

ACOUSTICAL CELLULAR FORMLOK DECK

Verco 1½", 2" and 3" deep cellular FORMLOK decks are available as acoustical decks. Acoustical deck can provide sound attenuation within buildings where the underside of the deck is exposed to the interior.

Cellular Acoustical Deck

Cellular PLB-CD, BCD, PLW2-CD, W2CD, PLW3-CD, W3CD, PLN3-CD, N3CD, PLN-CD and NCD FORMLOK decks are available with acoustical perforations in the flat bottom plate. Acoustical perforations are 5/32" in diameter on 7/16" staggered centers in bands centered under the top flanges of the fluted top sections. The insulation batts in acoustical cellular deck are factory installed as shown on page 109. The perforations in the flat bottom plates have a minimal impact on the deck section properties (vertical loads) as shown on pages 110 thru 114.

Above Deck Insulation

The choice of above deck insulation has minimal impact on the acoustical performance of cellular deck therefore only poly-isocyanurate insulation was used in the tested assemblies. Comparative test results with alternate above deck materials available upon request.

Acoustical Insulation

The acoustical batts used in cellular acoustical decks are available encapsulated (wrapped). Optional spacers may be installed in cellular acoustical decks between the flat bottom plate and the insulation batts. The acoustical performance of cellular acoustical decks with spacers is available on the Verco website at www.vercodeck.com.

Noise Reduction Coefficients

Table 10 on page 35 summarizes the sound absorption coefficients for PLB-CD, BCD, PLW2-CD, W2CD, PLW3-CD, W3CD, PLN3-CD, N3CD, PLN-CD and NCD FORMLOK cellular acoustical decks at a number of frequencies. The acoustical test reports with the full range of absorption coefficients are available on the Verco website. The noise reduction coefficient (NRC) historically reported is the average of the coefficients at 250, 500, 1000, and 2000 Hz expressed to the nearest integral multiple of 0.05. The sound absorption average (SAA) is the average of the sound absorption coefficients for the twelve one-third octave bands from 200 through 2500 Hz inclusive, rounded to the nearest 0.01.

Table 10: Noise Reduction of Cellular Acoustical FORMLOK Deck

Profile	AC Insulation	Absorption Coefficients						SSA	NRC	RAL Test No.
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz			
PLB-CD AC or BCD AC	Plain	0.17	0.60	0.91	1.06	0.76	0.53	0.82	0.85	A13-251
	Wrapped	0.34	0.53	0.76	0.55	0.40	0.33	0.57	0.55	A13-249
PLW2-CD AC or W2CD AC	Plain	0.32	0.55	0.79	0.89	0.62	0.48	0.71	0.70	A13-242
	Wrapped	0.34	0.53	0.98	0.78	0.45	0.32	0.69	0.70	A13-241
PLW3-CD AC or W3CD AC	Plain	0.50	0.77	0.98	0.77	0.62	0.50	0.77	0.80	A13-245
	Wrapped	0.46	0.74	1.09	0.68	0.55	0.34	0.76	0.75	A13-247
PLN3-CD AC or N3CD AC	Plain	0.58	0.70	1.16	0.93	0.79	0.63	0.90	0.90	A13-234
	Wrapped	0.54	0.70	0.92	0.67	0.50	0.33	0.70	0.70	A13-237
PLN-CD AC or NCD AC	Plain	0.84	0.79	1.16	0.98	0.82	0.60	0.96	0.95	A04-143

Notes:

AC - cellular deck with perforated bands in flat bottom plate
 Plain - unwrapped fiberglass insulation batts without facing
 Wrapped - encapsulated fiberglass insulation batts

Sound Transmission

Sound transmission between spaces within a structure or between the exterior and interior of a building is a function of the mass of the floor or roof assembly and is not greatly impacted by the choice of steel deck itself, with or without acoustical insulation.

Appearance

Acoustical decks are normally exposed to view, therefore it is appropriate to review the exposed product appearance considerations described on page 14.

SPECIFICATION SECTION 05 31 13 - STEEL FLOOR DECKING

Specifications utilizing VERCO floor deck formatted in accordance with MasterFormat 2012, Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC) are available for download from Verco’s website (www.vercodeck.com).