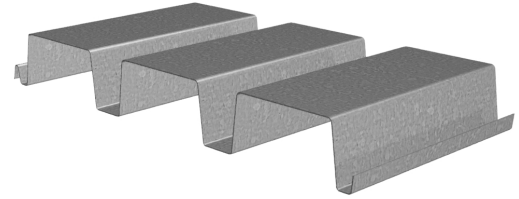


# 3N-24/3NI-24 ROOF DECKS GRADE 40 STEEL

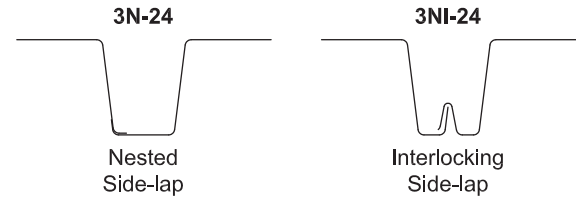
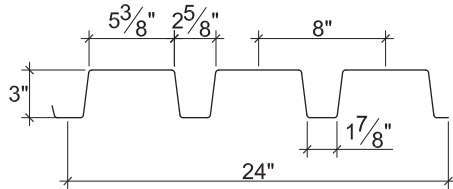
ASD

## 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 $I_d = (2I_e + I_g)/3$		Effective Section Modulus at $F_y = 40$ ksi		Allowable Moment		Vertical Web Shear $V_n/\Omega$ (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)	$M_n +/\Omega$ (lb-ft/ft)	$M_n -/\Omega$ (lb-ft/ft)	
22	2.0	0.0295	40	0.714	0.869	0.368	0.419	735	837	2436
20	2.5	0.0358	40	0.901	1.071	0.482	0.530	962	1058	3589
19	2.9	0.0418	40	1.088	1.252	0.584	0.637	1166	1271	4894
18	3.3	0.0474	40	1.268	1.421	0.674	0.731	1346	1459	5738
16	4.1	0.0598	40	1.682	1.795	0.876	0.934	1749	1864	7204

## Allowable Reactions at Supports Based on Web Crippling, $R_n/\Omega$ (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	463	509	586	651	1014	1178	444	478	535	584	1189	1395
20	667	731	838	928	1451	1796	686	737	821	893	1733	2176
19	893	976	1115	1232	1930	2430	966	1034	1148	1244	2334	2984
18	1130	1233	1404	1548	2433	3047	1269	1355	1501	1623	2967	3777
16	1745	1895	2147	2359	3726	4624	2086	2219	2442	2630	4609	5816

## Standard Features

- ASTM A653 SS GR40 Min., with G60 or G90, white or gray primer optional
- ASTM A1008 SS GR40 Min. with gray primer
- Standard lengths – 6'-0" to 42'-0"
- IAPMO UES ER-0652, UL, 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
- Web Perforated Acoustical Versions

# 3N-24/3NI-24 ROOF DECKS GRADE 40 STEEL

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## Inward Uniform Allowable Loads, ASD (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	$W_n / \Omega$	367	163	92	73	59	49	41	30	23	18	15
		L/240	---	---	91	64	47	35	27	17	11	8	6
	Double	$W_n / \Omega$	384	179	102	81	66	55	46	34	26	21	17
		L/240	---	---	---	---	---	---	---	---	---	---	---
	Triple	$W_n / \Omega$	465	220	127	101	82	68	57	42			
		L/240	---	---	---	---	---	---	---	39			
20	Single	$W_n / \Omega$	481	214	120	95	77	64	53	39	30	24	19
		L/240	---	---	115	81	59	44	34	22	14	10	7
	Double	$W_n / \Omega$	496	228	130	103	84	69	58	43	33	26	21
		L/240	---	---	---	---	---	---	---	---	---	---	---
	Triple	$W_n / \Omega$	605	282	161	128	104	86	73	54			
		L/240	---	---	---	---	---	---	---	48			
19	Single	$W_n / \Omega$	583	259	146	115	93	77	65	48	36	29	23
		L/240	---	---	139	98	71	54	41	26	17	12	9
	Double	$W_n / \Omega$	605	276	157	124	101	83	70	52	40	31	25
		L/240	---	---	---	---	---	---	---	---	---	---	25
	Triple	$W_n / \Omega$	740	342	195	155	126	104	88	64			
		L/240	---	---	---	---	---	---	---	56			
18	Single	$W_n / \Omega$	673	299	168	133	108	89	75	55	42	33	27
		L/240	---	---	162	114	83	62	48	30	20	14	10
	Double	$W_n / \Omega$	695	317	180	143	116	96	81	59	45	36	29
		L/240	---	---	---	---	---	---	---	---	---	---	28
	Triple	$W_n / \Omega$	852	393	224	178	144	119	101	74			
		L/240	---	---	---	---	---	---	---	64			
16	Single	$W_n / \Omega$	874	389	219	173	140	116	97	71	55	43	35
		L/240	---	---	215	151	110	83	64	40	27	19	14
	Double	$W_n / \Omega$	887	405	230	182	148	122	103	76	58	46	37
		L/240	---	---	---	---	---	---	---	---	---	---	35
	Triple	$W_n / \Omega$	1086	501	286	227	184	153	128	95			
		L/240	---	---	---	---	---	---	---	81			

### Notes:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.
2. The symbol "----" indicates that the uniform allowable load based on deflection exceeds the allowable load based on stress.

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