

1.5BP/1.5VLP CELLULAR DECKS GRADE 50 STEEL

LRFD

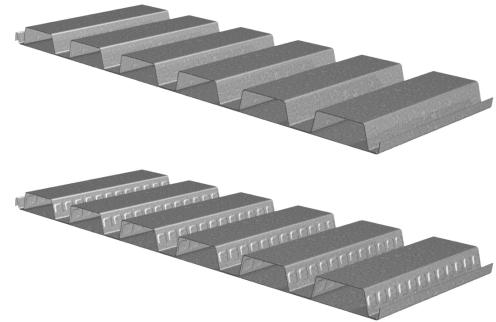
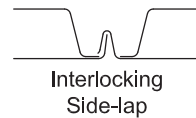
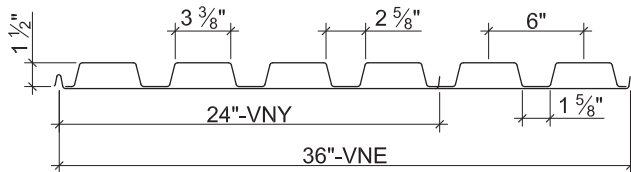
BP CELLULAR ROOF DECK

- 1.5BP Deck used with TSWs or BPs
- 1.5PLBP Deck used with PunchLok® II System

VLP CELLULAR COMPOSITE DECK

- 1.5VLP Deck used with TSWs or BPs
- 1.5PLVLP Deck used with PunchLok® II System

Nominal Dimensions



Plant	Cover Width	Pan Connection Method
VNY	24"	Flush Rivets (Underside)
VNE	36"	Resistance Welds

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 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)	
20/20	3.6	0.0358/0.0358	50	0.393	0.293	0.272	0.240	1020	900	4874
20/18	4.1	0.0358/0.0474	50	0.428	0.315	0.280	0.259	1050	971	4874
18/20	4.1	0.0474/0.0358	50	0.504	0.369	0.405	0.312	1519	1170	6398
18/18	4.6	0.0474/0.0474	50	0.551	0.396	0.415	0.330	1556	1238	6398
18/16	5.1	0.0474/0.0598	50	0.594	0.423	0.425	0.350	1594	1313	6398
16/18	5.3	0.0598/0.0474	50	0.667	0.479	0.579	0.400	2171	1500	7996
16/16	5.8	0.0598/0.0598	50	0.721	0.510	0.591	0.421	2216	1579	7996

Design 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"	3"	4"	1 1/2"	2"	3"	4"	3"	4"
20/XX	1763	1932	2215	2408	3164	3406	1949	2093	2333	2497	3960	4286
18/XX	2954	3221	3669	3959	5334	5699	3515	3754	4156	4417	6762	7265
16/XX	4525	4915	5568	5967	8206	8709	5681	6043	6651	7023	10487	11191

Standard Features

- ASTM A653 SS GR50 Min., with G60
- Standard lengths – 6'-0" to 42'-0"
- IAPMO UES ER-0652, UL, and FM Listed
- Tables conform to ANSI/SDI RD-2017 and C-2017

Optional Features

- Inquire regarding cost and lead times for:
 - Short Cuts < 6'-0"
 - Sheet Lengths > 42'-0"
 - Alternative metallic finishes
- Cellular Acoustical Versions

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