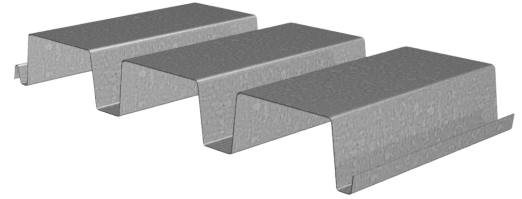


# PLN™-24/N-24 ROOF DECKS GRADE 50 STEEL

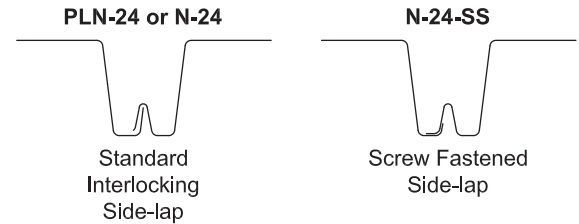
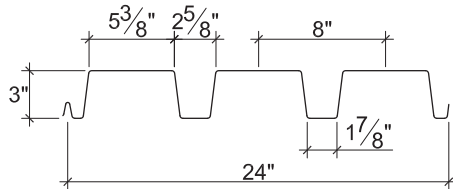
LRFD

## N-24 ROOF DECKS

- PLN-24 Deck used with PunchLok® II System
- N-24 Deck used with TSWs or BPs
- N-24-SS 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		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)	
22	2.2	0.0299	50	0.733	0.857	0.344	0.429	4024
20	2.6	0.0359	50	0.907	1.031	0.443	0.531	6097
18	3.5	0.0478	50	1.267	1.369	0.652	0.735	10772
16	4.2	0.0598	50	1.642	1.706	0.837	0.914	13429

## 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	911	1001	1152	1279	1933	2257	880	948	1062	1158	2275	2683
20	1286	1409	1615	1789	2711	3360	1327	1424	1588	1726	3244	4077
18	2197	2395	2728	3008	4587	5740	2477	2646	2928	3166	5607	7128
16	3334	3621	4102	4507	6912	8563	3991	4246	4672	5032	8559	10780

## 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 40'-0"
- IAPMO UES ER-2018, 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 > 40'-0"
  - Alternative metallic and painted finishes
- Web and Fully Perforated Acoustical Versions

# PLN™-24/N-24 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	$\phi W_n$	645	287	161	127	103	85	72	53	40	32	26
		L/240	751	222	94	66	48	36	28	18	12	8	6
	Double	$\phi W_n$	720	339	195	155	126	105	88	65	50	39	32
		L/240	2115	627	264	186	135	102	78	49	33	23	17
	Triple	$\phi W_n$	862	415	241	192	156	130	110	81			
		L/240	1657	491	207	146	106	80	61	39			
20	Single	$\phi W_n$	831	369	208	164	133	110	92	68	52	41	33
		L/240	929	275	116	82	59	45	34	22	15	10	7
	Double	$\phi W_n$	922	427	244	194	157	130	110	81	62	49	40
		L/240	2544	754	318	223	163	122	94	59	40	28	20
	Triple	$\phi W_n$	1118	526	302	240	195	162	137	101			
		L/240	1994	591	249	175	128	96	74	47			
18	Single	$\phi W_n$	1223	543	306	242	196	162	136	100	76	60	49
		L/240	1298	385	162	114	83	62	48	30	20	14	10
	Double	$\phi W_n$	1313	599	340	270	219	181	152	112	86	68	55
		L/240	3378	1001	422	297	216	162	125	79	53	37	27
	Triple	$\phi W_n$	1608	742	423	335	272	226	190	140			
		L/240	2648	784	331	232	169	127	98	62			
16	Single	$\phi W_n$	1570	698	392	310	251	208	174	128	98	78	63
		L/240	1682	498	210	148	108	81	62	39	26	18	13
	Double	$\phi W_n$	1633	745	423	335	272	225	189	139	107	84	68
		L/240	4209	1247	526	370	269	202	156	98	66	46	34
	Triple	$\phi W_n$	2000	922	526	417	339	281	236	174			
		L/240	3299	978	412	290	211	159	122	77			

### Note:

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

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