61
16	15.62	**1.52**	345	960.0	960.0	34.57	35.05	10725	10877	76

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	One-Flange Loading Interior Bearing 100	150	Two-Flange Loading End Bearing 40	50	75	100	Two-Flange Loading Interior Bearing 100	150
22	7.3	7.9	9.1	10.1	14.6	16.8	6.7	7.1	8.0	8.7	17.6	20.4
20	10.5	11.3	12.9	14.3	20.9	23.9	10.3	10.9	12.1	13.2	25.6	29.5
18	17.7	18.9	21.6	23.8	35.1	39.9	18.8	19.8	21.9	23.7	43.7	50.1
16	27.2	29.0	32.9	36.1	53.9	60.9	30.7	32.2	35.5	38.2	67.7	77.3

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

Inward Uniform Factored Loads, LSD (kPa)

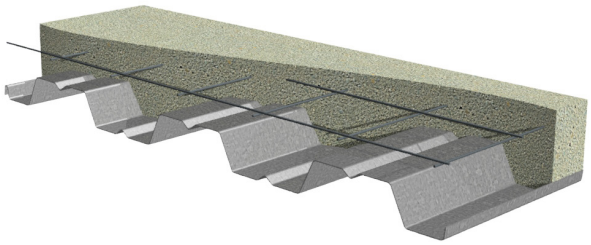
Deck Gage	Spans	Criteria	Span (mm) 1500	1700	1900	2100	2300	2500	2700	2900	3100	3300	3500
22	Single	ϕW_n	14.5	11.3	9.0	7.4	6.2	5.2	4.5	3.9	3.4	3.0	2.7
		L/240	8.6	5.9	4.2	3.1	2.4	1.8	1.5	1.2	1.0	0.8	0.7
	Double	ϕW_n	13.8	10.9	8.9	7.3	6.2	5.3	4.5	3.9	3.5	3.1	2.7
		L/240	20.6	14.2	10.1	7.5	5.7	4.5	3.5	2.9	2.3	1.9	1.6
	Triple	ϕW_n	16.6	13.3	10.8	9.0	7.6	6.5	5.6	4.9	4.3	3.8	3.4
		L/240	16.2	11.1	7.9	5.9	4.5	3.5	2.8	2.2	1.8	1.5	1.3
20	Single	ϕW_n	19.4	15.1	12.1	9.9	8.2	7.0	6.0	5.2	4.5	4.0	3.6
		L/240	10.8	7.4	5.3	3.9	3.0	2.3	1.9	1.5	1.2	1.0	0.8
	Double	ϕW_n	18.5	14.6	11.9	9.8	8.2	7.0	6.0	5.2	4.6	4.1	3.6
		L/240	25.9	17.8	12.7	9.4	7.2	5.6	4.4	3.6	2.9	2.4	2.0
	Triple	ϕW_n	22.4	17.9	14.5	12.0	10.1	8.6	7.5	6.5	5.7	5.0	4.5
		L/240	20.3	13.9	10.0	7.4	5.6	4.4	3.5	2.8	2.3	1.9	1.6
18	Single	ϕW_n	28.8	22.5	18.0	14.7	12.3	10.4	8.9	7.7	6.8	6.0	5.3
		L/240	14.7	10.1	7.2	5.4	4.1	3.2	2.5	2.0	1.7	1.4	1.2
	Double	ϕW_n	27.0	21.4	17.4	14.4	12.1	10.3	8.9	7.7	6.8	6.0	5.4
		L/240	35.4	24.3	17.4	12.9	9.8	7.7	6.1	4.9	4.0	3.3	2.8
	Triple	ϕW_n	32.5	26.0	21.2	17.6	14.9	12.7	11.0	9.6	8.4	7.4	6.6
		L/240	27.8	19.1	13.7	10.1	7.7	6.0	4.8	3.8	3.1	2.6	2.2
16	Single	ϕW_n	38.2	29.8	23.8	19.5	16.3	13.8	11.8	10.2	9.0	7.9	7.0
		L/240	18.6	12.7	9.1	6.8	5.1	4.0	3.2	2.6	2.1	1.7	1.5
	Double	ϕW_n	35.0	27.8	22.6	18.7	15.7	13.4	11.6	10.1	8.8	7.8	7.0
		L/240	44.7	30.7	22.0	16.3	12.4	9.7	7.7	6.2	5.1	4.2	3.5
	Triple	ϕW_n	42.1	33.7	27.5	22.9	19.3	16.5	14.3	12.4	10.9	9.7	8.6
		L/240	35.0	24.1	17.2	12.8	9.7	7.6	6.0	4.8	4.0	3.3	2.8

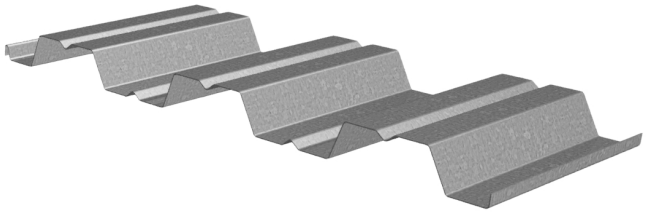
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

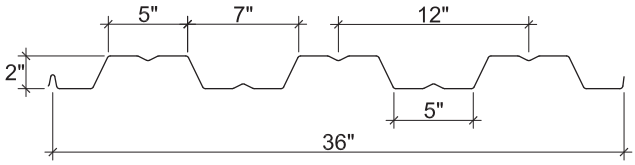
2C-36 NON-COMPOSITE DECK
GRADE 50 STEEL

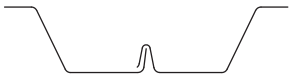
Imperial LSD

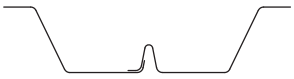




Nominal Dimensions




Interlocking Side-lap


Screw Fastened Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.6	0.0295	50	0.324	0.324	0.244	0.255	915	957	2101
20	1.9	0.0358	50	0.409	0.407	0.326	0.337	1222	1264	3096
18	2.5	0.0474	50	0.557	0.557	0.485	0.500	1819	1875	4147
16	3.2	0.0598	50	0.703	0.703	0.643	0.652	2411	2445	5209

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	6"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	6"
22	494	543	625	694	1007	1157	456	491	550	600	1212	1406
20	709	777	891	987	1441	1650	698	750	836	908	1762	2035
18	1196	1304	1485	1638	2419	2750	1277	1364	1509	1633	3008	3454
16	1841	1999	2265	2489	3707	4192	2084	2216	2439	2627	4665	5327

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

Inward Uniform Factored Loads, LSD (psf)

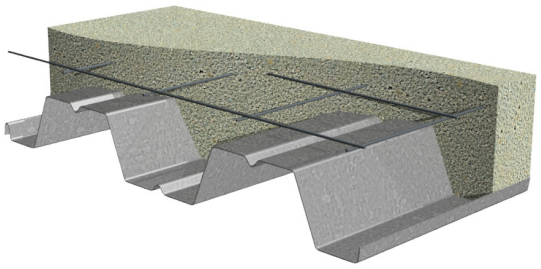
Deck Gage	Spans	Criteria	Span (ft-in.) 5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	10'-0"	11'-0"
22	Single	$øW_n$	293	242	203	173	149	130	114	101	90	73	61
		L/240	170	128	98	77	62	50	41	35	29	21	16
	Double	$øW_n$	279	234	199	171	149	130	115	102	92	75	62
		L/240	409	308	237	186	149	121	100	83	70	51	38
	Triple	$øW_n$	336	283	242	209	182	160	141	126	113	92	77
		L/240	321	241	186	146	117	95	78	65	55	40	30
20	Single	$øW_n$	391	323	272	231	200	174	153	135	121	98	81
		L/240	214	161	124	98	78	64	52	44	37	27	20
	Double	$øW_n$	374	313	266	228	198	173	153	136	122	99	82
		L/240	514	386	298	234	187	152	126	105	88	64	48
	Triple	$øW_n$	454	382	325	280	243	214	189	168	151	123	102
		L/240	403	303	233	183	147	119	98	82	69	50	38
18	Single	$øW_n$	582	481	404	344	297	259	227	201	180	146	120
		L/240	292	219	169	133	106	87	71	59	50	37	27
	Double	$øW_n$	547	459	390	335	291	255	226	201	180	146	121
		L/240	704	529	407	320	256	208	172	143	121	88	66
	Triple	$øW_n$	659	556	475	409	357	313	277	247	222	181	150
		L/240	552	414	319	251	201	163	135	112	95	69	52
16	Single	$øW_n$	772	638	536	457	394	343	301	267	238	193	159
		L/240	369	277	213	168	134	109	90	75	63	46	35
	Double	$øW_n$	708	595	506	435	379	332	293	261	234	190	158
		L/240	888	667	514	404	324	263	217	181	152	111	83
	Triple	$øW_n$	852	719	615	531	463	407	360	321	288	235	196
		L/240	696	523	403	317	254	206	170	142	119	87	65

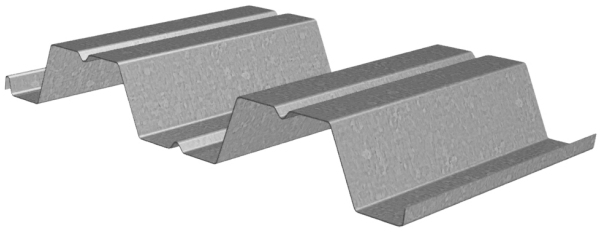
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

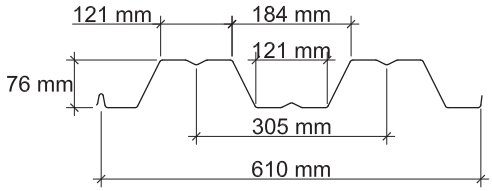
3C-24 NON-COMPOSITE DECK
GRADE 50 STEEL

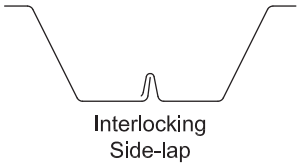
Metric LSD





Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 345 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
22	8.30	**0.75**	345	999.6	1006.4	20.81	22.04	6457	6838	26
20	10.25	**0.91**	345	1255.0	1257.7	27.53	28.98	8539	8992	46
18	13.18	**1.20**	345	1711.1	1711.1	40.91	42.69	12695	13243	81
16	17.08	**1.52**	345	2157.6	2157.6	54.46	54.46	16898	16898	114

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	100	One-Flange Loading Interior Bearing 100	200	Two-Flange Loading End Bearing 40	50	75	100	Two-Flange Loading Interior Bearing 100	200
22	7.1	7.7	8.8	9.8	14.9	17.4	6.2	6.6	7.4	8.0	17.3	20.5
20	10.3	11.0	12.6	14.0	21.4	26.6	9.6	10.2	11.4	12.3	25.3	32.0
18	17.4	18.6	21.2	23.4	35.9	44.9	17.9	18.8	20.9	22.5	43.4	55.3
16	27.0	28.7	32.5	35.8	55.0	68.2	29.5	31.0	34.1	36.7	67.6	85.3

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

Inward Uniform Factored Loads, LSD (kPa)

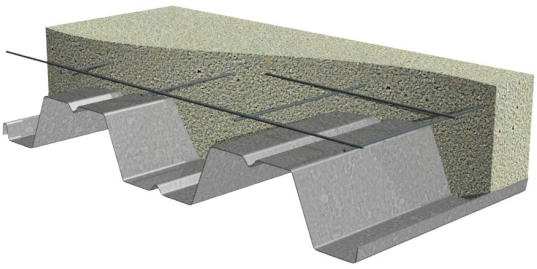
Deck Gage	Spans	Criteria	Span (mm) 1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800
22	Single	øW$_n$	16.0	12.9	10.7	9.0	7.7	6.6	5.8	5.1	4.5	4.0	3.6
		L/240	11.2	8.2	6.1	4.7	3.7	3.0	2.4	2.0	1.7	1.4	1.2
	Double	øW$_n$	13.7	11.5	9.8	8.4	7.3	6.3	5.6	5.0	4.4	4.0	3.6
		L/240	27.1	19.8	14.9	11.4	9.0	7.2	5.9	4.8	4.0	3.4	2.9
	Triple	øW$_n$	16.0	13.5	11.6	10.0	8.7	7.6	6.8	6.0	5.4	4.9	4.4
		L/240	21.3	15.5	11.6	9.0	7.1	5.6	4.6	3.8	3.2	2.7	2.3
20	Single	øW$_n$	21.1	17.1	14.1	11.9	10.1	8.7	7.6	6.7	5.9	5.3	4.7
		L/240	14.0	10.2	7.7	5.9	4.7	3.7	3.0	2.5	2.1	1.8	1.5
	Double	øW$_n$	19.6	16.2	13.6	11.6	10.0	8.7	7.6	6.7	6.0	5.4	4.8
		L/240	33.9	24.7	18.6	14.3	11.2	9.0	7.3	6.0	5.0	4.2	3.6
	Triple	øW$_n$	23.4	19.5	16.5	14.1	12.2	10.6	9.3	8.3	7.4	6.6	6.0
		L/240	26.6	19.4	14.6	11.2	8.8	7.1	5.7	4.7	3.9	3.3	2.8
18	Single	øW$_n$	31.4	25.5	21.0	17.7	15.1	13.0	11.3	9.9	8.8	7.9	7.1
		L/240	19.1	14.0	10.5	8.1	6.4	5.1	4.1	3.4	2.8	2.4	2.0
	Double	øW$_n$	29.9	24.6	20.6	17.5	15.0	13.0	11.4	10.1	8.9	8.0	7.2
		L/240	46.1	33.6	25.3	19.5	15.3	12.3	10.0	8.2	6.8	5.8	4.9
	Triple	øW$_n$	36.0	29.8	25.1	21.4	18.4	16.0	14.0	12.4	11.0	9.9	8.9
		L/240	36.1	26.3	19.8	15.2	12.0	9.6	7.8	6.4	5.4	4.5	3.8
16	Single	øW$_n$	41.8	33.9	28.0	23.5	20.0	17.3	15.1	13.2	11.7	10.5	9.4
		L/240	24.1	17.6	13.2	10.2	8.0	6.4	5.2	4.3	3.6	3.0	2.6
	Double	øW$_n$	38.7	31.8	26.5	22.5	19.3	16.7	14.6	12.9	11.5	10.2	9.2
		L/240	58.1	42.4	31.8	24.5	19.3	15.4	12.6	10.3	8.6	7.3	6.2
	Triple	øW$_n$	46.9	38.7	32.5	27.6	23.7	20.6	18.1	15.9	14.2	12.7	11.4
		L/240	45.6	33.2	25.0	19.2	15.1	12.1	9.8	8.1	6.8	5.7	4.8

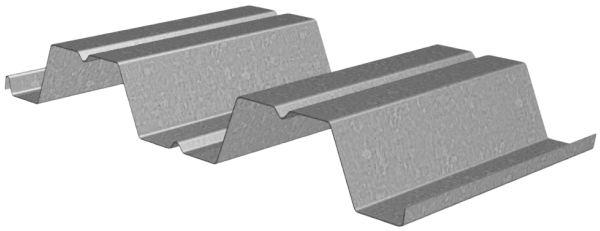
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

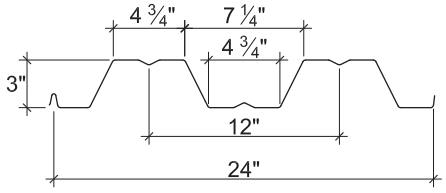
3C-24 NON-COMPOSITE DECK
GRADE 50 STEEL

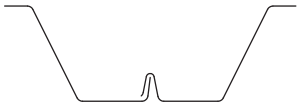
Imperial LSD





Nominal Dimensions





Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
22	1.7	0.0295	50	0.732	0.737	0.387	0.410	1452	1537	1801
20	2.1	0.0358	50	0.919	0.921	0.512	0.539	1920	2021	3181
18	2.7	0.0474	50	1.253	1.253	0.761	0.794	2854	2977	5582
16	3.5	0.0598	50	1.580	1.580	1.013	1.013	3799	3799	7842

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"
22	480	527	607	674	1027	1194	420	452	507	553	1194	1401
20	693	760	871	965	1471	1822	653	701	781	849	1743	2189
18	1177	1284	1462	1613	2469	3092	1213	1296	1434	1551	2991	3806
16	1822	1978	2241	2463	3786	4698	2002	2129	2343	2524	4654	5873

Standard Features

- ASTM A653/A653M SS GR50 Min., with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Factory Hanger Tabs

Inward Uniform Factored Loads, LSD (psf)

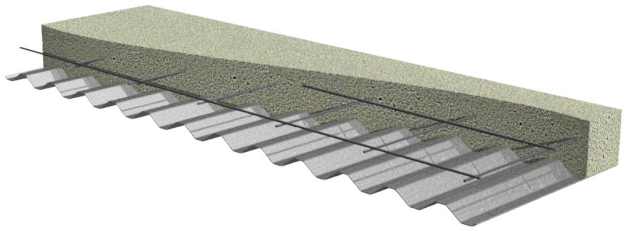
Deck Gage	Spans	Criteria	Span (ft-in.) 6'-0"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	11'-0"	12'-0"	13'-0"
22	Single	$øW_n$	323	237	206	181	161	143	129	116	96	81	69
		L/240	222	140	114	94	78	66	56	48	36	28	22
	Double	$øW_n$	278	214	190	170	152	137	124	113	95	80	69
		L/240	539	339	276	227	190	160	136	116	87	67	53
	Triple	$øW_n$	325	253	226	202	182	165	150	137	115	98	85
		L/240	422	266	216	178	149	125	106	91	69	53	42
20	Single	$øW_n$	427	313	273	240	213	190	170	154	127	107	91
		L/240	279	176	143	118	98	83	70	60	45	35	27
	Double	$øW_n$	397	301	265	235	210	188	170	154	128	109	93
		L/240	673	424	345	284	237	200	170	145	109	84	66
	Triple	$øW_n$	474	362	320	285	255	230	208	189	158	134	115
		L/240	528	332	270	223	186	156	133	114	86	66	52
18	Single	$øW_n$	634	466	406	357	316	282	253	228	189	159	135
		L/240	380	239	195	160	134	113	96	82	62	48	37
	Double	$øW_n$	605	454	399	353	315	282	254	230	191	161	138
		L/240	916	577	469	386	322	271	231	198	149	115	90
	Triple	$øW_n$	730	553	487	432	386	346	313	284	236	200	171
		L/240	718	452	368	303	253	213	181	155	117	90	71
16	Single	$øW_n$	844	620	540	475	421	375	337	304	251	211	180
		L/240	480	302	246	202	169	142	121	104	78	60	47
	Double	$øW_n$	783	586	514	454	405	362	326	295	245	207	177
		L/240	1155	727	591	487	406	342	291	250	187	144	114
	Triple	$øW_n$	950	716	630	558	498	446	403	365	304	256	219
		L/240	905	570	464	382	318	268	228	196	147	113	89

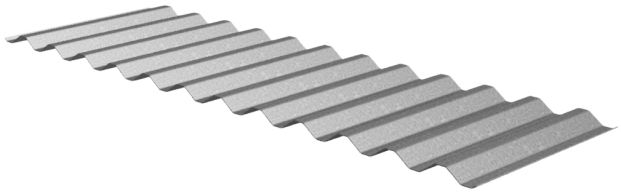
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

0.6C-30 NON-COMPOSITE & ROOF DECK
GRADE 80 STEEL

Metric LSD





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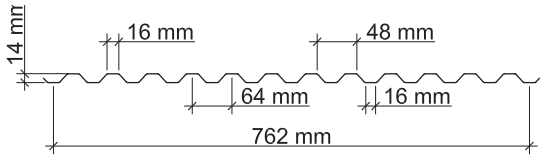
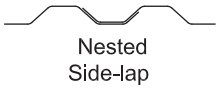




Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 414 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
28	3.42	**0.38**	414	15.0	15.0	1.77	1.83	661	681	25
26	4.39	**0.46**	414	17.8	17.8	2.26	2.26	841	841	30
24	5.86	**0.61**	414	23.2	23.2	3.01	3.01	1121	1121	39
22	6.83	**0.75**	414	28.7	28.7	3.71	3.66	1381	1361	48

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

	Bearing Length of Webs (mm) One-Flange Loading			
Deck Gage	End Bearing		Interior Bearing	
	40	50	40	50
28	9.9	10.5	11.0	11.6
26	13.9	14.7	16.2	17.0
24	23.7	24.8	29.3	30.4
22	34.9	36.3	44.5	46.2

Standard Features

- ASTM A653/A653M SS GR80, with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Side-lap or bottom flange slot venting

Inward Uniform Factored Loads, LSD (kPa)

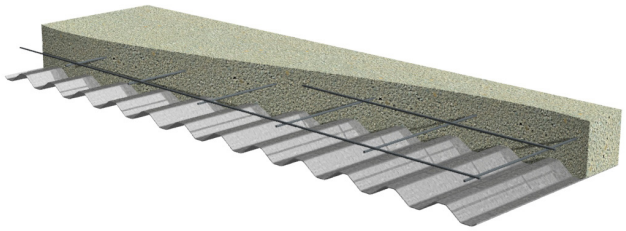
Deck Gage	Spans	Criteria	Span (mm) 300	450	600	750	900	1050	1200	1350	1500	1650	1800
28	Single	$øW_n$	58.9	26.2	14.7	9.4	6.5	4.8	3.7	2.9	2.4	1.9	1.6
		L/240	36.3	10.8	4.5	2.3	1.3	0.8	0.6	0.4	0.3	0.2	0.2
	Double	$øW_n$	55.1	25.8	14.8	9.5	6.7	4.9	3.8	3.0	2.4	2.0	1.7
		L/240	87.4	25.9	10.9	5.6	3.2	2.0	1.4	1.0	0.7	0.5	0.4
	Triple	$øW_n$	66.4	31.6	18.3	11.8	8.3	6.1	4.7	3.7	3.0	2.5	2.1
		L/240	68.5	20.3	8.6	4.4	2.5	1.6	1.1	0.8	0.5	0.4	0.3
26	Single	$øW_n$	74.9	33.3	18.7	12.0	8.3	6.1	4.7	3.7	3.0	2.5	2.1
		L/240	42.9	12.7	5.4	2.7	1.6	1.0	0.7	0.5	0.3	0.3	0.2
	Double	$øW_n$	67.7	31.8	18.2	11.8	8.2	6.1	4.7	3.7	3.0	2.5	2.1
		L/240	103.3	30.6	12.9	6.6	3.8	2.4	1.6	1.1	0.8	0.6	0.5
	Triple	$øW_n$	81.5	38.9	22.5	14.6	10.2	7.5	5.8	4.6	3.7	3.1	2.6
		L/240	81.0	24.0	10.1	5.2	3.0	1.9	1.3	0.9	0.6	0.5	0.4
24	Single	$øW_n$	99.9	44.4	25.0	16.0	11.1	8.2	6.2	4.9	4.0	3.3	2.8
		L/240	56.1	16.6	7.0	3.6	2.1	1.3	0.9	0.6	0.4	0.3	0.3
	Double	$øW_n$	90.2	42.3	24.3	15.7	11.0	8.1	6.2	4.9	4.0	3.3	2.8
		L/240	135.1	40.0	16.9	8.6	5.0	3.2	2.1	1.5	1.1	0.8	0.6
	Triple	$øW_n$	108.5	51.9	30.0	19.5	13.6	10.1	7.7	6.1	5.0	4.1	3.5
		L/240	105.9	31.4	13.2	6.8	3.9	2.5	1.7	1.2	0.8	0.6	0.5
22	Single	$øW_n$	123.1	54.7	30.8	19.7	13.7	10.0	7.7	6.1	4.9	4.1	3.4
		L/240	69.3	20.5	8.7	4.4	2.6	1.6	1.1	0.8	0.6	0.4	0.3
	Double	$øW_n$	109.8	51.4	29.5	19.1	13.3	9.8	7.5	6.0	4.8	4.0	3.4
		L/240	166.9	49.5	20.9	10.7	6.2	3.9	2.6	1.8	1.3	1.0	0.8
	Triple	$øW_n$	132.1	63.1	36.5	23.7	16.6	12.2	9.4	7.4	6.0	5.0	4.2
		L/240	130.8	38.8	16.4	8.4	4.8	3.1	2.0	1.4	1.0	0.8	0.6

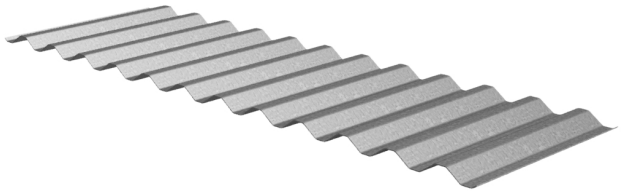
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

0.6C-30 NON-COMPOSITE & ROOF DECK
GRADE 80 STEEL

Imperial LSD





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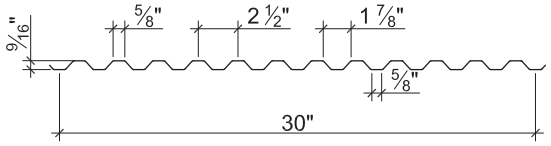


Nested
Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 60 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
28	0.7	0.0149	60	0.011	0.011	0.033	0.034	149	153	1698
26	0.9	0.0179	60	0.013	0.013	0.042	0.042	189	189	2034
24	1.2	0.0239	60	0.017	0.017	0.056	0.056	252	252	2697
22	1.4	0.0295	60	0.021	0.021	0.069	0.068	311	306	3307

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs, One-Flange Loading: End Bearing 1½"	End Bearing 2"	Interior Bearing 1½"	Interior Bearing 2"
28	667	717	745	793
26	938	1004	1095	1162
24	1599	1701	1977	2086
22	2352	2489	3012	3162

Standard Features

- ASTM A653/A653M SS GR80, with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Side-lap or bottom flange slot venting

Inward Uniform Factored Loads, LSD (psf)

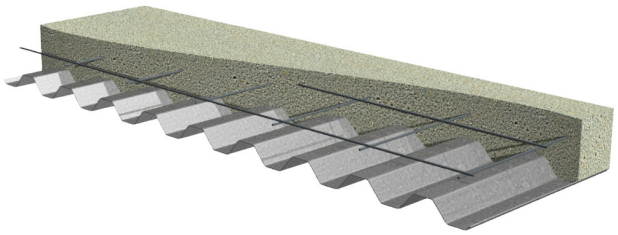
Deck Gage	Spans	Criteria	Span (ft-in.) 1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"
28	Single	$øW_n$	1188	528	297	190	132	97	74	59	48	39	33
		L/240	721	214	90	46	27	17	11	8	6	4	3
	Double	$øW_n$	1116	521	299	193	134	99	76	60	49	40	34
		L/240	1737	515	217	111	64	41	27	19	14	10	8
	Triple	$øW_n$	1346	640	369	239	167	123	95	75	61	50	42
		L/240	1361	403	170	87	50	32	21	15	11	8	6
26	Single	$øW_n$	1512	672	378	242	168	123	95	75	60	50	42
		L/240	852	253	107	55	32	20	13	9	7	5	4
	Double	$øW_n$	1371	642	368	238	166	122	94	74	60	50	42
		L/240	2053	608	257	131	76	48	32	23	16	12	10
	Triple	$øW_n$	1651	787	455	295	206	152	117	93	75	62	52
		L/240	1609	477	201	103	60	38	25	18	13	10	7
24	Single	$øW_n$	2016	896	504	323	224	165	126	100	81	67	56
		L/240	1114	330	139	71	41	26	17	12	9	7	5
	Double	$øW_n$	1826	855	491	317	221	163	125	99	80	66	56
		L/240	2685	795	336	172	99	63	42	29	21	16	12
	Triple	$øW_n$	2198	1049	607	393	275	203	156	123	100	83	70
		L/240	2104	623	263	135	78	49	33	23	17	13	10
22	Single	$øW_n$	2484	1104	621	397	276	203	155	123	99	82	69
		L/240	1377	408	172	88	51	32	22	15	11	8	6
	Double	$øW_n$	2222	1040	596	385	269	198	152	120	98	81	68
		L/240	3316	983	415	212	123	77	52	36	27	20	15
	Triple	$øW_n$	2675	1275	737	478	334	247	189	150	122	101	85
		L/240	2599	770	325	166	96	61	41	29	21	16	12

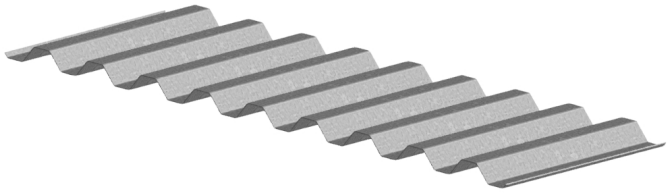
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

1.0C-36 NON-COMPOSITE & ROOF DECK
GRADE 80 STEEL

Metric LSD





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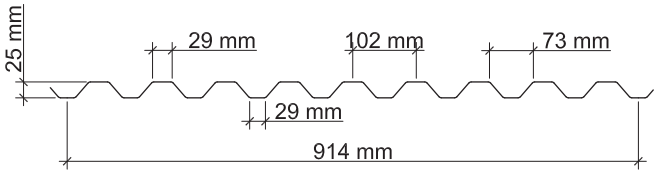


Nested
Side-lap

Section Properties

Deck Gage	Deck Weight w_{dd} (kg/m²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e+I_g)/3$ I_d+ (mm⁴x10³)	I_d- (mm⁴x10³)	Effective Section Modulus* at F_y = 414 MPa S_e+ (mm³x10³)	S_e- (mm³x10³)	Factored Moment* øM$_n$+ (N-m)	øM$_n$- (N-m)	Vertical Web Shear* øV$_n$ (kN)
26	4.39	**0.46**	414	53.3	53.3	3.50	3.66	1301	1361	31
24	5.86	**0.61**	414	77.8	77.8	5.32	5.54	1982	2062	51
22	7.32	**0.75**	414	95.6	95.6	6.94	7.04	2582	2622	63
20	8.78	**0.91**	414	113.3	113.3	8.60	8.60	3203	3203	77

*Physical Properties per meter (m) of width

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (kN/m)

Deck Gage	Bearing Length of Webs (mm) One-Flange Loading End Bearing 40	50	75	Interior Bearing 40	50	75
26	9.4	10.1	11.8	12.8	13.7	15.7
24	16.0	17.2	19.9	22.4	24.0	27.2
22	23.5	25.3	29.1	33.6	35.8	40.5
20	33.5	36.0	41.3	48.6	51.6	58.1

Standard Features

- ASTM A653/A653M SS GR80, with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 1.83 m to 12.8 m
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

- Inquire regarding cost and lead times for:
  - -Short cuts < 1.83 m
  - -Sheet Lengths > 12.8 m
  - -Alternative metallic and painted finishes
- Side-lap or bottom flange slot venting

Inward Uniform Factored Loads, LSD (kPa)

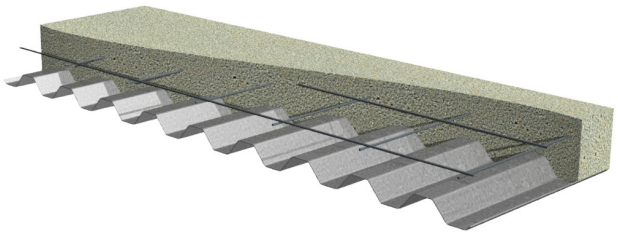
Deck Gage	Spans	Criteria	Span (mm) 600	750	900	1050	1200	1350	1500	1650	1800	1950	2100
26	Single	$øW_n$	29.0	18.6	12.9	9.5	7.2	5.7	4.6	3.8	3.2	2.7	2.4
		L/240	16.1	8.2	4.8	3.0	2.0	1.4	1.0	0.8	0.6	0.5	0.4
	Double	$øW_n$	28.5	18.6	13.1	9.7	7.5	5.9	4.8	4.0	3.3	2.9	2.5
		L/240	38.8	19.8	11.5	7.2	4.8	3.4	2.5	1.9	1.4	1.1	0.9
	Triple	$øW_n$	34.7	22.9	16.2	12.0	9.3	7.3	6.0	4.9	4.2	3.6	3.1
		L/240	30.4	15.6	9.0	5.7	3.8	2.7	1.9	1.5	1.1	0.9	0.7
24	Single	$øW_n$	44.1	28.3	19.6	14.4	11.0	8.7	7.1	5.8	4.9	4.2	3.6
		L/240	23.5	12.0	7.0	4.4	2.9	2.1	1.5	1.1	0.9	0.7	0.5
	Double	$øW_n$	43.6	28.4	19.9	14.7	11.3	9.0	7.3	6.0	5.1	4.3	3.7
		L/240	56.6	29.0	16.8	10.6	7.1	5.0	3.6	2.7	2.1	1.6	1.3
	Triple	$øW_n$	53.3	35.0	24.7	18.3	14.1	11.2	9.1	7.5	6.3	5.4	4.7
		L/240	44.4	22.7	13.2	8.3	5.5	3.9	2.8	2.1	1.6	1.3	1.0
22	Single	$øW_n$	57.5	36.8	25.6	18.8	14.4	11.4	9.2	7.6	6.4	5.4	4.7
		L/240	28.9	14.8	8.6	5.4	3.6	2.5	1.8	1.4	1.1	0.8	0.7
	Double	$øW_n$	55.2	36.0	25.3	18.7	14.4	11.4	9.3	7.7	6.4	5.5	4.7
		L/240	69.6	35.6	20.6	13.0	8.7	6.1	4.5	3.3	2.6	2.0	1.6
	Triple	$øW_n$	67.5	44.4	31.3	23.2	17.9	14.2	11.5	9.5	8.0	6.9	5.9
		L/240	54.5	27.9	16.2	10.2	6.8	4.8	3.5	2.6	2.0	1.6	1.3
20	Single	$øW_n$	71.3	45.7	31.7	23.3	17.8	14.1	11.4	9.4	7.9	6.8	5.8
		L/240	34.2	17.5	10.1	6.4	4.3	3.0	2.2	1.6	1.3	1.0	0.8
	Double	$øW_n$	67.4	44.0	30.9	22.8	17.6	13.9	11.3	9.4	7.9	6.7	5.8
		L/240	82.5	42.2	24.4	15.4	10.3	7.2	5.3	4.0	3.1	2.4	1.9
	Triple	$øW_n$	82.3	54.1	38.2	28.3	21.8	17.3	14.1	11.7	9.8	8.4	7.2
		L/240	64.6	33.1	19.2	12.1	8.1	5.7	4.1	3.1	2.4	1.9	1.5

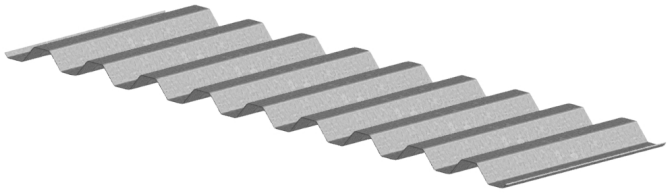
Note:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

1.0C-36 NON-COMPOSITE & ROOF DECK
GRADE 80 STEEL

Imperial LSD





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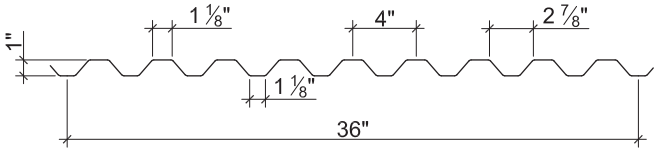


Section Properties

Deck Gage	Deck Weight w_{dd} (psf)	Base Metal Thickness t (in.)	Yield Strength F_y (ksi)	Effective Moment of Inertia at Service Load $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 60 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Factored Moment øM$_n$+ (lb-ft/ft)	øM$_n$- (lb-ft/ft)	Vertical Web Shear øV$_n$ (lb/ft)
26	0.9	0.0179	60	0.039	0.039	0.065	0.068	293	306	2120
24	1.2	0.0239	60	0.057	0.057	0.099	0.103	446	464	3525
22	1.5	0.0295	60	0.070	0.070	0.129	0.131	581	590	4338
20	1.8	0.0358	60	0.083	0.083	0.160	0.160	720	720	5248

Factored Reactions at Supports Based on Web Crippling, øR$_n$ (lb/ft)

Deck Gage	Bearing Length of Webs One-Flange Loading End Bearing 1½"	2"	3"	Interior Bearing 1½"	2"	3"
26	631	699	813	864	946	1082
24	1077	1188	1374	1515	1649	1875
22	1587	1744	2008	2270	2463	2786
20	2264	2480	2844	3287	3553	4000

Standard Features

- ASTM A653/A653M SS GR80, with Z275/G90 galvanized or ZF75/A25 galvannealed
- Standard lengths – 6'-0" to 42'-0"
- Cold-formed steel deck conforms to CAN/CSA S136-16 and meets the guidelines of CSSBI 10M-2018.

Optional Features

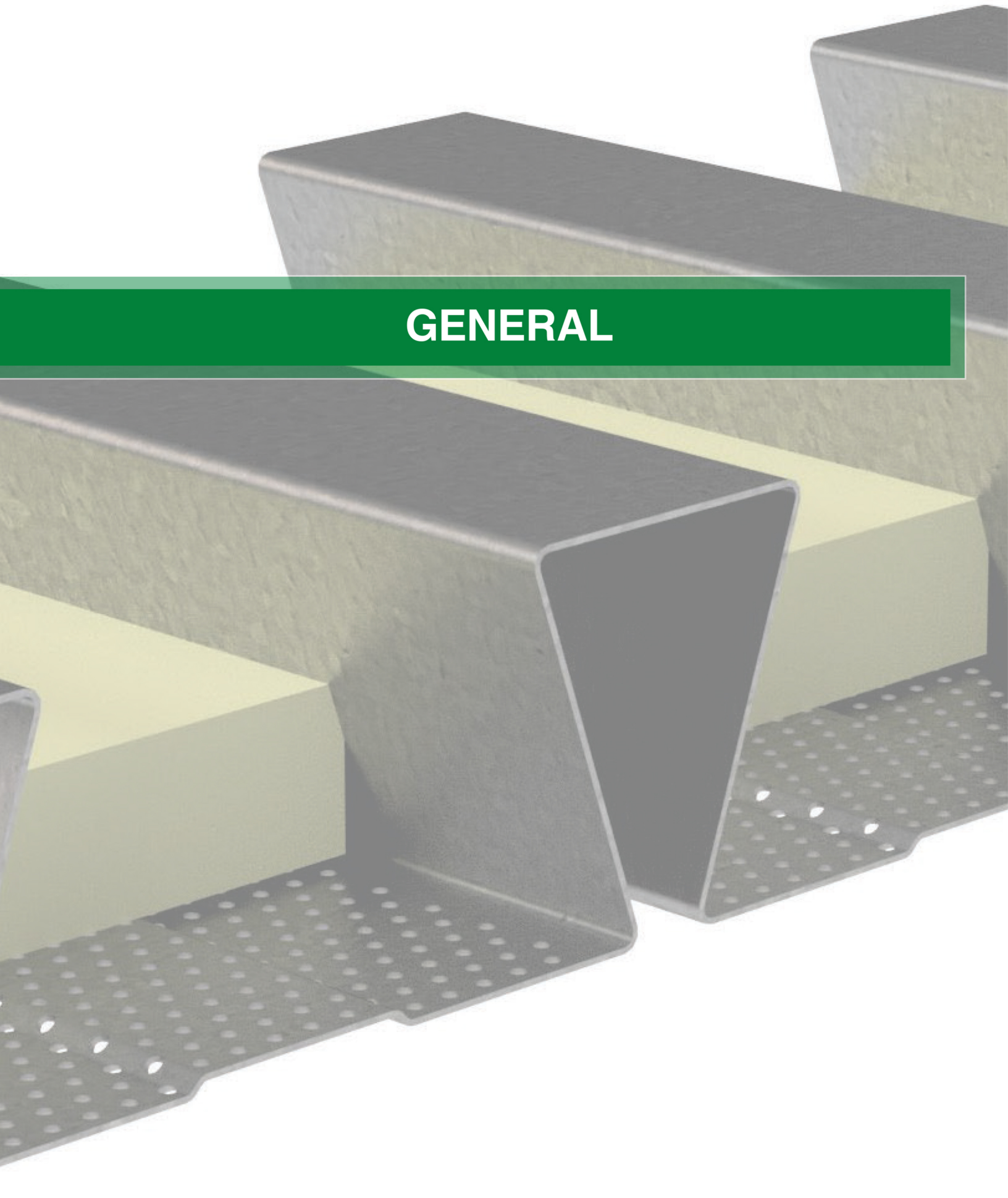
- Inquire regarding cost and lead times for:
  - -Short cuts < 6'-0"
  - -Sheet Lengths > 42'-0"
  - -Alternative metallic and painted finishes
- Side-lap or bottom flange slot venting

Inward Uniform Factored Loads, LSD (psf)

Deck Gage	Spans	Criteria	Span (ft-in.) 2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
26	Single	$øW_n$	585	374	260	191	146	116	94	77	65	55	48
		L/240	320	164	95	60	40	28	20	15	12	9	7
	Double	$øW_n$	576	376	264	196	151	119	97	80	68	58	50
		L/240	770	394	228	144	96	68	49	37	29	22	18
	Triple	$øW_n$	702	463	327	242	187	148	121	100	84	72	62
		L/240	603	309	179	113	75	53	39	29	22	18	14
24	Single	$øW_n$	891	570	396	291	223	176	143	118	99	84	73
		L/240	467	239	138	87	58	41	30	22	17	14	11
	Double	$øW_n$	881	574	402	297	229	181	147	122	102	87	75
		L/240	1125	576	333	210	141	99	72	54	42	33	26
	Triple	$øW_n$	1078	707	498	369	284	225	183	152	128	109	94
		L/240	882	452	261	165	110	77	56	42	33	26	21
22	Single	$øW_n$	1161	743	516	379	290	229	186	154	129	110	95
		L/240	574	294	170	107	72	50	37	28	21	17	13
	Double	$øW_n$	1116	728	511	378	291	230	187	155	130	111	96
		L/240	1382	707	409	258	173	121	88	66	51	40	32
	Triple	$øW_n$	1365	897	632	469	361	286	233	193	162	138	119
		L/240	1083	554	321	202	135	95	69	52	40	32	25
20	Single	$øW_n$	1440	922	640	470	360	284	230	190	160	136	118
		L/240	680	348	202	127	85	60	44	33	25	20	16
	Double	$øW_n$	1362	889	624	461	355	281	228	189	159	136	117
		L/240	1638	839	485	306	205	144	105	79	61	48	38
	Triple	$øW_n$	1665	1094	771	572	441	350	284	235	198	169	146
		L/240	1284	657	380	240	161	113	82	62	48	37	30

Note:

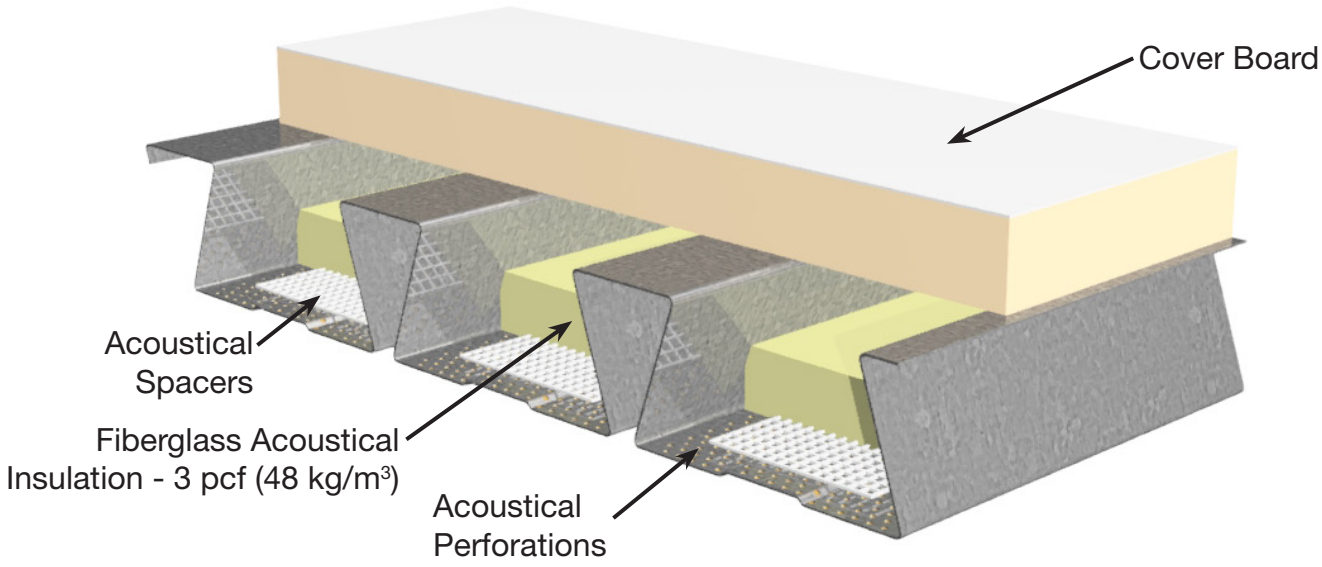
1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.

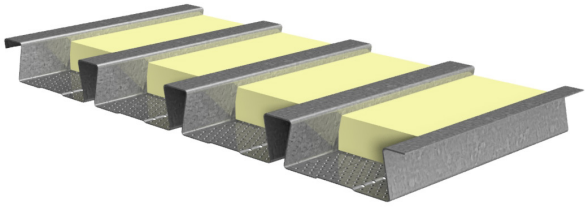


GENERAL

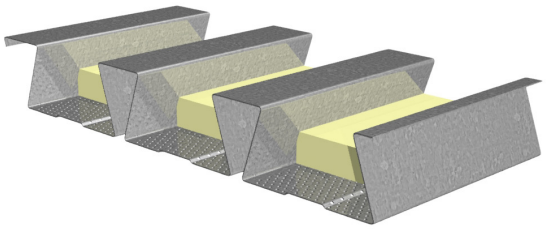
VULCRAFT NRC ACOUSTICAL SOLUTIONS
DOVETAIL ACOUSTICAL DECKS

REDUCE INTERIOR NOISE WITH THE SOUND ABSORPTION CAPABILITIES OF VULCRAFT ACOUSTICAL ROOF DECK





•2.0DA DOVETAIL

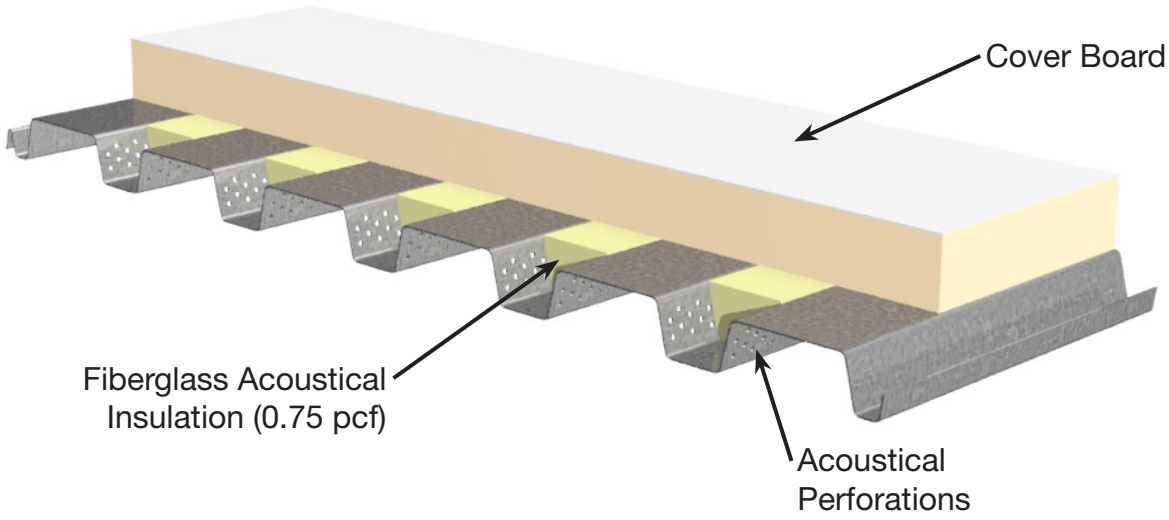


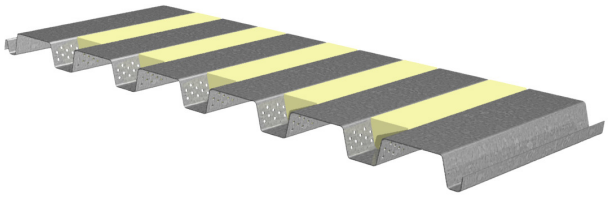
•3.5DA DOVETAIL

Roof Insulation	AC Insulation	Absorption Coefficients 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	SSA	NRC	Test. No.
2.0DA DOVETAIL										
Poly-Iso	Plain	0.19	0.54	1.15	1.07	1.01	0.79	0.95	0.95	A14-170
	Encapsulated	0.35	0.82	1.15	0.99	0.97	0.72	0.96	1.00	A14-167
Fiberglass	Plain	0.74	1.40	1.25	1.03	0.98	0.80	1.14	1.15	A14-169
	Encapsulated	0.62	1.18	1.08	0.93	0.97	0.77	1.02	1.05	A14-168
½" Roof Board	Plain	0.17	0.51	1.05	1.05	0.85	0.77	0.85	0.85	A19-101
	Encapsulated	0.30	0.56	1.02	0.99	0.92	0.78	0.86	0.85	A19-102
3.5DA DOVETAIL										
Poly-Iso	Plain	0.25	0.74	1.13	1.06	0.97	0.75	0.96	1.00	A14-186
	Encapsulated	0.38	0.86	1.18	1.03	0.93	0.65	0.98	1.00	A14-189
Fiberglass	Plain	0.92	1.51	1.13	1.06	0.98	0.78	1.14	1.15	A14-187
	Encapsulated	0.97	1.50	1.09	1.00	0.91	0.67	1.10	1.15	A14-188
½" Roof Board	Plain	0.21	0.71	1.06	0.91	0.88	0.68	0.88	0.90	AB21-132
	Encapsulated	0.15	0.82	1.07	0.98	0.89	0.68	0.93	0.95	AB21-130

Note:

1. Plain 3.0 pcf (48 kg/m³) fiberglass acoustical insulation standard. Inquire regarding lead time for encapsulated insulation.



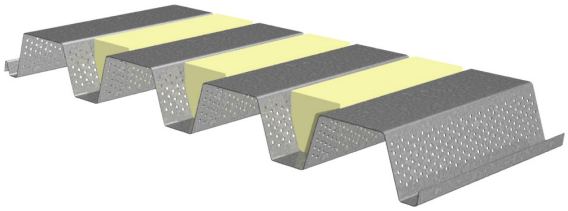


•1.5BA-36 / 1.5BIA-36 / 1.5PLBA-36

Roof Insulation	AC Insulation	Absorption Coefficients 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	SSA	NRC	Test. No.
1.5BA-36 / 1.5BIA-36 / 1.5PLBA-36										
Poly-Iso	Plain	0.09	0.20	0.47	0.86	0.55	0.32	0.55	0.55	A15-125
	Encapsulated	0.14	0.35	0.74	0.76	0.44	0.27	0.57	0.55	A15-124
Fiberglass	Plain	0.68	1.16	1.17	0.96	0.52	0.31	0.95	0.95	A15-126
	Encapsulated	0.75	0.83	0.78	0.68	0.42	0.28	0.67	0.70	A15-123

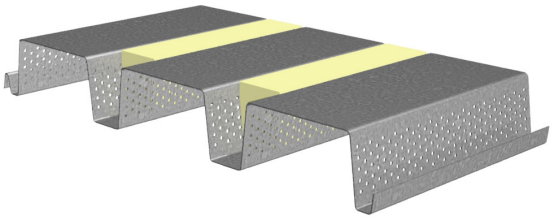
Note:

1. Plain 0.75 pcf (12 kg/m^3) fiberglass acoustical insulation standard for all BA decks. Inquire regarding lead time for encapsulated insulation.



•3NLA-32 / 3NIA-32 / 3PLNA-32

Roof Insulation	AC Insulation	Absorption Coefficients						SSA	NRC	Test. No.
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz			
3NLA-32 / 3NIA-32 / 3PLNA-32										
2” Poly-Iso	Plain	0.23	0.42	0.85	0.95	0.50	0.41	0.68	0.70	A19-032
	Encapsulated	0.30	0.62	1.09	0.79	0.52	0.31	0.74	0.75	A19-111
2” Fiberglass	Plain	0.78	1.17	1.20	0.98	0.50	0.41	0.96	0.95	A19-031
	Encapsulated	0.89	1.08	1.09	0.74	0.46	0.30	0.83	0.85	A19-110
½” Roof Board	Plain	0.21	0.41	0.81	0.89	0.49	0.41	0.64	0.65	A19-033



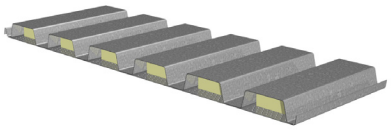
•3NA-24 / 3NIA-24

Roof Insulation	AC Insulation	Absorption Coefficients						SSA	NRC	Test. No.
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz			
3NA-24 / 3NIA-24										
Poly-Iso	Plain	0.19	0.33	0.73	0.83	0.48	0.33	0.59	0.60	A15-130
	Encapsulated	0.17	0.39	0.94	0.86	0.48	0.27	0.67	0.65	A15-138
Fiberglass	Plain	0.81	1.16	1.15	0.91	0.47	0.27	0.92	0.90	A15-128
	Encapsulated	1.07	1.13	1.04	0.81	0.43	0.26	0.85	0.85	A15-137

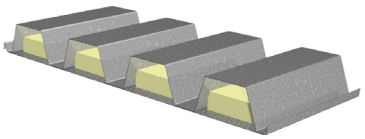
Note:

1. Plain 0.75 pcf (12 kg/m^3) fiberglass acoustical insulation standard for all NA decks. Inquire regarding lead time for encapsulated insulation.

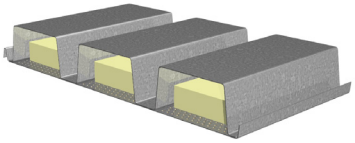
VULCRAFT NRC ACOUSTICAL SOLUTIONS
CELLULAR ACOUSTICAL DECKS



•1.5BPA-36 / 1.5PLBPA-36 ROOF DECK
•1.5VLPA-36 / 1.5PLVLPA-36 COMPOSITE DECK

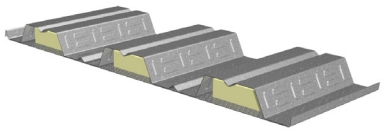


•3NPA-32 / 3PLNPA-32 ROOF DECK

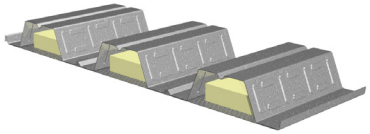


•3NPA-24 / 3PLNPA-24 ROOF DECK

Roof Insulation	AC Insulation	Absorption Coefficients 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	SSA	NRC	Test. No.
1.5BPA-36 / 1.5PLBPA-36 ROOF DECK OR 1.5VLPA-36 / 1.5PLVLPA-36 COMPOSITE DECK										
Poly-Iso	Plain	0.27	0.32	0.70	1.02	0.80	0.52	0.69	0.70	A15-114
	Encapsulated	0.26	0.44	0.84	0.98	0.67	0.45	0.72	0.75	A15-115
3NPA-32 / 3PLNPA-32 ROOF DECK										
Poly-Iso	Plain	0.47	0.61	1.08	1.03	0.83	0.67	0.90	0.90	A22-125
	Encapsulated	0.52	0.71	1.12	0.80	0.62	0.45	0.83	0.80	A22-188
3NPA-24 / 3PLNPA-24 ROOF DECK										
Poly-Iso	Plain	0.25	0.47	0.92	0.75	0.62	0.54	0.69	0.70	A15-141
	Encapsulated	0.39	0.62	1.19	0.74	0.66	0.44	0.80	0.80	A15-231



•2VLPA-36 / 2PLVLPA-36 COMPOSITE DECK



•3VLPA-36 / 3PLVLPA-36 COMPOSITE DECK

Floor	AC Insulation	Absorption Coefficients 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	SSA	NRC	Test. No.
2VLPA-36 / 2PLVLPA-36 COMPOSITE DECK										
Concrete	Plain	0.31	0.44	0.72	0.77	0.47	0.47	0.60	0.60	A15-120
	Encapsulated	0.39	0.45	0.87	0.66	0.31	0.19	0.58	0.55	A15-119
3VLPA-36 / 3PLVLPA-36 COMPOSITE DECK										
Concrete	Plain	0.48	0.56	1.00	0.75	0.49	0.49	0.69	0.70	A15-121
	Encapsulated	0.51	0.63	0.83	0.49	0.39	0.28	0.58	0.60	A15-122

Note:

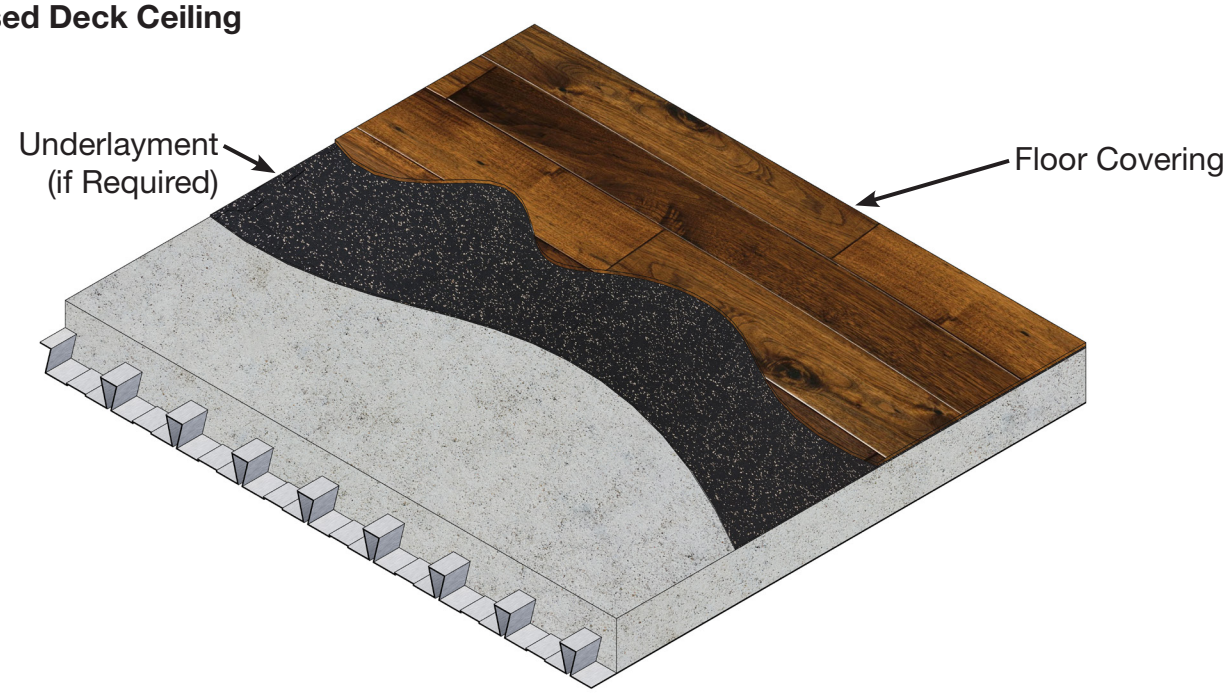
1. Factory installed plain 3.0 pcf (48 kg/m^3) fiberglass acoustical insulation standard for all cellular decks. Inquire regarding lead time for encapsulated insulation.

2.0D FORMLOK® DOVETAIL DECK-SLAB
ACOUSTICAL SOLUTIONS

ACHIEVE QUIET SPACES WITH PREMIUM FINISHES BY USING THE SUPERIOR STC AND IIC RATINGS OF 2.0D FORMLOK DECK-SLABS

2.0D FORMLOK DECK-SLAB

- **2” (51 mm) Deep Composite Deck**
- **5½” (140 mm) Total Slab Depth**
- **Normal Weight Concrete (145 pcf / 2325 kg/m^3)**
- **Exposed Deck Ceiling**

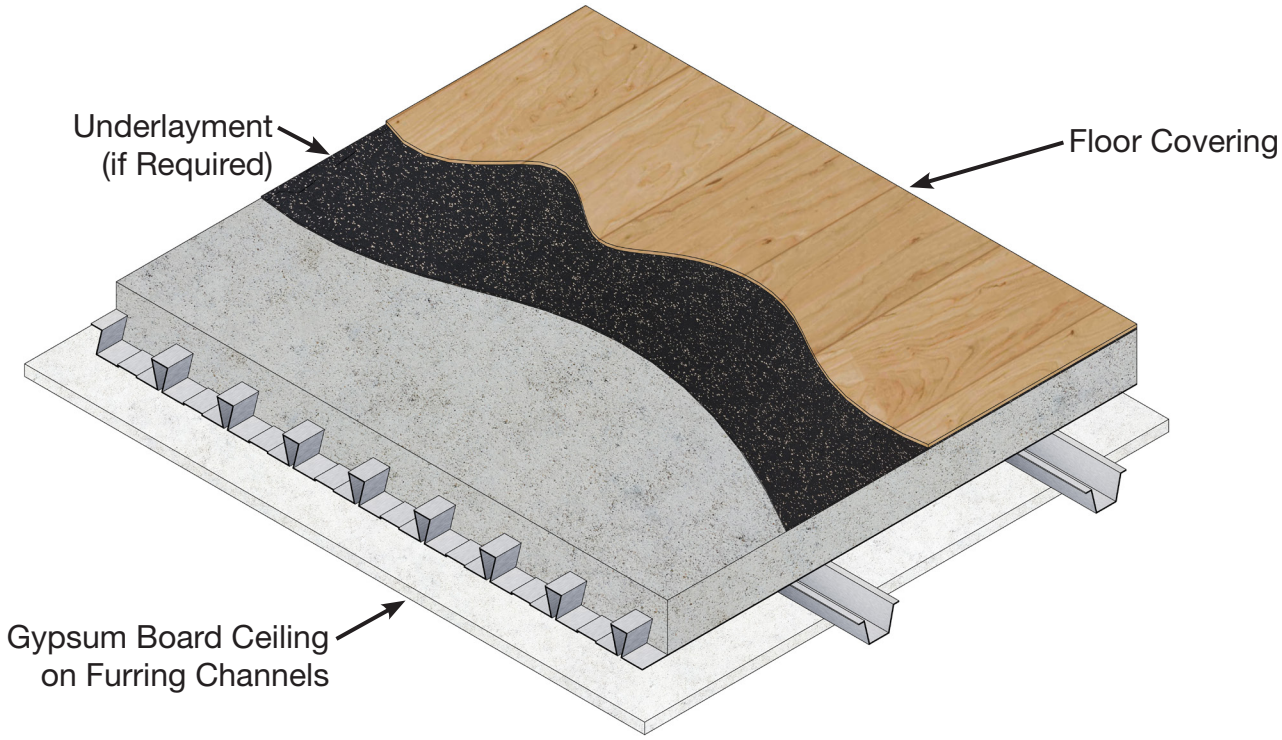


Exposed Deck (No Ceiling)

Floor Covering	Underlayment	STC	IIC	Intertek Test No.
Ceramic Tile	5 mm ECOsilence	**51**	**41**	H7786.06
Engineered Wood	5 mm ECOsilence	**50**	**50**	H7786.05
Fusion Hybrid Vinyl Plank	2 mm ECOsilence	**46**	**51**	H7786.02
Attain Luxury Vinyl Tile	5 mm ECOsilence	**52**	**51**	H7786.03
Forest Rx Rubber Backed Sheet Vinyl	None	**51**	**51**	H7786.04
Exposed Concrete	None	**52**	**23**	H7786.01

2.0D FORMLOK DECK-SLAB

- **2” (51 mm) Deep Composite Deck**
- **5½” (140 mm) Total Slab Depth**
- **Normal Weight Concrete (145 pcf / 2325 kg/m³)**
- **Gypsum Board Ceiling**



Gypsum Board Ceiling on Furring Channels Directly Attached to Deck

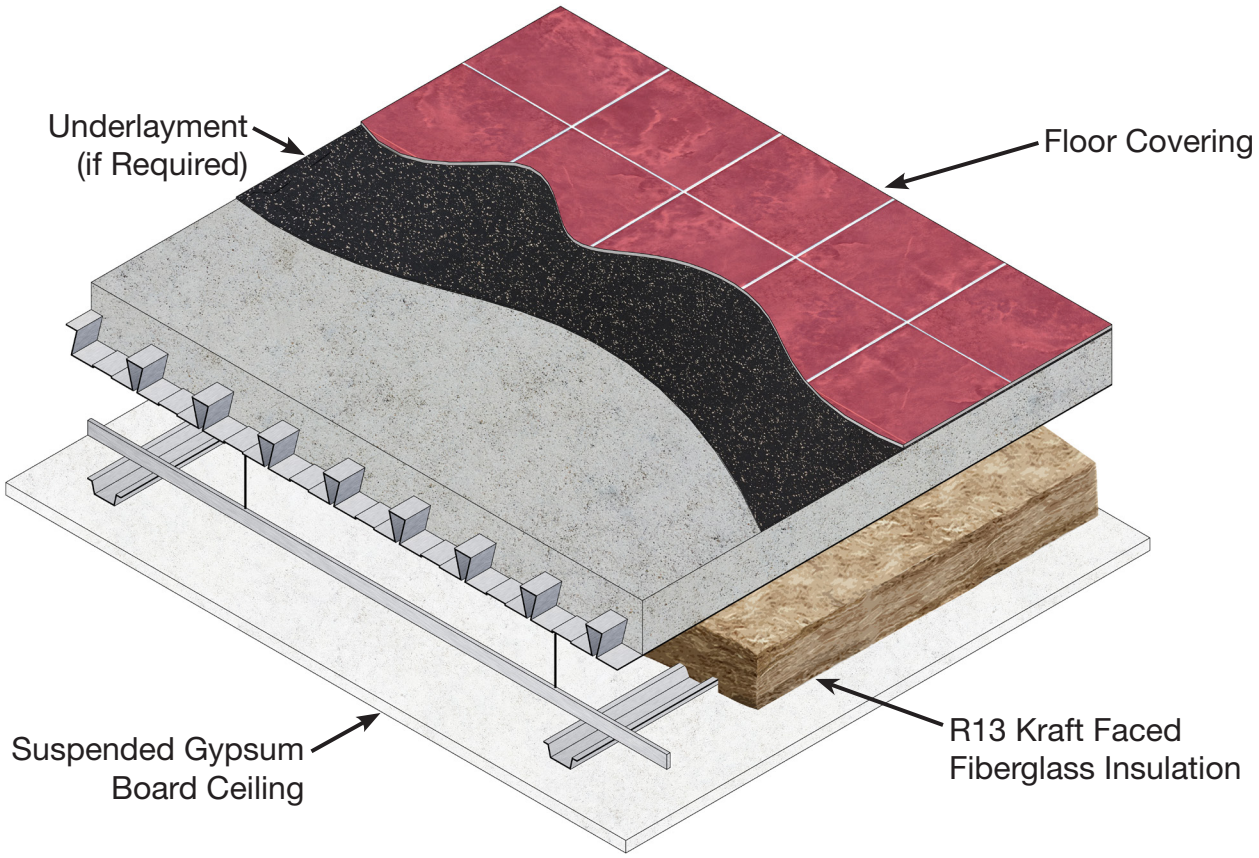
Floor Covering	Underlayment	STC	IIC	Intertek Test No.
Ceramic Tile	5 mm ECOsilence	**53**	**47**	H7786.12
Engineered Wood	5 mm ECOsilence	**50**	**50**	H7786.11
Fusion Hybrid Vinyl Plank	2 mm ECOsilence	**51**	**50**	H7786.08
Attain Luxury Vinyl Tile	2 mm ECOsilence	**52**	**50**	H7786.09
Forest Rx Rubber Backed Sheet Vinyl	None	**50**	**50**	H7786.10
Exposed Concrete	None	**52**	**32**	H7786.07

Note:

1. Values shown are for gypsum board on furring channels directly connected to the underside of the slab. Gypsum board ceilings attached to the deck by methods providing acoustical separation will provide improved STC and IIC values.

2.0D FORMLOK DECK-SLAB

- **2” (51 mm) Deep Composite Deck**
- **5½” (140 mm) Total Slab Depth**
- **Normal Weight Concrete (145 pcf / 2325 kg/m³)**
- **Suspended Gypsum Board Ceiling**



Suspended Gypsum Board Ceiling

Floor Covering	Underlayment	STC	IIC	Intertek Test No.
Ceramic Tile	5 mm ECOsilence	62	60	I5133.01

Note:

1. Laboratory tests determining STC and IIC for Dovetail FormLok deck with a suspended ceiling were conducted with ceramic tile and underlayment. Adding a suspended ceiling to the ceramic tile assembly improved the STC rating by 11 and the IIC rating by 19 compared to an assembly with no ceiling. Other flooring types can expect similar improvement in performance.

Notes:

1. The acoustical test reports with complete assembly details are available from www.dovetaildeck.com.

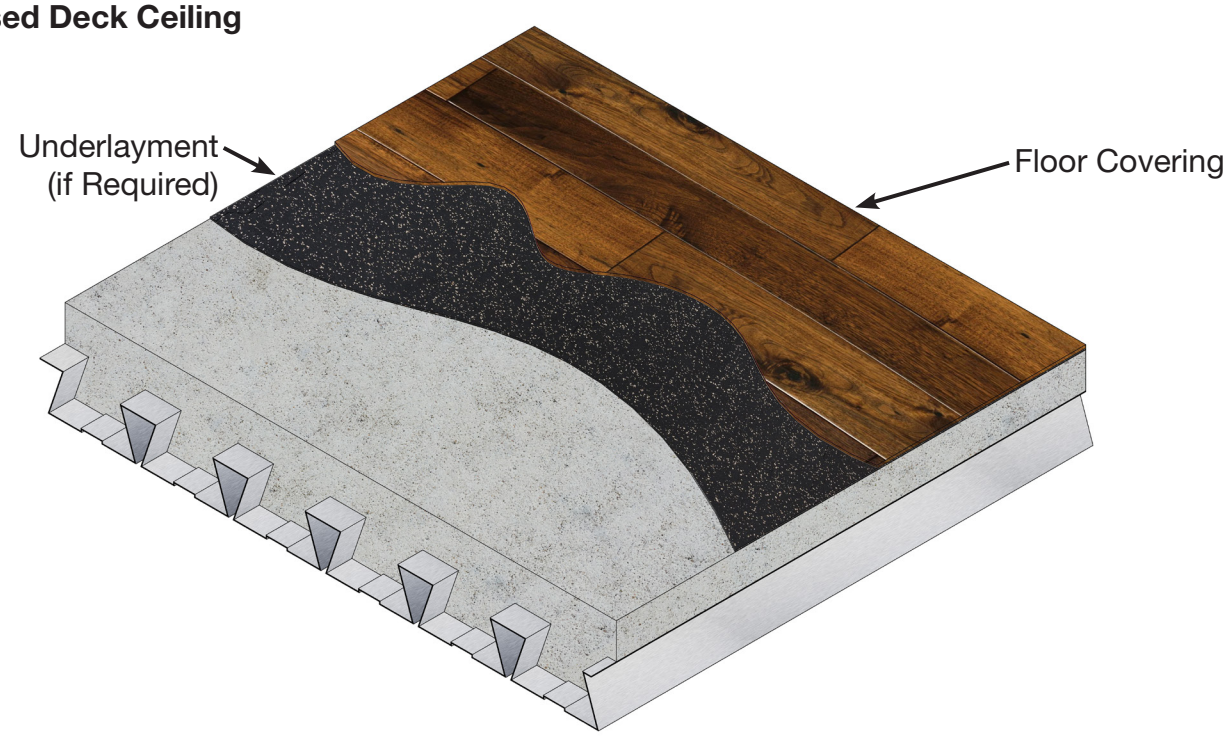
2. The testing was performed in accordance with the following standards:
   - **ASTM E90-09 (2016)**, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions*
   - **ASTM E492-09(2016)e1,** *Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine*

3.5D FORMLOK® DOVETAIL DECK-SLAB
ACOUSTICAL SOLUTIONS

ACHIEVE QUIET SPACES WITH PREMIUM FINISHES BY USING THE SUPERIOR STC AND IIC RATINGS OF 3.5D FORMLOK DECK-SLABS

3.5D FORMLOK DECK-SLAB

- **3½" (89 mm) Deep Composite Deck**
- **6" (152 mm) Total Slab Depth**
- **Normal Weight Concrete (145 pcf / 2325 kg/m^3)**
- **Exposed Deck Ceiling**

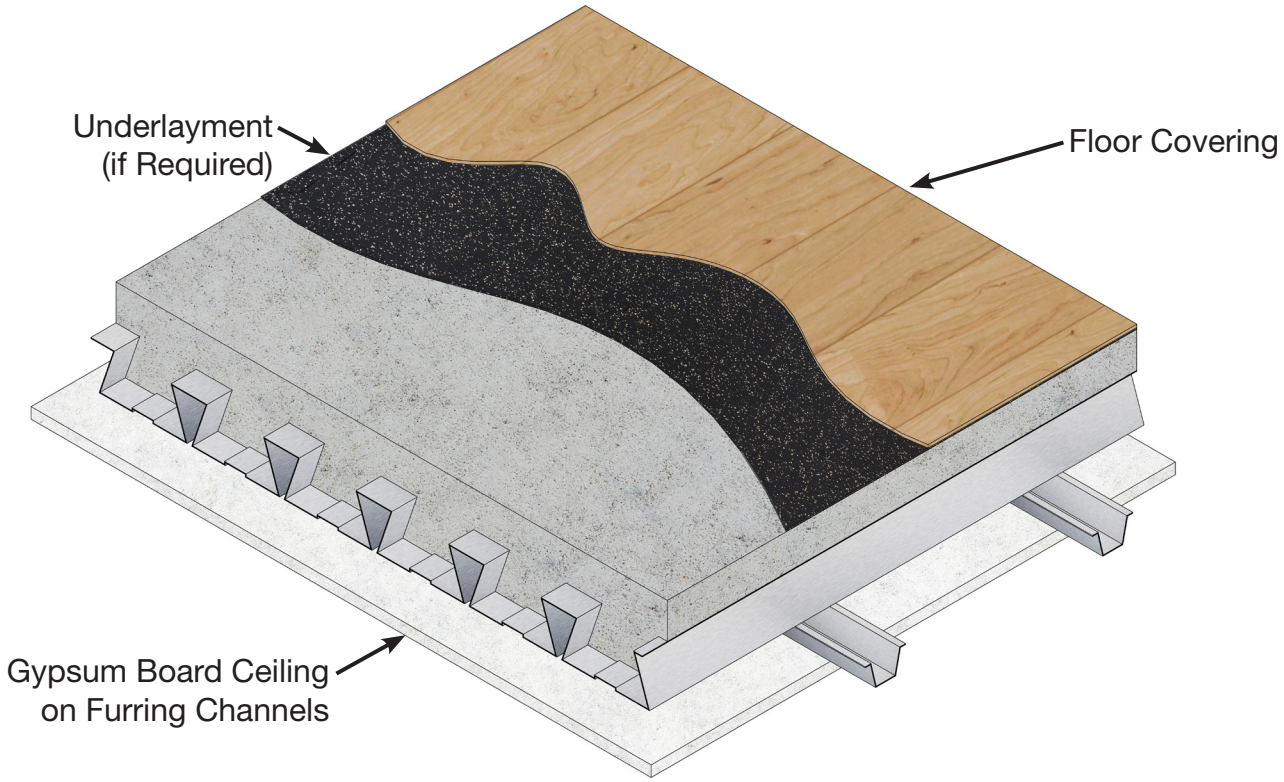


Exposed Deck (No Ceiling)

Floor Covering	Underlayment	STC	IIC	Intertek Test No.
Ceramic Tile	5 mm ECOsilence	**50**	**42**	H7787.06
Engineered Wood	5 mm ECOsilence	**45**	**46**	H7787.05
Fusion Hybrid Vinyl Plank	2 mm ECOsilence	**47**	**47**	H7787.02
Attain Luxury Vinyl Tile	5 mm ECOsilence	**50**	**50**	H7787.03
Forest Rx Rubber Backed Sheet Vinyl	None	**49**	**49**	H7787.04
Exposed Concrete	None	**50**	**24**	H7787.01

3.5D FORMLOK DECK-SLAB

- **3½" (89 mm) Deep Composite Deck**
- **6" (152 mm) Total Slab Depth**
- **Normal Weight Concrete (145 pcf / 2325 kg/m³)**
- **Gypsum Board Ceiling**



Gypsum Board Ceiling on Furring Channels Directly Attached to Deck

Floor Covering	Underlayment	STC	IIC	Intertek Test No.
Ceramic Tile	5 mm ECOsilence	**56**	**49**	H7787.12
Engineered Wood	5 mm ECOsilence	**55**	**52**	H7787.11
Fusion Hybrid Vinyl Plank	2 mm ECOsilence	**55**	**53**	H7787.08
Attain Luxury Vinyl Tile	5 mm ECOsilence	**56**	**52**	H7787.09
Forest Rx Rubber Backed Sheet Vinyl	None	**55**	**52**	H7787.10
Exposed Concrete	None	**55**	**32**	H7787.07

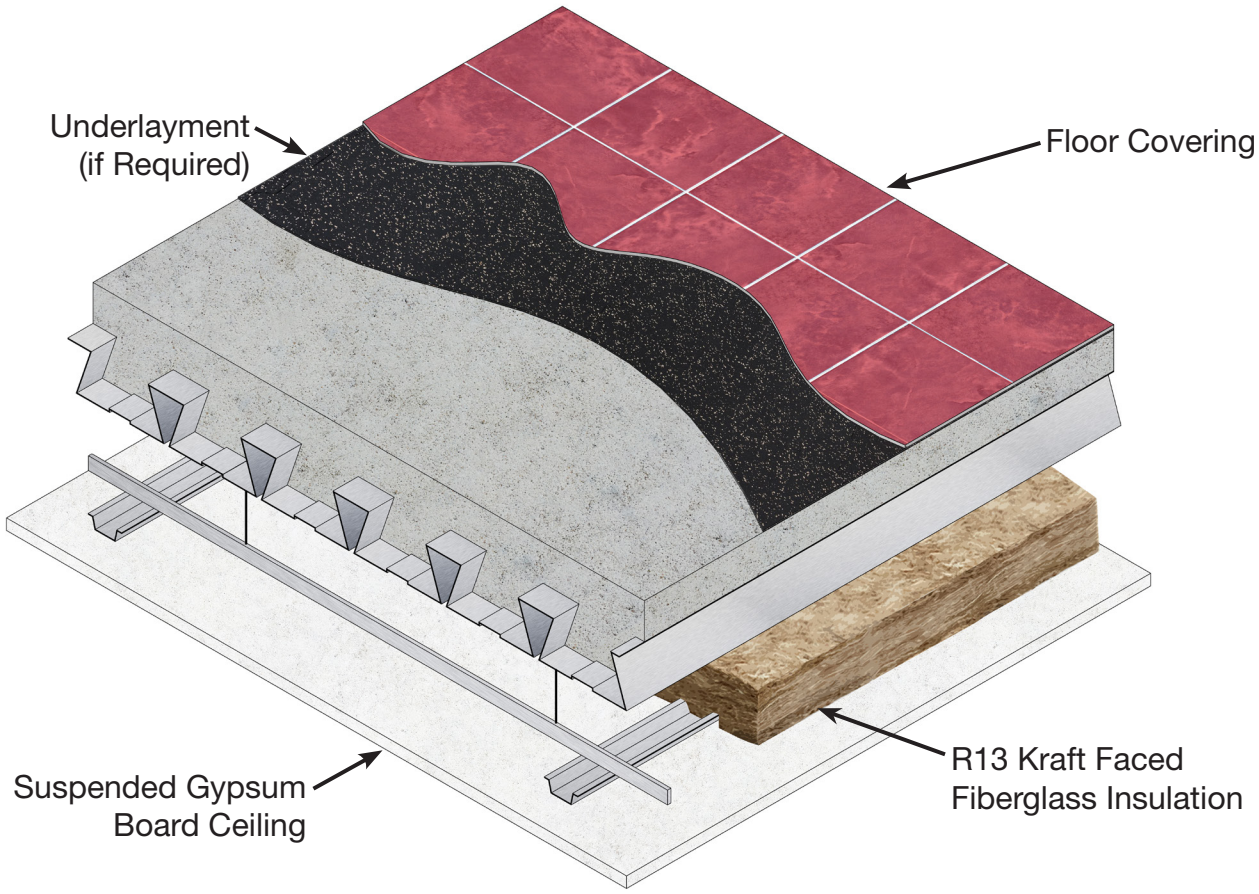
Note:

1. Values shown are for gypsum board on furring channels directly connected to the underside of the slab. Gypsum board ceilings attached to the deck by methods providing acoustical separation will provide improved STC and IIC values.

3.5D FORMLOK® DOVETAIL DECK-SLAB
ACOUSTICAL SOLUTIONS

3.5D FORMLOK DECK-SLAB

- **3½" (89 mm) Deep Composite Deck**
- **6" (152 mm) Total Slab Depth**
- **Normal Weight Concrete (145 pcf / 2325 kg/m³)**
- **Suspended Gypsum Board Ceiling**



Suspended Gypsum Board Ceiling

Floor Covering	Underlayment	STC	IIC	Intertek Test No.
Ceramic Tile	5 mm ECOsilence	**62**	**62**	I5133.02

Note:

1. Laboratory tests determining STC and IIC for Dovetail FormLok deck with a suspended ceiling were conducted with ceramic tile and underlayment. Adding a suspended ceiling to the ceramic tile assembly improved the STC rating by 12 and the IIC rating by 20 compared to an assembly with no ceiling. Other flooring types can expect similar improvement in performance.

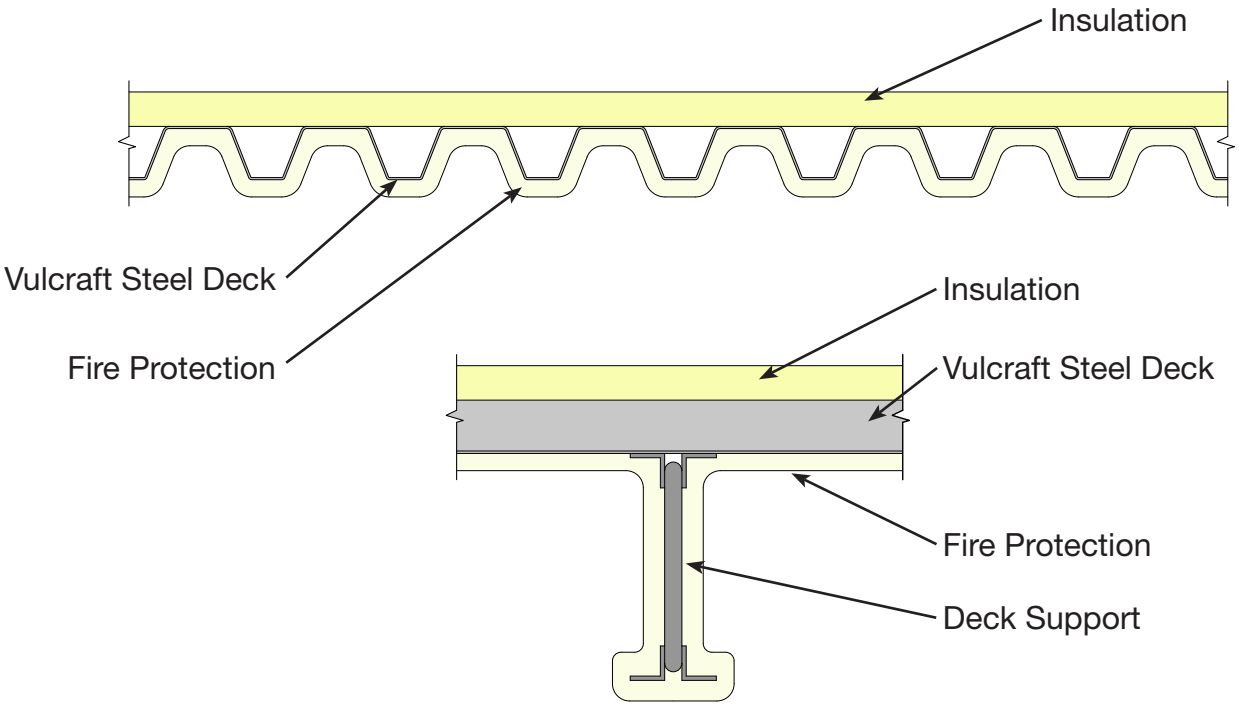
Notes:

1. The acoustical test reports with complete assembly details are available from www.dovetaildeck.com.

2. The testing was performed in accordance with the following standards:
   - **ASTM E90-09 (2016)**, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions*
   - **ASTM E492-09(2016)e1,** *Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine*

USE UL RECOGNIZED VULCRAFT ROOF DECKS FOR YOUR FIRE RATED ASSEMBLIES

- **Vulcraft steel decks may be used in assemblies which are required to meet hourly fire ratings. Approved hourly fire rated assemblies are a combination of specific proprietary materials as listed in UL fire resistance ratings.**



REPRESENTATIVE FIRE RATED ASSEMBLY

Refer to the table on the following pages for a listing of UL fire-rated assemblies utilizing Vulcraft steel deck profiles. Refer to the particular UL assembly being considered for full details of construction, including specific information about fill or fireproofing thicknesses and span limitations.

UL Fire Resistance Ratings

Restrained Assembly Ratings (hr.)	Type of Protection	Type of Insulation	UL Design No.	Deck Type B	32" 3N	24" 3N	2.0D	3.5D	Unrestrained Beam Rating (hr.)
1	Exposed Grid	Rigid Insulation	P211+	✓					
			P214+	✓					1
			P225+	✓	✓	✓			1,1½
			P227+	✓					
			P230+	✓					1,1½
			P235+	✓					1
		Insulating Fill	P214+	✓					1
	Gypsum Board	Rigid Insulation	P510+	✓	✓	✓			
			P514	✓					
	Cementitious	Rigid Insulation	P701*	✓	✓	✓			1,1½,2
			P711*	✓	✓	✓			1,1½,2
			P717*	✓	✓	✓			1,1½,2
	Sprayed Fiber	Rigid Insulation	P801*	✓	✓	✓			1,1½,2,3
			P815*	✓	✓	✓			1,1½,2,3
			P819*	✓	✓	✓			1,1½,2
	Unprotected Deck	Insulating Fill	P902	✓	✓	✓			1,1½,2
			P907	✓	✓	✓			1,1½,2
			P908	✓	✓	✓	✓	✓	1,1½,2
			P919	✓	✓	✓			1,1½
			P920	✓	✓	✓			1,1½,2
			P921	✓	✓	✓	✓	✓	1,1½,2
			P922	✓	✓	✓			1,1½,2
			P923	✓	✓	✓			1,1½,2
			P937				✓	✓	
			P938				✓	✓	1,1½,2
1½	Exposed Grid	Rigid Insulation	P225+	✓	✓	✓			1,1½
			P227+	✓					1,1½
			P230+	✓					1,1½
	Metal Lath	Rigid Insulation	P404+	✓					
	Gypsum Board	Rigid Insulation	P510+	✓	✓	✓			
	Cementitious	Rigid Insulation	P701*	✓	✓	✓			1,1½,2
			P711*	✓	✓	✓			1,1½,2
			P717*	✓	✓	✓			1,1½,2

UL Fire Resistance Ratings (continued)

Restrained Assembly Ratings (hr.)	Type of Protection	Type of Insulation	UL Design No.	Deck Type B	32" 3N	24" 3N	2.0D	3.5D	Unrestrained Beam Rating (hr.)
1½	Sprayed Fiber	Rigid Insulation	P801*	✓	✓	✓			1,1½,2
			P815*	✓	✓	✓			1,1½,2,3
			P819*	✓	✓	✓			1,1½,2,3
	Unprotected Deck	Insulating Fill	P902	✓	✓	✓			1,1½,2
			P907	✓	✓	✓			1,1½,2
			P908	✓	✓	✓	✓	✓	1,1½,2
			P919	✓	✓	✓			1,1½
			P920	✓	✓	✓			1,1½,2
			P921	✓	✓	✓	✓	✓	1,1½,2
			P922	✓	✓	✓			1,1½,2
			P923	✓	✓	✓			1,1½,2
			P937				✓	✓	
			P938				✓	✓	1,1½,2
2	Exposed Grid	Rigid Insulation	P237+	✓					2
	Metal Lath	Rigid Insulation	P404+	✓					
	Gypsum Board	Rigid Insulation	P514+	✓					
	Cementitious	Rigid Insulation	P701*	✓	✓	✓			1,1½,2
			P711*	✓	✓	✓			1,1½,2
			P717*	✓	✓	✓			1,1½,2
	Sprayed Fiber	Rigid Insulation	P801*	✓	✓	✓			1,1½,2
			P815*	✓	✓	✓			1,1½,2
			P819*	✓	✓	✓			1,1½,2,3
	Unprotected Deck	Insulating Fill	P902	✓	✓	✓			1,1½,2
			P907	✓	✓	✓			1,1½,2
			P908	✓	✓	✓	✓	✓	1,1½,2
			P920	✓	✓	✓			1,1½,2
			P921	✓	✓	✓	✓	✓	1,1½,2
			P922	✓	✓	✓			1,1½,2
			P923	✓	✓	✓			1,1½,2
			P937				✓	✓	
			P938				✓	✓	1,1½,2

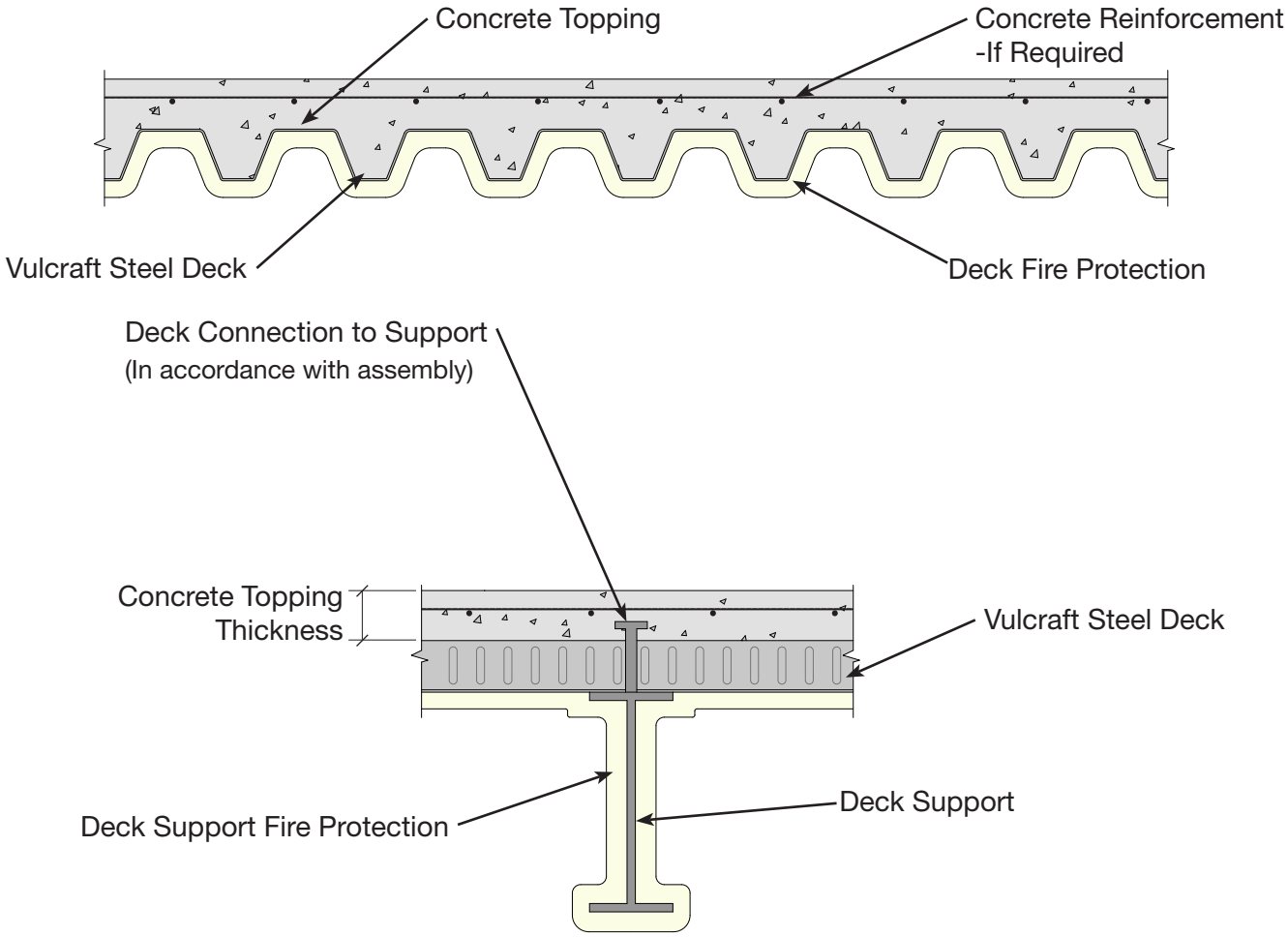
Notes:

1. Refer to the UL “Fire Resistance Directory” for the necessary construction details.
2. Deck finish shall be galvanized unless noted otherwise.
   + Deck finish is not critical for fire resistance when used in P2--, P4--, & P5-- Series designs. Deck finish shall be galvanized or painted.
   * Denotes deck finish is critical for fire resistance. Deck finish shall be galvanized or painted. This gray paint is a special type of paint and is compatible with the spray-applied fire protection and is U.L. approved for use in the denoted P7-- & P8-- Series designs.
3. B = 1.5B, 1.5BI, and 1.5PLB
   32” 3N = 32” (813 mm) Wide 3NL, 3NI, and 3PLN
   24” 3N = 24” (610 mm) Wide 3N and 3NI

VULCRAFT® COMPOSITE DECK
ULC FIRE RATED ASSEMBLIES

USE ULC RECOGNIZED COMPOSITE DECKS FOR YOUR FIRE RATED ASSEMBLIES WITH STRUCTURAL CONCRETE FILL

• Vulcraft composite slabs may be used to meet hourly fire ratings. The type and thickness of concrete specified will generally determine whether fireproofing will be required on the underside of the composite or non-composite deck.



REPRESENTATIVE FIRE RATED ASSEMBLY

The table on the following pages lists the ULC fire rated assemblies that include Vulcraft composite deck profiles. This summary table is provided to assist in identification of assemblies to meet specific project requirements. Refer to the particular ULC assembly for full details of construction including, specific information about concrete slab, framing, type of fire protection, deck types and span limitations.

VULCRAFT® COMPOSITE DECK
ULC FIRE RATED ASSEMBLIES

UL Fire Resistance Ratings

Restrained Assembly Rating (hr.)	Type of Protection	Concrete Type & Thickness	UL Design No.	Deck Type															Unrestrained Beam Rating (hr.)	Load Restricted
				1.5VL	1.5VLI	1.5PLVLI	2VLI	2PLVLI		2VLJ	3VLI	3PLVLI	3VLJ	1.5VLP	2VLP	2PLVLP	3VLP	3PLVLP		
1	Sprayed Fiber	65 mm ND, SLD	F816		✓	✓	✓	✓			✓	✓							1	✓
		65 mm ND, LD	F818	✓	✓		✓				✓			✓	✓		✓		1	✓
	Unprotected Deck	89 mm ND	F904	✓	✓		✓				✓			✓	✓		✓		1	✓
		64 mm LD	F904	✓	✓		✓				✓			✓	✓		✓		1	✓
		83 mm ND	F906	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
		64 mm LD	F906	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
		83 mm ND	F910	✓	✓		✓				✓			✓	✓		✓		1	✓
		64 mm LD	F910	✓	✓		✓				✓			✓	✓		✓		1	✓
		89 mm ND	F916	✓	✓	✓	✓				✓				✓		✓		1	✓
		89 mm LD	F917	✓	✓	✓	✓				✓				✓		✓		1	✓
		83 mm ND	F919	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
		64 mm LD	F919	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
		83 mm ND	F920	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
		64 mm LD	F921	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
1.5	Sprayed Fiber	65 mm ND, SLD	F816		✓	✓	✓	✓			✓	✓							1	✓
		65 mm ND, LD	F817	✓	✓		✓				✓			✓	✓		✓		1	✓
	Unprotected Deck	102 mm ND	F904	✓	✓		✓				✓			✓	✓		✓		1.5	✓
		73 mm LD	F904	✓	✓		✓				✓			✓	✓		✓		1.5	✓
		100 mm ND	F906	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
		71 mm LD	F906	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
		100 mm ND	F910	✓	✓		✓				✓			✓	✓		✓		1	✓
		71 mm LD	F910	✓	✓		✓				✓			✓	✓		✓		1	✓
		89 mm ND	F916	✓	✓	✓	✓				✓				✓		✓		1.5	✓
		89 mm LD	F917	✓	✓	✓	✓				✓				✓		✓		1.5	✓
		100 mm ND	F919	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	
		71 mm LD	F919	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	1	

SL - Sand-Limestone Concrete
LD - Low Density Concrete
ND - Normal-Density Concrete
SLD - Structural Low-Density Concrete

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VULCRAFT® COMPOSITE DECK
ULC FIRE RATED ASSEMBLIES

UL Fire Resistance Ratings

Restrained Assembly Rating (hr.)	Type of Protection	Concrete Type & Thickness	UL Design No.	Deck Type															Unrestrained Beam Rating (hr.)	Load Restricted
				1.5VL	1.5VLI	1.5PLVLI	2VLI	2PLVLI	2VLJ	3VLI	3PLVLI	3VLJ	1.5VLP	2VLP	2PLVLP	3VLP	3PLVLP		
2	Cementitious	65 mm SG	F701	✓	✓		✓			✓								2	✓
		64 mm LD	F703	✓														1.5	✓
		64 mm LD	F704				✓	✓		✓	✓			✓	✓	✓	✓	1.5	✓
		64 mm LD	F705				✓	✓	✓	✓	✓	✓						1, 1.5	✓
	Sprayed Fiber	65 mm ND, SLD	F816		✓	✓	✓	✓		✓	✓							1	✓
		65 mm ND, LD	F817	✓	✓		✓			✓			✓	✓		✓		1	✓
		64 mm LD	F821				✓	✓		✓	✓							1	✓
	Unprotected Deck	114 mm ND	F904	✓	✓		✓			✓			✓	✓		✓		1.5	✓
		83 mm LD	F904	✓	✓		✓			✓			✓	✓		✓		1.5	✓
		114 mm ND	F906	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1	
		85 mm LD	F906	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1	
		114 mm ND	F910	✓	✓		✓			✓			✓	✓		✓		1	✓
		83 mm LD	F910	✓	✓		✓			✓			✓	✓		✓		1	✓
		89 mm ND	F916	✓	✓	✓	✓			✓				✓		✓		1.5, 2	✓
		89 mm LD	F917	✓	✓	✓	✓			✓				✓		✓		1.5	✓
		114 mm ND	F919	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1	
		85 mm LD	F919	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1	
3	Cementitious	65 mm SL	F700	✓	✓		✓			✓			✓	✓		✓		1.5	✓
	Sprayed Fiber	65 mm ND, SLD	F816		✓	✓	✓	✓		✓	✓							1.5	✓
		86 mm LD	F821				✓	✓		✓	✓							1.5	✓
	Unprotected Deck	140 mm ND	F906	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1.5	
		110 mm LD	F906	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1.5	
		114 mm ND	F910	✓	✓		✓			✓			✓	✓		✓		1.5	✓
		115 mm ND	F915	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	1.5	✓
		140 mm ND	F919	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1.5	
		110 mm LD	F919	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	1.5	

SL - Sand-Limestone Concrete
LD - Low Density Concrete
ND - Normal-Density Concrete
SLD - Structural Low-Density Concrete

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Notes:

1. Refer to the ULC Online Directory for the necessary construction details.
2. 1.5VL = 1.5VL, 1.5VLI, and 1.5PLVLI
   2VL = 2VLI, 2VLJ, and 2PLVLI
   3VL = 3VLI, 3VLJ, and 3PLVLI
   1.5VLP = 1.5VLP and 1.5PLVLP
   2VLP = 2VLP, and 2PLVLP
   3VLP = 3VLP, and 3PLVLP
3. Concrete thickness is thickness of slab above deck, mm.
4. All Dovetail FormLok composite deck assemblies are subject to an upper live load limit of 6.22 kPa.
5. Fluted deck finish shall be galvanized.
6. Vulcraft cellular deck used in the listed assemblies shall be galvanized.
7. Vulcraft cellular deck units are approved by UL for use as electrical raceways under UL Standard 209.
8. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. See UL file R19307 for additional information.

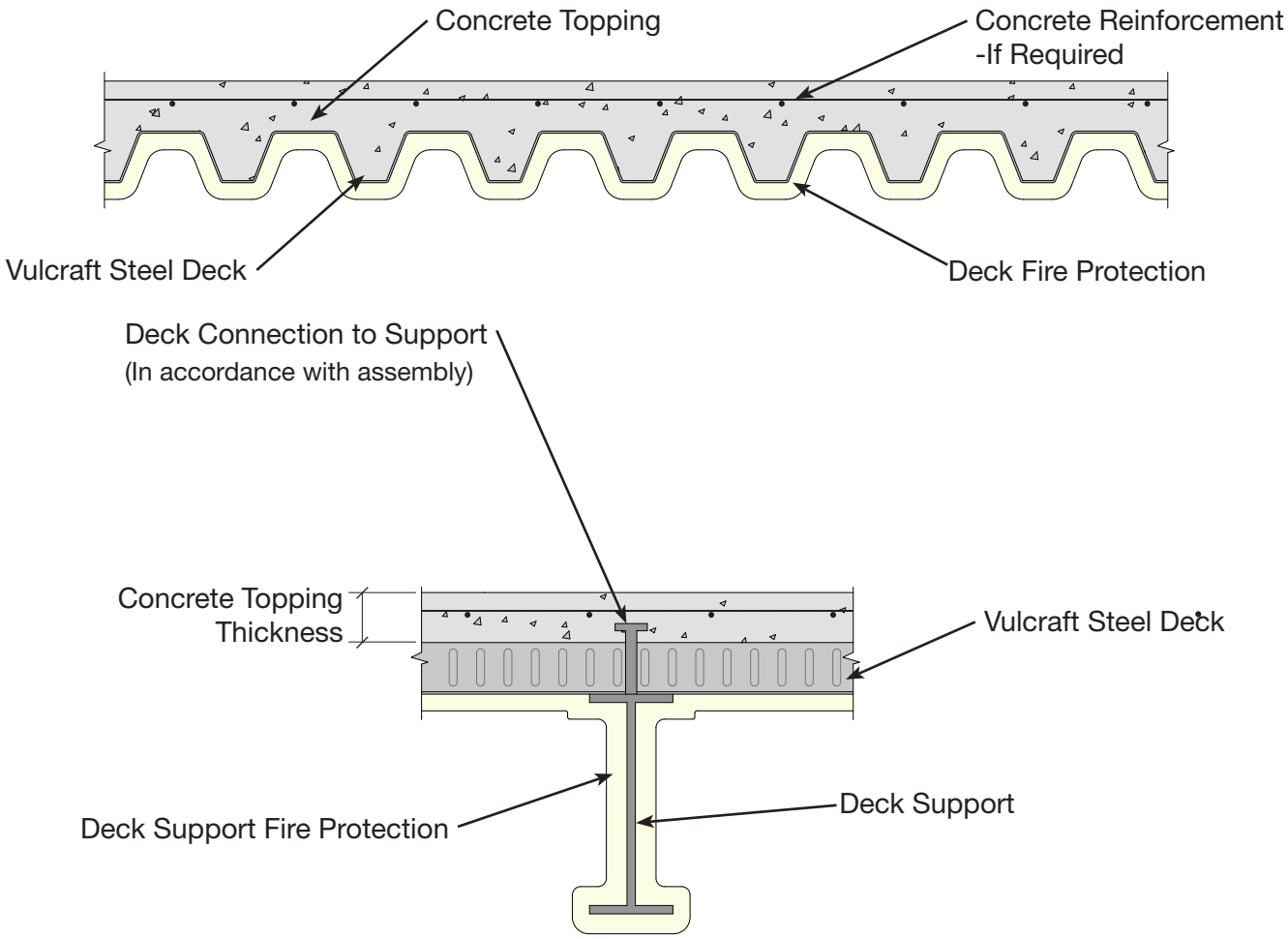
Concrete Thickness

(mm)	(in.)
64	2½
65	$2^{9}/_{16}$
71	$2^{13}/_{16}$
73	$2^{7}/_{8}$
83	3¼
85	$3^{3}/_{8}$
86	$3^{3}/_{8}$
89	3½
100	4
102	4
110	$4^{5}/_{16}$
114	4½
115	4½
140	5½

VULCRAFT® COMPOSITE & NON-COMPOSITE DECK
UL FIRE RATED ASSEMBLIES

USE UL RECOGNIZED COMPOSITE AND NON-COMPOSITE DECKS FOR YOUR FIRE RATED ASSEMBLIES WITH STRUCTURAL CONCRETE FILL

• Vulcraft composite and non-composite slabs may be used to meet hourly fire ratings. The type and thickness of concrete specified will generally determine whether fireproofing will be required on the underside of the composite or non-composite deck.



REPRESENTATIVE FIRE RATED ASSEMBLY

The table on the following pages lists the UL fire rated assemblies that include Vulcraft composite and non-composite decks profiles. This summary table is provided to assist in identification of assemblies to meet specific project requirements. Refer to the particular UL assembly for full details of construction including, specific information about concrete slab, framing, type of fire protection, deck types and span limitations.

UL Fire Resistance Ratings

Restrained Assembly Ratings (hr.)	Type of Protection	Concrete Thickness & Type	UL Design No.	Deck Type						Unrestrained Beam Rating (hr.)
				1.5VL	2VL	3VL	1.5VLP	2VLP	3VLP	
¾	Unprotected Deck	2½" LW	D914 #	✓	✓	✓	✓	✓	✓	1
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
1	Exposed Grid	2½" NW	D216 +	✓	✓	✓		✓	✓	2,3
	Cementitious	2" NW & LW	D743 *		✓	✓		✓	✓	1,1½,2,3
		2½" NW & LW	D703 *	✓	✓	✓	✓	✓	✓	1½
			D712 *		✓	✓			✓	2
			D722 *		✓	✓		✓	✓	1,1½,2
			D739 *	✓	✓	✓	✓	✓	✓	1,1½,2,3,4
			D759 *	✓	✓	✓	✓	✓	✓	1,1½,2,3
	Sprayed Fiber	2" NW & LW	D859 *		✓	✓		✓	✓	1,1.5,2,3
		2½" NW & LW	D832 *	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D847 *		✓	✓		✓	✓	1,1½,3
			D858 *		✓	✓		✓	✓	1,1½,2,3,4
			D871 *		✓	✓		✓	✓	1,1½,2,3
	Unprotected Deck	2½" LW	D902 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D914 #	✓	✓	✓	✓	✓	✓	1
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D919 #	✓	✓	✓	✓	✓	✓	1,1½
		3½" NW	D902 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D919 #	✓	✓	✓	✓	✓	✓	1,1½
1½	Gypsum Board	2½" NW	D502 *	✓	✓	✓		✓	✓	1½,2
	Cementitious	2" NW & LW	D743 *		✓	✓		✓	✓	1,1½,2,3
		2½" NW & LW	D703 *	✓	✓	✓	✓	✓	✓	1½
			D712 *		✓	✓			✓	2
			D722 *		✓	✓		✓	✓	1,1½,2
			D739 *	✓	✓	✓	✓	✓	✓	1,1½,2,3,4
			D759*	✓	✓	✓	✓	✓	✓	1,1½,2,3

✓+ 1.5VLI Only

(continued on next page)

UL Fire Resistance Ratings (continued)

Restrained Assembly Ratings (hr.)	Type of Protection	Concrete Thickness & Type	UL Design No.	Deck Type						Unrestrained Beam Rating (hr.)
				1.5VL	2VL	3VL	1.5VLP	2VLP	3VLP	
1½	Sprayed Fiber	2” NW & LW	D859 *		✓	✓		✓	✓	1,1½,2,3
		2½” NW & LW	D832 *	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D847 *		✓	✓		✓	✓	1,1½,3
			D858 *		✓	✓		✓	✓	1,1½,2,3,4
			D871 *		✓	✓		✓	✓	1,1½,2,3
	Unprotected Deck	3” LW	D902 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D919 #	✓	✓	✓	✓	✓	✓	1,1½
		4” NW	D902 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D919 #	✓	✓	✓	✓	✓	✓	1,1½
2	Exposed Grid	2½” NW	D216 +	✓	✓	✓		✓	✓	2,3
	Gypsum Board	2½” NW	D502 +	✓	✓	✓		✓	✓	1½,2
	Cementitious	2” NW & LW	D743 *		✓	✓		✓	✓	1,1½,2,3
		2½” LW	D746 *	✓						1,1½,2,3
			D752 *	✓	✓	✓	✓	✓	✓	1,1½,2,
		2½” NW & LW	D703 *	✓	✓	✓	✓	✓	✓	1½
			D712 *		✓	✓			✓	2
			D716 *	✓	✓	✓		✓	✓	1½,2
			D722 *		✓	✓		✓	✓	1,1½,2
			D739 *		✓	✓	✓	✓	✓	1,1½,2,3,4
			D745 *		✓	✓				1,1½,2
			D750 *	✓	✓	✓				1½,2
			D755*	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D759*	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D760 *	✓+	✓	✓				1,1½,2,3,4
		2½” NW	D730 *		✓	✓		✓	✓	
			D742 *	✓	✓	✓				1,1½

✓+ 1.5VLI Only

(continued on next page)

UL Fire Resistance Ratings (continued)

Restrained Assembly Ratings (hr.)	Type of Protection	Concrete Thickness & Type	UL Design No.	Deck Type 1.5VL	2VL	3VL	1.5VLP	2VLP	3VLP	Unrestrained Beam Rating (hr.)
2	Sprayed Fiber	2” NW & LW	D859 *		✓	✓		✓	✓	1,1½,2,3
		2½” NW & LW	D822 *		✓	✓		✓	✓	1
			D825 *	✓	✓	✓		✓	✓	1,1½,2
			D831 *		✓	✓		✓	✓	1,1½,2
			D832 *	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D833 *	✓	✓	✓		✓	✓	1½
			D847 *		✓	✓		✓	✓	1,1½,3
			D858 *		✓	✓		✓	✓	1,1½,2,3,4
			D861 *		✓	✓				1,1½
			D871 *		✓	✓		✓	✓	1,1½,2,3
		2½” LW	D862 *		✓	✓				1
		3¼” LW	D860 *		✓	✓				1,1½,2
	Unprotected Deck	3¼” LW	D826 #	✓	✓	✓	✓	✓	✓	1,1½,2
			D840 #	✓	✓	✓	✓	✓	✓	1,1½
			D902 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D907 #	✓	✓	✓	✓	✓	✓	1,2
			D913 #	✓	✓	✓	✓	✓	✓	1
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D919 #	✓	✓	✓	✓	✓	✓	1,1½
			D920 #		✓	✓		✓	✓	1½
		4½” NW	D902 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D919 #	✓	✓	✓	✓	✓	✓	1,1½

✓+ 1.5VLI Only

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UL Fire Resistance Ratings (continued)

Restrained Assembly Ratings (hr.)	Type of Protection	Concrete Thickness & Type	UL Design No.	Deck Type 1.5VL	2VL	3VL	1.5VLP	2VLP	3VLP	Unrestrained Beam Rating (hr.)
3	Exposed Grid	3¼" NW	D216 +	✓	✓	✓		✓	✓	2,3
	Cementitious	2" NW & LW	D743 *		✓	✓		✓	✓	1,1½,2,3
		2½" LW	D746 *	✓						1,1½,2,3
		2½" NW & LW	D703 *	✓	✓	✓	✓	✓	✓	1½
			D708 *	✓+	✓	✓	✓	✓	✓	1½,3
			D739 *	✓	✓	✓	✓	✓	✓	1,1½,2,3,4
			D755	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D759	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D760 *	✓+	✓	✓				1,1½,2,3,4
		3¼" LW	D754 *	✓	✓	✓				1½,2
		3¼" NW	D742 *	✓	✓	✓				1,1½
	Sprayed Fiber	2" NW & LW	D859 *		✓	✓		✓	✓	1,1½,2,3
		2½" NW & LW	D816 *	✓	✓	✓		✓	✓	1½,2
			D831 *		✓	✓		✓	✓	1,1½,2
			D832 *	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D833 *	✓	✓	✓		✓	✓	1½
			D858*		✓	✓		✓	✓	1,1½,2,3,4
			D871 *		✓	✓		✓	✓	1,1½,2,3
		3¼" LW	D860 *		✓	✓				1,1½,2
	Unprotected Deck	4 3/16" LW	D902 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D919 #	✓	✓	✓	✓	✓	✓	1,1½
		5¼" NW	D902 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D916 #	✓	✓	✓	✓	✓	✓	1,1½,2,3
			D919 #	✓	✓	✓	✓	✓	✓	1,1½
4	Cementitious	2½" NW & LW	D760 *	✓+	✓	✓				1,1½,2,3,4
			D739 *	✓	✓	✓	✓	✓	✓	1,1½,2,3,4
		3¼" LW	D754 *	✓	✓	✓				1½,2
	Sprayed Fiber	2½" NW & LW	D858 *		✓	✓		✓	✓	1,1½,2,3,4
		3¼" LW	D860 *		✓	✓				1,1½,2

✓+ 1.5VLI Only

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UL Fire Resistance Ratings

Restrained Assembly Ratings (hr.)	Type of Protection	Concrete Thickness & Type	UL Design No.	Deck Type 0.6C	1.0C	1.3C	1.5C	Unrestrained Beam Rating (hr.)
1	Exposed Grid	2½" NW	G256 +	✓	✓	✓	✓	1,2,3
	Cementitious	2½" NW & LW	G701	✓	✓	✓	✓	1,1½,2,3
			G705	✓	✓	✓	✓	1,1½,2,3
	Sprayed Fiber	2¾" NW & LW	G801	✓	✓	✓	✓	1,1½,2
1½	Exposed Grid	2" NW	G229 +	✓	✓	✓	✓	1½,2,3
		2½" NW	G228 +	✓	✓	✓	✓	1½,2
			G243 +	✓	✓	✓	✓	1½,2
			G213 +	✓	✓	✓	✓	1½,2,3
	Gypsum Board	2" NW & LW	G502 +	✓	✓	✓	✓	
	Cementitious	2½" NW & LW	G701	✓	✓	✓	✓	1,1½,2,3
			G705	✓	✓	✓	✓	1,1½,2,3
	Sprayed Fiber	2¾" NW & LW	G801	✓	✓	✓	✓	1,1½,2
2	Exposed Grid	2½" NW	G227 +	✓	✓	✓	✓	2,3
			G228 +	✓	✓	✓	✓	1½,2
			G229 +	✓	✓	✓	✓	1½,2,3
			G243 +	✓	✓	✓	✓	1½,2
			G256 +	✓	✓	✓	✓	1,2,3
			G213 +	✓	✓	✓	✓	1½,2,3
	Gypsum Board	2" NW	G505 +	✓	✓	✓	✓	
		2½" NW & LW	G529 +	✓	✓	✓	✓	2,3
		2½" NW	G514 +	✓	✓	✓	✓	3
			G523 +	✓	✓	✓	✓	2,3
	Cementitious	2½" NW & LW	G701	✓	✓	✓	✓	1,1½,2,3
			G705	✓	✓	✓	✓	1,1½,2,3
	Sprayed Fiber	2¾" NW & LW	G801	✓	✓	✓	✓	1,1½,2
3	Exposed Grid	3¼" NW	G229 +	✓	✓	✓	✓	1½,2,3
		3½" NW	G213 +	✓	✓	✓	✓	1½,2,3
			G256 +	✓	✓	✓	✓	1½,2,3
	Gypsum Board	3¼" NW & LW	G529 +	✓	✓	✓	✓	2,3
	Cementitious	2¾" NW & LW	G701	✓	✓	✓	✓	1,1½,2,3
			G705	✓	✓	✓	✓	1,1½,2,3
	Sprayed Fiber	2¾" NW & LW	G801	✓	✓	✓	✓	1,1½,2

UL Fire Resistance Ratings

Restrained Assembly Ratings (hr.)	Type of Protection	Concrete Thickness & Type	UL Design No.	Deck Type		Unrestrained Beam Rating (hr.)
				2D	3.5D	
1[10]	Unprotected Deck	2" LW & 2¾" NW	D904	✓		¾
			D961	✓		¾
			D917	✓		
			D928	✓		¾
1½	Unprotected Deck	2" LW & 2" NW	D947		✓	
			D964		✓	
			D984		✓	
2	Unprotected Deck	2½" LW, 3" SLW & 3¼" NW	D904	✓		1
			D961	✓		1
			D917	✓		¾
			D928	✓		1
		2" LW & 2¼" NW	D947		✓	¾
			D964		✓	¾
			D984		✓	¾
3	Unprotected Deck	3¼" LW, 4" SLW & 4¾" NW	D904	✓		1
			D961	✓		1
			D917	✓		¾
			D928	✓		1
		2¼" LW & 3¾" NW	D947		✓	1½
			D964		✓	1½
			D984		✓	1½

Notes:

1. Refer to the UL “Fire Resistance Directory” for the necessary construction details.
2. 1.5VL = 1.5VL, 1.5VLI, and 1.5PLVLI
   2VL = 2VLI, 2VLJ, and 2PLVLI
   3VL = 3VLI, 3VLJ, and 3PLVLI
   1.5VLP = 1.5VLP and 1.5PLVLP
   2VLP = 2VLP, and 2PLVLP
   3VLP = 3VLP, and 3PLVLP
3. Concrete thickness is thickness of slab above deck, in.
4. 1.5VLR may be used in designs D832, D902, and D916.
5. All Dovetail FormLok composite deck assemblies are subject to an upper live load limit of 130 psf.
6. Fluted deck finish shall be galvanized unless noted otherwise.
   + Denotes fluted deck finish is not critical when used in D2-- & D5-- Series designs. Deck finish shall be galvanized or phosphatized/painted.
   * Fluted deck finish is critical for fire resistance. Fluted deck finish shall be galvanized or phosphatized/painted. This gray paint is a special type of paint and is compatible with the spray-applied fire protection and is U.L. approved for use in the denoted D7-- & D8-- Series designs.
   # Denotes fluted deck finish is not critical for fire resistance. Fluted deck finish shall be galvanized or phosphatized/painted.
7. Vulcraft cellular deck used in the listed assemblies shall be galvanized.
8. Vulcraft cellular deck units are approved by UL for use as electrical raceways under UL Standard 209.
9. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. See UL file R19307 for additional information.
10. Restrained Assembly Rating is 1½ hr with listed NW concrete thickness.

Concrete Thickness

(in.)	(mm)
2	51
2½	64
2¾	70
3¼	83
3½	89
4	102
4 3/16	106
4½	114
4¾	121
5¼	133

VULCRAFT ROOF DECK
SAMMY X-PRESS HANGING SOLUTIONS

HANG AND BRACE YOUR MECHANICAL SYSTEMS FROM VULCRAFT ROOF AND ACOUSTICAL ROOF DECK

ITW BUILDEX SAMMY X-PRESS CONNECTIONS — **GR50/GR40 Material**

SAMMY X-Press Type				Connection Strength, LSD (ϕP_n)			
				Solid		Perforated	
Part Number	Model Number	Rod Size (in.)	Deck Gage	(kN)	(lbs)	(kN)	(lbs)
8181922	XP 200	1/4	22	1.931/1.633	434/367	1.304/1.104	293/248
8150922	XP 20	3/8	20	2.345/1.985	527/446	1.584/1.339	356/301
8294922	SXP 20	3/8	19	2.737/2.318	615/521	1.851/1.566	416/352
8272957	SXP 2.0	1/2	18	3.106/2.626	698/590	2.096/1.776	471/399
8181922	XP 200	1/4	16	3.916/3.315	880/745	2.648/2.238	595/503
8295922	XP 35	3/8					
8295922	SXP 35	3/8					
8271957	SXP 3.5	1/2					

Notes:

1. Sammy X-Press connectors may be installed in any flat portion of the bottom flange, web or top flange of Vulcraft Roof and Acoustical Roof Decks. Use GR50 connection strengths for SAMMY X-Press connectors installed in 1.5B and 3N decks. Use GR40 values for 2” and 3.5” Dovetail decks.
2. Concentrated load shall not exceed the strength of the steel roof deck.
3. XP 200, XP 20 and XP 35 connectors shall be installed and loaded perpendicular to the deck surface.
4. The load may be applied to SXP 20, SXP 2.0, SXP 35 and SXP 3.5 connectors at any angle, Θ, from 0 to 90 degrees, $0° \le \Theta \le 90°$, relative to the axis of the base of the connector and at any angle, α, from 0 to 360 degrees, $0° \le \alpha \le 360°$, relative to the ribs of the steel deck as shown in Figure 1.
5. The factored strength, ϕP_n, shall be equal to or greater than the governing load combination for Limit States Design as stipulated in the NBC.
6. SAMMY X-Press connectors shall be installed per manufacturer’s instructions.
7. Resistance factors included in the table are $\phi = 0.50$ (solid) and $\phi = 0.45$ (perforated).

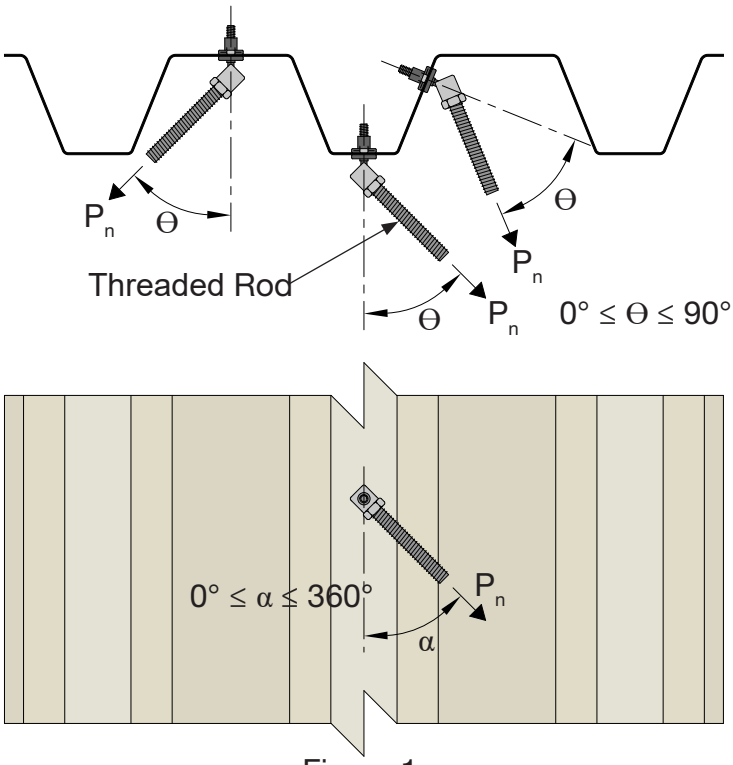

Figure 1

DOVETAIL FORMLOK® DECK-SLAB
WEDGE-NUT HANGING SOLUTIONS

HANG YOUR MECHANICAL SYSTEMS FROM DOVETAIL FORMLOK COMPOSITE DECK-SLABS

DOVETAIL FORMLOK WEDGE-NUTS

- **IAPMO UES ER-423**
- **UL Listed**

WEDGE-NUT HANGING LOAD[1-5]

2325 kg/m³ NWC or ≥ 1760 kg/m³ LWC **f'_c = 17.2 MPa (min.)**

		Connection Strength, LSD (øPn)	
Profile	**Part Number**	**(kN)**	**(lbs)**
2.0D FormLok	2.0D-WN-3/8NC 2.0D-WN-1/2NC	8.514	1914
3.5D FormLok	3.5D-WN-3/8NC 3.5D-WN-1/2NC	13.21	2970

MAXIMUM SPRINKLER PIPE DIAMETER

Profile	Part Number	NPS[6] Diameter (mm / in.)	UL No.
2.0D FormLok	2.0D-WN-3/8NC 2.0D-WN-1/2NC	100 / 4 150 / 6	EX27777
3.5D FormLok	3.5D-WN-3/8NC 3.5D-WN-1/2NC	100 / 4 200 / 8	EX27777

Notes:

1. The concentrated hanging load shall not exceed the bending strength and vertical shear strength of the FormLok Dovetail Deck-Slab.
2. Hanging load shall not exceed the strength of the threaded rod or bolt provided by others.
3. The hanging load shall be applied not more than 5 degrees from normal to the plane of the deck.
4. The factored strength, $øP_n$, shall be equal to or greater than the governing load combination for Limit States Design in the NBC.
5. Resistance factor included in the table is ø = 0.5 (LSD).
6. NPS = Nominal Pipe Size

DOVETAIL FORMLOK WEDGE-NUT INSTALLATION

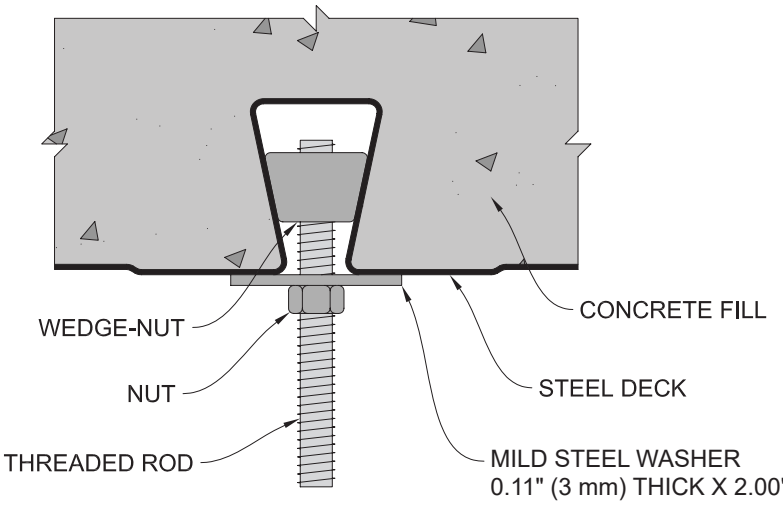

Figure 1

1. Deck ribs shall be free of foreign material to ensure the wedge-nut bears directly on the steel deck.
2. Insert wedge-nut and rotate to seat the surface against the webs of the steel deck as shown in Figure 1.
3. Position wedge-nut in the center of the rib with the threaded rod or bolt perpendicular to the bottom surface of the steel deck as show in Figure 1.
4. Tighten the ⅜” threaded rod or bolt 1 to 1½ turns beyond snug tight.
5. Tighten the ½” threaded rod or bolt ½ to 1 turn beyond snug tight.