

# 1.5BPA/1.5VLP A CELLULAR ACOUSTICAL DECKS

## GRADE 50 STEEL

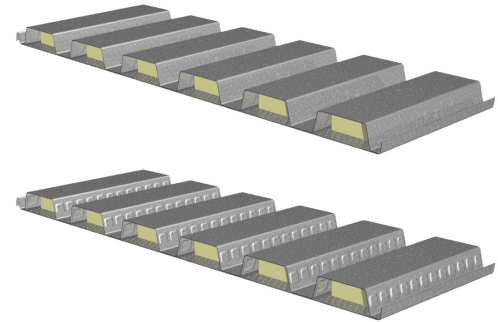
LRFD

### BP CELLULAR ACOUSTICAL ROOF DECK

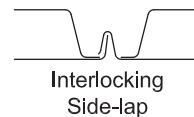
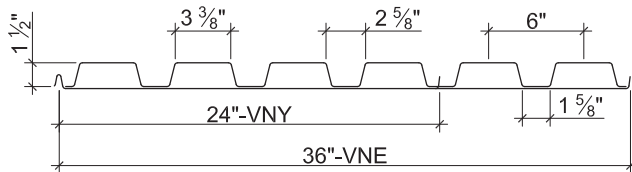
- 1.5BPA Deck used with TSWs or BPs
- 1.5PLBPA Deck used with PunchLok® II System

### VLP CELLULAR ACOUSTICAL COMPOSITE DECK

- 1.5VPLA Deck used with TSWs or BPs
- 1.5PLVPA 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 $\phi V_n$ (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)	
20/20	3.3	0.0358/0.0358	50	0.380	0.293	0.270	0.240	1013	900	4874
20/18	3.8	0.0358/0.0474	50	0.414	0.315	0.277	0.259	1039	971	4874
18/20	4.0	0.0474/0.0358	50	0.485	0.369	0.400	0.312	1500	1170	6398
18/18	4.4	0.0474/0.0474	50	0.530	0.395	0.411	0.330	1541	1238	6398
18/16	4.9	0.0474/0.0598	50	0.572	0.407	0.420	0.311	1575	1166	6398
16/18	5.1	0.0598/0.0474	50	0.641	0.478	0.571	0.400	2141	1500	7996
16/16	5.6	0.0598/0.0598	50	0.692	0.492	0.583	0.380	2186	1425	7996

### 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"	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

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