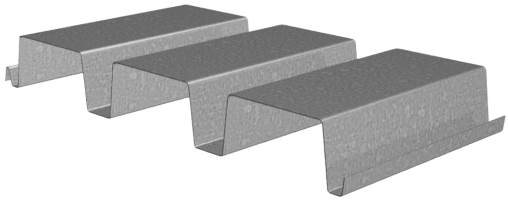
PLN™-24/N-24 ROOF DECKS
GRADE 50 STEEL

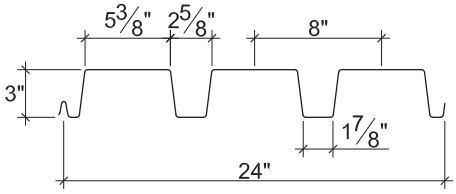
ASD

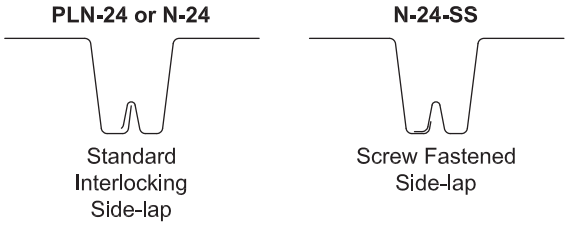
N-24 ROOF DECKS

- **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 $I_d = (2I_e+I_g)/3$ I_d+ (in⁴/ft)	I_d- (in⁴/ft)	Effective Section Modulus at F_y = 50 ksi S_e+ (in³/ft)	S_e- (in³/ft)	Vertical Web Shear V_n/Ω (lb/ft)
22	2.2	0.0299	50	0.733	0.857	0.344	0.429	2648
20	2.6	0.0359	50	0.907	1.031	0.443	0.531	4011
18	3.5	0.0478	50	1.267	1.369	0.652	0.735	7087
16	4.2	0.0598	50	1.642	1.706	0.837	0.914	8835

Allowable Reactions at Supports Based on Web Crippling, R_n/Ω (lb/ft)

Deck Gage	Bearing Length of Webs: One-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"	Two-Flange Loading, End Bearing 1½"	2"	3"	4"	Interior Bearing 4"	8"
22	595	654	753	836	1299	1517	575	620	694	757	1530	1803
20	840	921	1055	1169	1822	2259	867	931	1038	1128	2181	2741
18	1436	1566	1783	1966	3084	3859	1619	1729	1914	2070	3769	4792
16	2179	2367	2681	2946	4647	5757	2609	2775	3054	3289	5754	7247

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

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 / Ω	429	191	107	85	69	57	48	35	27	21	17
		L/240	---	---	94	66	48	36	28	18	12	8	6
	Double	W_n / Ω	478	225	130	103	84	70	59	43	33	26	21
		L/240	---	---	---	---	---	---	---	---	33	23	17
	Triple	W_n / Ω	572	276	160	128	104	86	73	54			
		L/240	---	---	---	124	91	68	53	33			
20	Single	W_n / Ω	553	246	138	109	88	73	61	45	35	27	22
		L/240	---	---	116	82	59	45	34	22	15	10	7
	Double	W_n / Ω	612	284	162	129	105	87	73	54	41	33	26
		L/240	---	---	---	---	---	---	---	---	40	28	20
	Triple	W_n / Ω	742	350	201	160	130	108	91	67			
		L/240	---	---	---	154	112	84	65	41			
18	Single	W_n / Ω	813	362	203	161	130	108	90	66	51	40	33
		L/240	---	---	162	114	83	62	48	30	20	14	10
	Double	W_n / Ω	873	398	226	179	146	120	101	75	57	45	37
		L/240	---	---	---	---	---	---	---	---	53	37	27
	Triple	W_n / Ω	1069	493	281	223	181	150	126	93			
		L/240	---	---	---	215	157	118	91	57			
16	Single	W_n / Ω	1044	464	261	206	167	138	116	85	65	52	42
		L/240	---	---	210	148	108	81	62	39	26	18	13
	Double	W_n / Ω	1085	495	281	223	181	150	126	93	71	56	46
		L/240	---	---	---	---	---	---	---	---	66	46	34
	Triple	W_n / Ω	1329	613	350	277	225	187	157	116			
		L/240	---	---	---	---	203	153	118	74			

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.