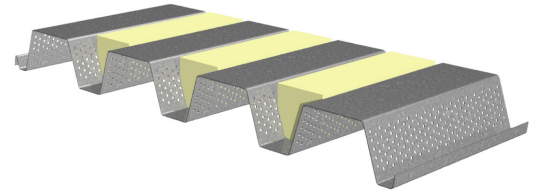


3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS GRADE 50 STEEL

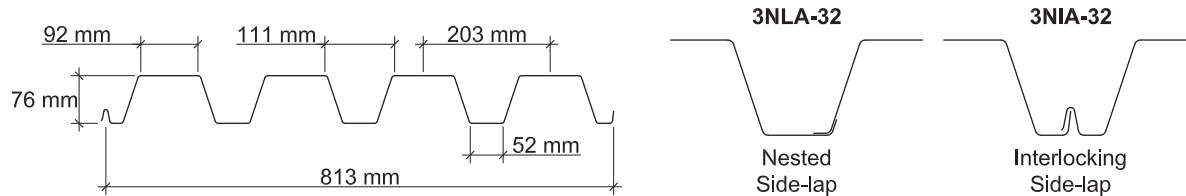
Metric
LSD

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/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 $F_y = 345$ 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	8.30	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, 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	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 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

3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS GRADE 50 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	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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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	ϕW_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.

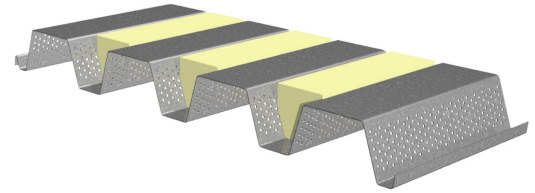
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3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS GRADE 50 STEEL

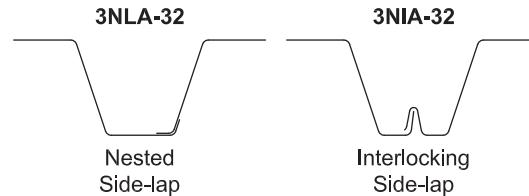
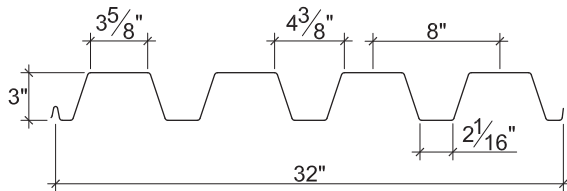
Imperial
LSD

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 $I_d = (2I_e + I_g)/3$		Effective Section Modulus at $F_y = 50$ 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	1.7	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, 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	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 galvanized
- 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

3NLA-32/3NIA-32 ACOUSTICAL ROOF DECKS GRADE 50 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	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	ϕW_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	ϕW_n	600	311	187	151	124	103	88	65			
		L/240	1315	390	164	115	84	63	49	31			
20	Single	ϕW_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	ϕW_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	ϕW_n	866	426	250	200	163	136	115	85			
		L/240	1628	482	204	143	104	78	60	38			
18	Single	ϕW_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	ϕW_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	ϕW_n	1306	624	361	288	234	195	164	121			
		L/240	2205	653	276	194	141	106	82	51			
16	Single	ϕW_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	ϕW_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	ϕW_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.

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