

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 thus is not greatly impacted by the choice of steel roof deck itself, with or without acoustical insulation.

Appearance

Acoustical decks are normally exposed to view, therefore it is appropriate to review the product appearance considerations described on page 15.

FACTORY MUTUAL



All Verco 1½" and 3" fluted and cellular roof deck profiles meet Factory Mutual (FM) Approvals as: STEEL ROOF DECKS; Class I fire; Class I-60, I-75, and I-90 Wind Uplift Rating; Live Load Deflections; and Foot Traffic Resistance of Insulation per FM Standard 4451. Allowable Spans based upon the most conservative considerations of FM Standard 4451 for live load deflection, and Class I-60, I-75, and I-90 Wind Uplift Rating related to deck bending and fastener pull-over are shown in Table 9 for the specified fluted decks, and Table 10 for cellular decks. (Note: Approved spans are measured center-to-center of support members. FM Standard 4451 limits deflection at L/240 for a 200 lb. point load at mid-span. The specific FM Approved above deck components and selected attachments should also be considered.)

FM Global's RoofNav program, available from their website (www.roofnav.fmglobal.com), may be searched using the company name, Verco, for steel deck. Please note that specific assemblies within RoofNav do not list specific steel decks so as not to unnecessarily restrict what can be used. For a more comprehensive and an expanded list of allowable spans based upon FM Standard 4451 for each Wind Uplift Rating Class I-60, I-75 and I-90 for Verco deck with specific FM Approved support connections and connection spacing are also available from the Verco website (www.vercodeck.com).

Table 9: Simplified FM Approved Spans (c-c) for the most conservative considerations of FM Standard 4451 for live load deflection, and Class I-60, I-75, and I-90 Wind Uplift Rating related to deck bending and fastener pull-over for 1½” and 3” Fluted Roof Decks

Gage	No. of Spans	PLB-36 or HSB-36		PLN3 or HSN3		PLN-24 or N-24	
		Plain	Acoustic	Plain	Acoustic	Plain	Acoustic
22	Single	6'-0"	5'-11"	12'-1"	10'-10"	12'-3"	11'-8"
	Multiple	7'-4"	7'-3"	14'-11"	13'-4"	15'-7"	15'-2"
20	Single	6'-7"	6'-7"	13'-6"	12'-0"	13'-7"	13'-2"
	Multiple	8'-1"	8'-0"	16'-5"	14'-8"	17'-1"	16'-8"
18	Single	7'-10"	7'-9"	15'-10"	14'-2"	16'-1"	15'-7"
	Multiple	9'-4"	9'-2"	19'-0"	17'-0"	19'-8"	19'-2"
16	Single	8'-10"	8'-9"	17'-11"	16'-0"	18'-4"	17'-9"
	Multiple	10'-4"	10'-3"	21'-3"	19'-0"	22'-0"	21'-5"

Note: FM Approved Spans are limited to L/240 deflection due to 200 lb. point load at mid-span.

Table 10: Simplified FM Approved Spans (c-c) for the most conservative considerations of FM Standard 4451 for live load deflection, and Class I-60, I-75, and I-90 Wind Uplift Rating related to deck bending and fastener pull-over for 1½” and 3” Cellular Roof Decks

Gage	No. of Spans	PLB-36 CD or HSB-36 CD		PLN3-CD or HSN3-CD		PLN-24-CD or N-24-CD	
		Plain	Acoustic	Plain	Acoustic	Plain	Acoustic
20/20	Single	9'-2"	9'-1"	17'-11"	17'-8"	18'-6"	18'-3"
	Multiple	10'-11"	10'-8"	21'-2"	20'-11"	21'-10"	21'-6"
20/18	Single	9'-7"	9'-6"	18'-9"	18'-5"	19'-5"	19'-1"
	Multiple	11'-4"	11'-2"	22'-1"	21'-9"	22'-11"	22'-6"
18/20	Single	10'-5"	10'-3"	20'-4"	20'-0"	21'-0"	20'-8"
	Multiple	12'-4"	12'-1"	23'-11"	23'-7"	24'-9"	24'-4"
18/18	Single	10'-11"	10'-9"	21'-2"	20'-11"	22'-0"	21'-8"
	Multiple	12'-11"	12'-8"	24'-11"	24'-7"	25'-11"	25'-6"
18/16	Single	11'-4"	11'-2"	21'-11"	21'-7"	22'-10"	22'-5"
	Multiple	13'-4"	13'-2"	25'-10"	25'-5"	26'-11"	26'-6"
16/18	Single	12'-0"	11'-10"	23'-3"	22'-11"	24'-3"	23'-11"
	Multiple	14'-1"	13'-11"	27'-5"	27'-0"	28'-7"	28'-2"
16/16	Single	12'-5"	12'-3"	24'-1"	23'-9"	25'-2"	24'-10"
	Multiple	14'-8"	14'-5"	28'-5"	27'-11"	29'-8"	29'-3"

Note: FM Approved Spans are limited to L/240 deflection due to 200 lb. point load at mid-span.