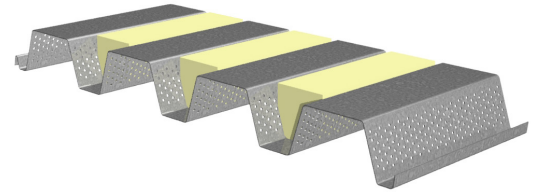


# 3NLA-32/3NIA-32/3PLNA-32 ACOUSTICAL ROOF DECKS GRADE 50 STEEL

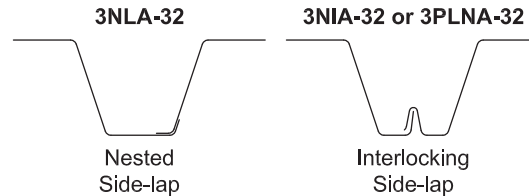
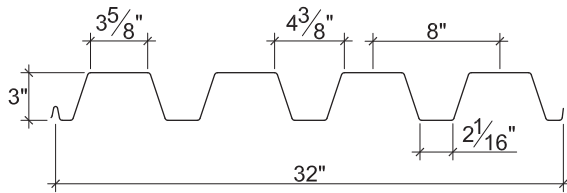
LRFD

## 32" WIDE 3N ACOUSTICAL ROOF DECKS

- 3NLA-32 Deck used with Side-lap Screws
- 3NIA-32 Deck used with TSWs or BPs
- 3PLNA-32 Deck used with PunchLok® II System



## 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		Design Moment		Vertical Web Shear $\phi V_n$ (lb/ft)
				$I_{d+}$ (in <sup>4</sup> /ft)	$I_{d-}$ (in <sup>4</sup> /ft)	$S_{e+}$ (in <sup>3</sup> /ft)	$S_{e-}$ (in <sup>3</sup> /ft)	$\phi M_{n+}$ (lb-ft/ft)	$\phi M_{n-}$ (lb-ft/ft)	
22	1.7	0.0295	50	0.611	0.680	0.328	0.353	1230	1324	2480
20	2.1	0.0358	50	0.766	0.842	0.426	0.452	1598	1695	4287
19	2.4	0.0418	50	0.917	1.000	0.526	0.550	1973	2063	5844
18	2.8	0.0474	50	1.067	1.140	0.627	0.641	2352	2404	7521
16	3.5	0.0598	50	1.405	1.448	0.826	0.841	3098	3154	10333

## Design Reactions at Supports Based on Web Crippling, $\phi R_n$ (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	780	858	988	1097	1752	2037	703	757	848	925	1979	2323
20	1134	1242	1424	1578	2510	3109	1107	1189	1325	1441	2900	3642
19	1525	1666	1903	2103	3342	4206	1577	1688	1875	2032	3920	5012
18	1938	2113	2407	2655	4214	5279	2090	2233	2472	2673	4999	6363
16	3012	3271	3705	4072	6465	8023	3484	3706	4079	4393	7805	9848

## Standard Features

- ASTM A653 SS GR50 Min., with G60 or G90, white or gray primer optional
- ASTM A1008 SS GR50 Min. with gray primer
- Standard lengths – 6'-0" to 42'-0"
- IAPMO UES ER-0652 and FM Listed
- Tables conform to ANSI/SDI RD-2017

## 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-32/3PLNA-32 ACOUSTICAL ROOF DECKS GRADE 50 STEEL

LRFD

## Inward Uniform Design Loads, LRFD (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	$\phi W_n$	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	$\phi W_n$	551	269	157	125	102	85	72	53	41	32	26
		L/240	1678	497	210	147	107	81	62	39	26	18	13
	Triple	$\phi W_n$	646	324	192	154	126	105	89	66			
		L/240	1315	390	164	115	84	63	49	31			
20	Single	$\phi W_n$	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	$\phi W_n$	760	358	206	163	133	110	93	68	53	42	34
		L/240	2078	616	260	182	133	100	77	48	32	23	17
	Triple	$\phi W_n$	911	438	254	202	165	137	115	85			
		L/240	1628	482	204	143	104	78	60	38			
19	Single	$\phi W_n$	986	438	247	195	158	130	110	81	62	49	39
		L/240	939	278	117	82	60	45	35	22	15	10	8
	Double	$\phi W_n$	944	440	252	200	163	135	113	84	64	51	41
		L/240	2467	731	308	217	158	119	91	58	39	27	20
	Triple	$\phi W_n$	1139	540	312	248	202	167	141	104			
		L/240	1934	573	242	170	124	93	72	45			
18	Single	$\phi W_n$	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	$\phi W_n$	1116	516	295	234	190	157	132	97	75	59	48
		L/240	2813	833	352	247	180	135	104	66	44	31	23
	Triple	$\phi W_n$	1355	636	365	290	236	196	165	122			
		L/240	2205	653	276	194	141	106	82	51			
16	Single	$\phi W_n$	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	$\phi W_n$	1473	679	387	307	249	207	174	128	98	78	63
		L/240	3573	1059	447	314	229	172	132	83	56	39	29
	Triple	$\phi W_n$	1792	838	480	382	310	257	216	160			
		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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