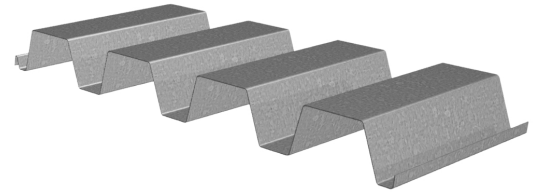


3NL-32/3NI-32 ROOF DECKS GRADE 80 STEEL

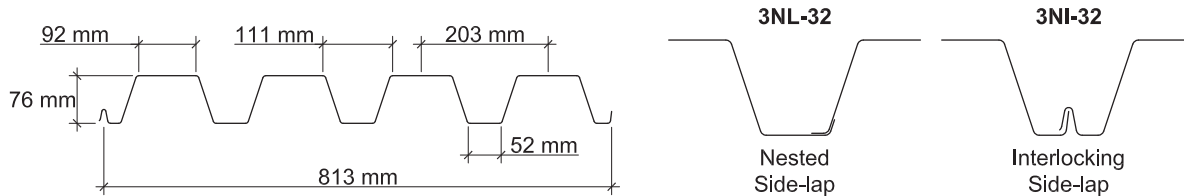
Metric
LSD

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/m ²)	Base Metal Thickness t (mm)	Yield Strength F_y (MPa)	Effective Moment of Inertia at Service Load* $I_d = (2I_e + I_g)/3$		Effective Section Modulus* at $F_y = 414$ MPa		Factored Moment*		Vertical Web Shear* ϕV_n (kN)
				I_{d+} (mm ⁴ x10 ³)	I_{d-} (mm ⁴ x10 ³)	S_{e+} (mm ³ x10 ³)	S_{e-} (mm ³ x10 ³)	ϕM_{n+} (N-m)	ϕM_{n-} (N-m)	
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, ϕR_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 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
- Web Perforated Acoustical Versions

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

Metric
LSD

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	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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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.

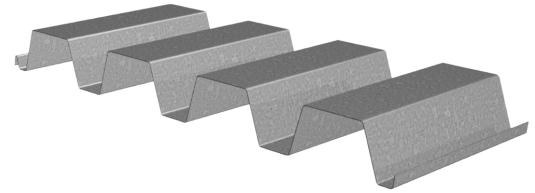
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3NL-32/3NI-32 ROOF DECKS GRADE 80 STEEL

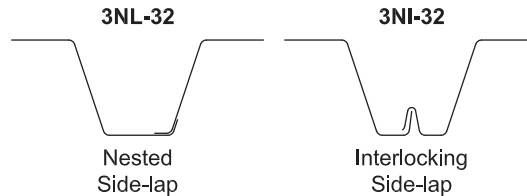
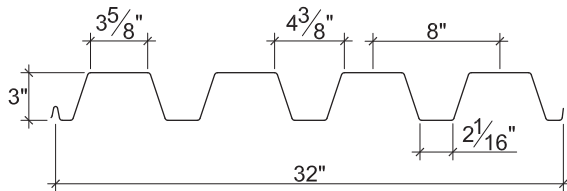
Imperial
LSD

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 $I_d = (2I_e + I_g)/3$		Effective Section Modulus at $F_y = 60$ ksi		Factored Moment		Vertical Web Shear ϕV_n (lb/ft)
				I_{d+} (in ⁴ /ft)	I_{d-} (in ⁴ /ft)	S_{e+} (in ³ /ft)	S_{e-} (in ³ /ft)	ϕM_{n+} (lb-ft/ft)	ϕM_{n-} (lb-ft/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, ϕR_n (lb/ft)

Deck Gage	Bearing Length of Webs											
	One-Flange Loading						Two-Flange Loading					
	End Bearing				Interior Bearing		End Bearing				Interior Bearing	
	1 1/2"	2"	3"	4"	4"	8"	1 1/2"	2"	3"	4"	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 galvanized
- 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

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

Imperial
LSD

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	ϕW_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	ϕW_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	ϕW_n	746	378	224	180	148	123	104	77			
		L/240	1367	405	171	120	88	66	51	32			
20	Single	ϕW_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	ϕW_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	ϕW_n	1104	534	311	248	202	168	142	105			
		L/240	1694	502	212	149	108	81	63	40			
18	Single	ϕW_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	ϕW_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	ϕW_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.

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