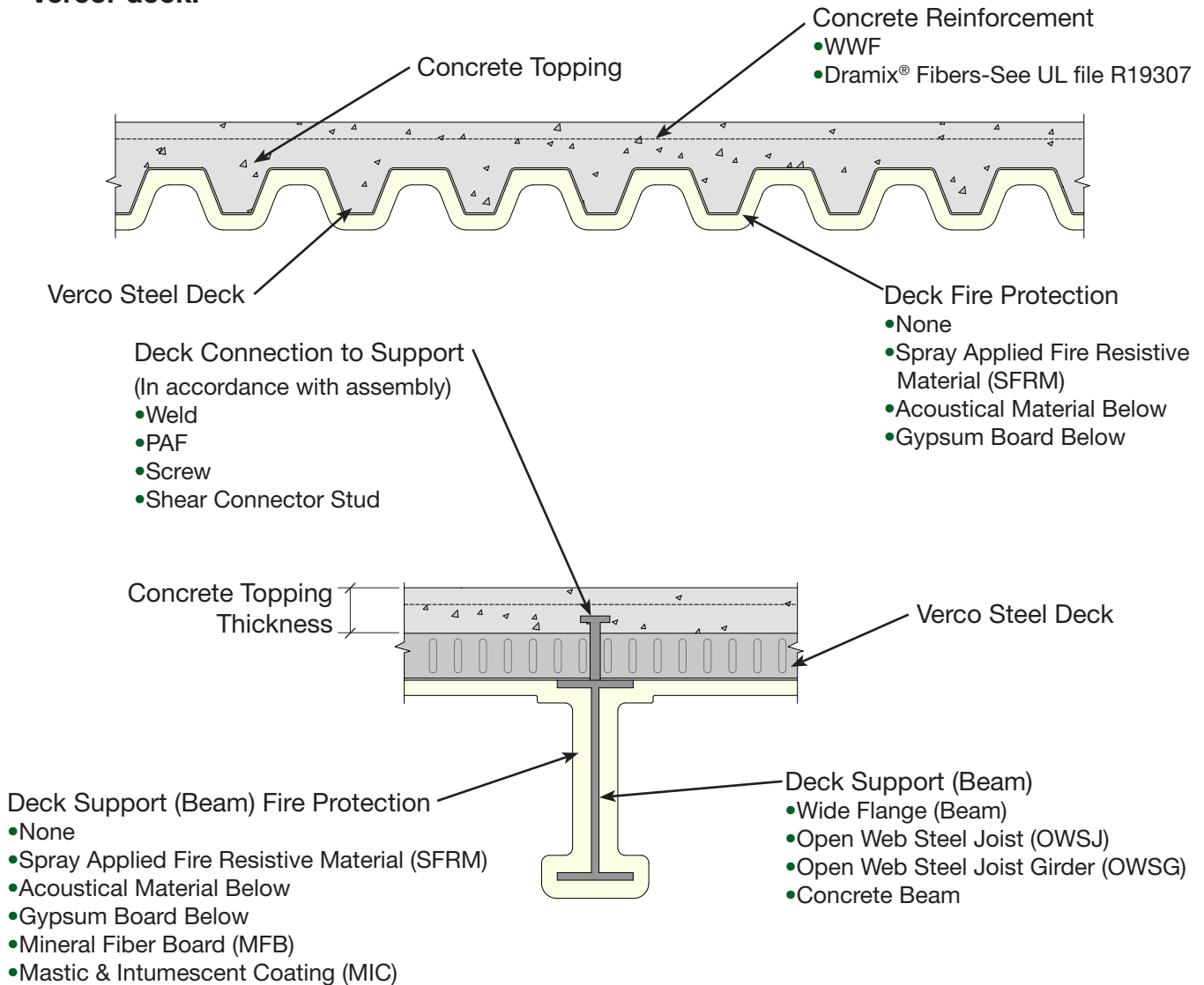


# VERCO® COMPOSITE & NON-COMPOSITE DECK UL FIRE RATED ASSEMBLIES

## USE UL RECOGNIZED FORMLOK® AND VERCOR® DECKS FOR YOUR FIRE RATED ASSEMBLIES WITH STRUCTURAL CONCRETE FILL

- Vercor FormLok composite and Vercor non-composite slabs may be used to meet hourly fire ratings. The type and thickness of concrete specified will generally determine whether fireproofing will be required on the underside of the FormLok or Vercor deck.



## REPRESENTATIVE FIRE RATED ASSEMBLY

The table on the following pages lists the UL fire rated assemblies that include Vercor FormLok and Vercor decks profiles. This summary table is provided to assist in identification of assemblies to meet specific project requirements. Refer to the particular UL assembly for full details of construction including, specific information about concrete slab, framing, type of fire protection, deck types and span limitations.

# VERCO® COMPOSITE & NON-COMPOSITE DECK UL FIRE RATED ASSEMBLIES



UL Design Number	Restrained Assembly Rating <sup>1</sup> (hr.)	Concrete Topping		Deck Type <sup>2, 4, 5, 6, 7</sup>								
		Thickness (in.)	Type (pcf)	B	BR	N3	W2	W3	2.0D	3.5D	SV	DV
<a href="#">D216</a>	1, 1½, 2, 3	2½-3½ <sup>8</sup>	147-153 NW 107-113 LW	✓	✓	✓	✓	✓				
<a href="#">D219</a>	1, 1½, 2, 3	2½-3½ <sup>8</sup>	147-153 NW 107-113 LW	✓	✓	✓	✓	✓				
	1	3½	147-153 NW	✓	✓	✓	✓	✓				
	1½	4	147-153 NW	✓	✓	✓	✓	✓				
	2	4½	147-153 NW	✓	✓	✓	✓	✓				
	3	5¼	147-153 NW	✓	✓	✓	✓	✓				
	¾, 1	2½	107-113 LW	✓	✓	✓	✓	✓				
<a href="#">D303</a>	1	2 <sup>5</sup> / <sub>8</sub>	107-120 LW	✓	✓	✓	✓	✓				
	1½	3	107-113 LW	✓	✓	✓	✓	✓				
	2	3¼	107-113 LW	✓	✓	✓	✓	✓				
	2	3¼	107-116 LW			✓	✓	✓				
	2	3½	114-120 LW	✓	✓	✓	✓	✓				
	3	4 <sup>3</sup> / <sub>16</sub>	107-113 LW	✓	✓	✓	✓	✓				
	3	4 <sup>7</sup> / <sub>16</sub>	114-120 LW	✓	✓	✓	✓	✓				
<a href="#">D502</a>	1½, 2	2½	147-153 NW	✓	✓	✓	✓	✓				
<a href="#">D703</a>	1, 1½, 2, 3	2½	142-148 NW 105 LW	✓	✓	✓	✓	✓				
<a href="#">D708</a> <a href="#">D768</a>	3	2½	145-151 NW 109-115 LW	✓	✓	✓	✓	✓				
<a href="#">D716</a>	2	2½	139 NW 109-115 LW	✓	✓	✓	✓	✓				
<a href="#">D722</a>	1, 1½, 2	2½	142-148 NW 112 LW	✓	✓	✓	✓	✓				
<a href="#">D739</a>	1, 1½, 2, 3, 4	2½	142-148 NW 102-120 LW 110 LW with OWSJ	✓	✓	✓	✓	✓				
<a href="#">D742</a> <a href="#">D771</a>	2 3	2½ 3½	147-153 NW	✓	✓	✓	✓	✓				
<a href="#">D743</a>	1, 1½, 2, 3	2	147-153 NW 107-113 LW				✓	✓				
<a href="#">D750</a>	2	2½	142-148 NW 105-111 LW	✓	✓	✓	✓	✓				
<a href="#">D754</a>	3, 4	3¼	115-121 LW	✓	✓	✓	✓	✓				

Type of Protection <sup>3</sup>		Minimum Beam or Joist	Minimum Concrete Reinforcement <sup>12</sup>	Unrestrained Assembly Rating <sup>1</sup> (hr)	UL Design Number
Deck	Beam				
Acoustical Material below	Acoustical Material below	Beams: W8x15, OWSJ: 10J3, 12K4 or LH Series, OWSG: 20 in. deep at 13 plf	6x6-W1.4xW1.4, or Synthetic or Steel Fibers	1, 1½, 2, 3	<a href="#">D216</a>
Acoustical Material below	Acoustical Material below	Beams: W8x15, OWSJ: 10J3, 12K4 or LH Series, OWSG: 20 in. deep at 13 plf	6x6-W1.4xW1.4	1, 1½, 2, 3	<a href="#">D219</a>
Mineral Fiber Board	Mineral Fiber Board	Beams: W8x28	6x6-10/10 SWG	1, 1½, 2	<a href="#">D303</a>
Gypsum Board below	Gypsum Board below	Beams: W8x28, OWSJ: 12K1 or LH Series, OWSG: 20 in. deep at 13 plf	6x6-W1.4xW1.4	1½, 2	<a href="#">D502</a>
SFRM	SFRM	Beams: W8x20	6x6-W2.9xW2.9	1, 1½	<a href="#">D703</a>
SFRM	SFRM	Beams: W10x17	6x6-W2.9xW2.9	1½, 3	<a href="#">D708</a> <a href="#">D768</a>
SFRM	SFRM	Beams: W8x28	6x6-10/10 SWG	1½, 2	<a href="#">D716</a>
SFRM	SFRM	Beams: W6x12	6x6-W1.4xW1.4	1, 1½, 2	<a href="#">D722</a>
SFRM	SFRM	Beams: W8x28, W6x12, OWSJ, Concrete Beams	Beams: 6x6-W1.4xW1.4 Joists: 6x6-W2.9xW2.9 or Synthetic Fibers	1, 1½, 2, 3, 4	<a href="#">D739</a>
SFRM	SFRM	Beams: W8x24	6x6-W1.4xW1.4	½	<a href="#">D742</a> <a href="#">D771</a>
SFRM	SFRM	Beams: W8x20, W8x28, W8x15, Concrete Beams	6x6-W1.4xW1.4	1, 1½, 2, 3	<a href="#">D743</a>
SFRM	SFRM	Beams: W8x21	6x6-W1.4xW1.4	1½, 2	<a href="#">D750</a>
SFRM	SFRM	Beams: W8x28	6x6-W1.4xW1.4	1½, 2	<a href="#">D754</a>

# VERCO® COMPOSITE & NON-COMPOSITE DECK UL FIRE RATED ASSEMBLIES



UL Design Number	Restrained Assembly Rating <sup>1</sup> (hr.)	Concrete Topping		Deck Type <sup>2, 4, 5, 6, 7</sup>									
		Thickness (in.)	Type (pcf)	B	BR	N3	W2	W3	2.0D	3.5D	SV	DV	
<a href="#">D755</a>	2, 3	2½	147-153 NW 109-115 LW	✓	✓	✓	✓	✓					
<a href="#">D759</a>	1, 1½, 2, 3	2½	147-153 NW 109-115 LW	✓	✓	✓	✓	✓					
<a href="#">D760</a>	2, 3, 4	2½	144-150 NW 107-113 LW	✓	✓	✓	✓	✓					
<a href="#">D764</a>	2	2½	147-153 NW 117 LW	✓	✓	✓	✓	✓					
<a href="#">D767</a> <a href="#">D796</a>	1, 1½, 2, 3, 4	2½	142-148 NW 102-120 LW 110 LW with OWSJ	✓	✓	✓	✓	✓					
<a href="#">D775</a>	2	2½	142-148 NW 105-111 LW	✓	✓	✓	✓	✓					
<a href="#">D777</a>	3, 4	¾	115-121 LW	✓	✓	✓	✓	✓					
<a href="#">D779</a>	1, 1½, 2, 3, 4	2½	142-148 NW 102-120 LW	✓	✓	✓	✓	✓					
<a href="#">D780</a>	1, 1½, 2, 3	2½	147-153 NW 107-113 LW	✓	✓	✓	✓	✓					
<a href="#">D782</a>	1, 1½, 2, 3, 4	4½ ¾	142-148 NW 115-121 LW	✓	✓	✓	✓	✓					
<a href="#">D785</a>	2, 3, 4	2½	142-148 NW 102-120 LW	✓	✓		✓	✓					
<a href="#">D786</a>	2	2½	142-148 NW 102-120 LW	✓	✓		✓	✓					
<a href="#">D788</a>	1, 1½, 2, 3, 4	2½	NW, LW	✓	✓	✓	✓	✓					
<a href="#">D794</a>	2	2½	147-153 NW 117 LW	✓	✓	✓	✓	✓					
<a href="#">D795</a>	1, 1½, 2, 3	2½	147-153 NW 109-115 LW	✓	✓	✓	✓	✓					
<a href="#">D798</a>	1, 1½, 2, 3, 4	2½	142-148 NW 107-113 LW	✓	✓	✓	✓	✓					
<a href="#">D799</a>	1, 1½, 2, 3	2½	150-153 NW 112-115 LW	✓	✓	✓	✓	✓					
<a href="#">D816</a>	3	2½	147-153 NW 107-113 LW	✓	✓	✓	✓	✓					
<a href="#">D825</a>	2	2½	147-153 NW 105-111 LW	✓	✓	✓	✓	✓					

Type of Protection <sup>3</sup>		Minimum Beam or Joist	Minimum Concrete Reinforcement <sup>12</sup>	Unrestrained Assembly Rating <sup>1</sup> (hr)	UL Design Number
Deck	Beam				
SFRM	SFRM	Beams: W8x24, W8x28, OWSJ: 10H3, 12J6	6x6-W1.4xW1.4 only when electrical inserts are used	1, 1½, 2, 3	<a href="#">D755</a>
SFRM	SFRM	Beams: W8x28, OWSJ or OWSG	Beams:6x6-W1.4xW1.4 Joists: 6x6-W2.9xW2.9	1, 1½, 2, 3	<a href="#">D759</a>
SFRM	SFRM	Beams: W8x28, OWSJ or OWSG	6x6-W1.4xW1.4	1, 1½, 2, 3, 4	<a href="#">D760</a>
SFRM	SFRM	Beams: W8x28, OWSJ or OWSG	6x6-6/6 SWG	2	<a href="#">D764</a>
SFRM	SFRM	Beams: W8x28, W6x12, OWSJ, Concrete Beams	Beams:6x6-W1.4xW1.4 Joists:6x6-W2.9xW2.9	1, 1½, 2, 3, 4	<a href="#">D767</a> <a href="#">D796</a>
SFRM	SFRM	Beams: W8x21	6x6-W1.4xW1.4	1½, 2	<a href="#">D775</a>
SFRM	SFRM	Beams: W8x28	6x6-W1.4xW1.4	1½, 2	<a href="#">D777</a>
SFRM	SFRM	Beams: W8x28, OWSJ: 8K1	6x6-W1.4xW1.4 or Synthetic Fibers	1, 1½, 2, 3, 4	<a href="#">D779</a>
SFRM	SFRM	Beams: W8x28, OWSJ: 10K1, 12K3, 16K2	6x6-W2.0xW2.0	1, 1½, 2, 3	<a href="#">D780</a>
SFRM	SFRM	Beams: W8x28, OWSJ: Minimum 10" depth.	6x6-W1.4xW1.4	1, 1½, 2, 3, 4	<a href="#">D782</a>
SFRM	MIC	Beams: W6x16	6x6-W1.4xW1.4	1, 1½, 2, 3	<a href="#">D785</a>
SFRM	MIC	Beams: W12x106	6x6-W1.4xW1.4	1, 1½	<a href="#">D786</a>
SFRM	SFRM	Beams: W8x28, OWSJ: 10K1	6x6-8/8 SWG	1, 1½, 2, 3, 4	<a href="#">D788</a>
SFRM	SFRM	Beams: W8x28, OWSJ or OWSG	6x6-6/6 SWG	2	<a href="#">D794</a>
SFRM	SFRM	Beams: W8x28, OWSJ	Beams:6x6-W1.4xW1.4 Joists:6x6-W2.9xW2.9	1, 1½, 2, 3	<a href="#">D795</a>
SFRM	SFRM	Beams: W8x28, OWSJ: 10K1	Beams:6x6-10/10 SWG Joists:6x6-W1.4xW1.4 or Synthetic Fibers	1, 1½, 2, 3, 4	<a href="#">D798</a>
SFRM	SFRM	Beams: W8x28, OWSJ: 10K1 or 10 in. deep at 4.8 plf	Beams:6x6-W1.4xW1.4 Joists:6x6-W2.9xW2.9	1, 1½, 2, 3	<a href="#">D799</a>
SFRM	SFRM	Beams: W10x17, W10x25	None	1½, 2	<a href="#">D816</a>
SFRM	SFRM	Beams: W8x17	6x6-W1.4xW1.4	1, 1½, 2	<a href="#">D825</a>



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UL Design Number	Restrained Assembly Rating <sup>1</sup> (hr.)	Concrete Topping		Deck Type <sup>2, 4, 5, 6, 7</sup>										
		Thickness (in.)	Type (pcf)	B	BR	N3	W2	W3	2.0D	3.5D	SV	DV		
<a href="#">D826</a>	2	3¼	108-114 LW	✓	✓	✓	✓	✓						
<a href="#">D831</a>	2, 3	2½	148-154 NW 117-123 LW	✓	✓	✓	✓	✓						
<a href="#">D832</a>	1, 1½, 2, 3	2½	147-153 NW 109-115 LW	✓	✓	✓	✓	✓						
<a href="#">D833</a> <a href="#">D884</a>	2, 3	2½	147-153 NW 107-115 LW	✓	✓	✓	✓	✓						
<a href="#">D840</a> <a href="#">D888</a>	2	3¼	107-113 LW	✓	✓	✓	✓	✓						
		3½	107-120 LW	✓	✓	✓	✓	✓						
		3¼	107-116 LW			✓	✓	✓						
<a href="#">D858</a> <a href="#">D891</a>	1, 1½, 2, 3, 4	2½	147-153 NW 108-115 LW	✓	✓	✓	✓	✓						
<a href="#">D859</a> <a href="#">D875</a>	1, 1½, 2, 3	2	142-148 NW 108-115 LW	✓	✓	✓	✓	✓						
<a href="#">D860</a>	2, 3, 4	3¼	115-121 LW	✓	✓	✓	✓	✓						
<a href="#">D867</a> <a href="#">D896</a>	3		144-150 NW 107-113 LW	✓	✓	✓	✓	✓						
<a href="#">D871</a>	1, 1½, 2, 3	2½	147-153 NW 108-115 LW				✓	✓						
<a href="#">D877</a>	2	2½	147-153 NW 105-111 LW	✓	✓	✓	✓	✓						
<a href="#">D878</a>	2	3¼	108-114 LW	✓	✓	✓	✓	✓						
<a href="#">D883</a>	1, 1½, 2, 3	2½	147-153 NW 109-115 LW	✓	✓	✓	✓	✓						
<a href="#">D898</a>	1, 1½, 2, 3	2½	147-153 NW 108-115 LW	✓	✓	✓	✓	✓						
	1	3½	147-153 NW	✓	✓	✓	✓	✓						
	1½	4	147-153 NW	✓	✓	✓	✓	✓						
	2	4½	147-153 NW	✓	✓	✓	✓	✓						
	3	5¼	147-153 NW	✓	✓	✓	✓	✓						
	1	2½	107-113 LW	✓	✓	✓	✓	✓						
	1	2⅝	107-120 LW	✓	✓	✓	✓	✓						
<a href="#">D902</a>	1½	3	107-113 LW	✓	✓	✓	✓	✓						
	2	3¼	107-113 LW	✓	✓	✓	✓	✓						

D902 Continued on Next Page

Type of Protection <sup>3</sup>		Minimum Beam or Joist	Minimum Concrete Reinforcement <sup>12</sup>	Unrestrained Assembly Rating <sup>1</sup> (hr)	UL Design Number
Deck	Beam				
SFRM	SFRM	Beams: W8x20	6x6-W1.4xW1.4	1, 1½, 2	<a href="#">D826</a>
SFRM	SFRM	Beams: W6x12, W8x28	6x6-W1.4xW1.4	1, 1½, 2	<a href="#">D831</a>
SFRM	SFRM	Beams: W8x28, OWSJ	6x6-W1.4xW1.4 only when electrical inserts used	1, 1½, 2, 3	<a href="#">D832</a>
SFRM	SFRM	Beams: W10x25	WWF Optional	2, 3	<a href="#">D833</a> <a href="#">D884</a>
None	SFRM	Beams: W8x28	6x6-10/10 SWG	1½	<a href="#">D840</a> <a href="#">D888</a>
SFRM	SFRM	Beams: W8x28, OWSJ, Concrete Beams	6x6-W1.4xW1.4	1, 1½, 2, 3, 4	<a href="#">D858</a>
		Beams: W10x25, Concrete Beams			<a href="#">D891</a>
SFRM	SFRM	Beams: W8x20	6x6-W1.4xW1.4	1, 1½, 2, 3	<a href="#">D859</a> <a href="#">D875</a>
SFRM	SFRM	Beams: W8x20, W8x28	6x6-W1.4xW1.4	1, 1½, 2	<a href="#">D860</a>
SFRM	SFRM	Beams: W8x18	6x6-6/6 SWG	1½, 2	<a href="#">D867</a> <a href="#">D896</a>
SFRM	SFRM	Beams: W8x21, Concrete Beams	6x6-W1.4xW1.4 or Synthetic Fibers	1, 1½, 2, 3	<a href="#">D871</a>
SFRM	SFRM	Beams: W8x17	6x6-W1.4xW1.4	1, 1½, 2	<a href="#">D877</a>
SFRM	SFRM	Beams: W8x20	6x6-W1.4xW1.4	1, 1½, 2	<a href="#">D878</a>
SFRM	SFRM	Beams: W8x24, W8x28	6x6-W1.4xW1.4 only when electrical inserts used	1, 1½, 2, 3	<a href="#">D883</a>
SFRM	SFRM	Beams: W8x21, Concrete Beams	6x6-W1.4xW1.4 or Synthetic Fibers	1, 1½, 2, 3	<a href="#">D898</a>
None	SFRM	Beams: W8x28, W8x24, W6x12, OWSJ: 8K1, 12K5	6x6-W1.4xW1.4 or Negative Reinforcement with Synthetic Fibers	1, 1½, 2, 3	<a href="#">D902</a>

D902 Continued on Next Page

# VERCO® COMPOSITE & NON-COMPOSITE DECK UL FIRE RATED ASSEMBLIES



UL Design Number	Restrained Assembly Rating <sup>1</sup> (hr.)	Concrete Topping		Deck Type <sup>2, 4, 5, 6, 7</sup>									
		Thickness (in.)	Type (pcf)	B	BR	N3	W2	W3	2.0D	3.5D	SV	DV	
D902 Continued from Previous Page													
D902	2	3¼	107-116 LW			✓	✓	✓					
	2	3½	114-120 LW	✓	✓	✓	✓	✓					
	3	4¾ <sub>16</sub>	107-113 LW	✓	✓	✓	✓	✓					
	3	4¾ <sub>16</sub>	114-120 LW	✓	✓	✓	✓	✓					
D904 D961	1	2	147 NW						✓				
	1½	2¾	147 NW						✓				
	2	3¼	147 NW						✓				
	3	4¾	147 NW						✓				
	2	3	130 SLW						✓				
	3	4	130 SLW						✓				
	1	2	112 LW						✓				
	2	2½	112 LW						✓				
D907	2	3¼	110 LW	✓	✓	✓	✓	✓					
D913	2	3¼	102 LW	✓	✓		✓	✓					
D914	¾, 1	2½	110 LW	✓	✓	✓	✓	✓					
D916 D922 D925 D927 D929 D931 D949 D957 D958	1	3½	147-153 NW	✓	✓	✓	✓	✓					
	1½	4	147-153 NW	✓	✓	✓	✓	✓					
	2	4½	147-153 NW	✓	✓	✓	✓	✓					
	3	5¼	147-153 NW	✓	✓	✓	✓	✓					
	¾ or 1	2½	107-113 LW	✓	✓	✓	✓	✓					
	1	2⅝	107-120 LW	✓	✓	✓	✓	✓					
	1½	3	107-113 LW	✓	✓	✓	✓	✓					
	2	3¼	107-113 LW	✓	✓	✓	✓	✓					
	2	3¼	107-116 LW			✓	✓	✓					
	2	3½	114-120 LW	✓	✓	✓	✓	✓					
D917 D928	3	4¾ <sub>16</sub>	107-113 LW	✓	✓	✓	✓	✓					
	3	4¾ <sub>16</sub>	114-120 LW	✓	✓	✓	✓	✓					
	1	2	147-153 NW						✓				
	1½	2¾	147-153 NW						✓				
2	3¼	147-153 NW						✓					
3	4¾	147-153 NW						✓					
2	3	130 SLW						✓					

D917, D928 Continued on Next Page

Type of Protection <sup>3</sup>		Minimum Concrete Reinforcement <sup>12</sup>	Unrestrained Assembly Rating <sup>1</sup> (hr)	UL Design Number	
Deck	Beam				Minimum Beam or Joist
D902 Continued from Previous Page					
None	SFRM	Beams: W8x28, W8x24, W6x12, Joist: 8K1, 12K5	6x6-W1.4xW1.4 or Negative Reinforcement with Synthetic Fibers	1, 1½, 2, 3	D902
None	SFRM	Beams: W8x28, W10x29	6x6-6/6 SWG	¾, 1, 1½	D904 D961
None	SFRM	Beams: W8x17, W8x28	6x6-W1.4xW1.4	1, 2	D907
None	SFRM	Beams: W8x17	6x6-W1.4xW1.4	1	D913
None	SFRM	Beams: W8x28	6x6-W1.4xW1.4	0	D914
None	SFRM	Beams: W8x28, OWSJ, OWSG	6x6-W1.4xW1.4	1, 1½, 2, 3	D916
None	SFRM	Beams: W8x28, OWSJ, OWSG	6x6-10/10 SWG	3	D922
None	SFRM	Beams: W8x28, W12x16, OWSJ: 8K1	6x6-10/10 SWG, Optional: Negative Reinforcing with Synthetic Fibers	1, 1½, 2, 3	D925
None	SFRM	Beams: W8x28, OWSJ, OWSG	6x6-10/10 SWG	1, 1½, 2, 3	D927
None	MFB	Beams: W8x28	6x6-10/10 SWG	1, 1½, 2	D929
None	MIC	Beams: W8x28	6x6-10/10 SWG	1	D931
None	SFRM	Beams: W8x28, OWSJ: 10K1	6x6-10/10 SWG	1, 1½, 2, 3	D949
None	SFRM	Beams: W12x14, W8x28, W8x24, W6x12, OWSJ	6x6-10/10 SWG	1, 1½, 2, 3	D957
None	SFRM	Beams: W8x28, OWSJ, OWSG	6x6-10/10 SWG	3	D958
None	SFRM	Beams: W10x29	6x6-6/6 SWG	¾	D917
				¾, 1	D928

D917, D928 Continued on Next Page

# VERCO® COMPOSITE & NON-COMPOSITE DECK UL FIRE RATED ASSEMBLIES



UL Design Number	Restrained Assembly Rating <sup>1</sup> (hr.)	Concrete Topping		Deck Type <sup>2, 4, 5, 6, 7</sup>									
		Thickness (in.)	Type (pcf)	B	BR	N3	W2	W3	2.0D	3.5D	SV	DV	
D917, D928 Continued from Previous Page													
D917 D928	3	4	130 SLW						✓				
	1	2	107-113 LW						✓				
	2	2½	107-113 LW						✓				
	3	3¼	107-113 LW						✓				
D919 D968	1	3½	147-153 NW	✓	✓	✓	✓	✓					
	1½	4	147-153 NW	✓	✓	✓	✓	✓					
	2	4½	147-153 NW	✓	✓	✓	✓	✓					
	3	5¼	147-153 NW	✓	✓	✓	✓	✓					
	1	2½	107-113 LW	✓	✓	✓	✓	✓					
	1½	3	107-113 LW	✓	✓	✓	✓	✓					
	2	3¼	107-116 LW	✓	✓	✓	✓	✓					
	2	3½	114-120 LW	✓	✓	✓	✓	✓					
	3	4¾	107-113 LW	✓	✓	✓	✓	✓					
	3	4¾	114-120 LW	✓	✓	✓	✓	✓					
D920	2	3¼	110-120 LW				✓	✓					
D923	1	3½	147-153 NW	✓	✓	✓	✓	✓					
	1½	4	147-153 NW	✓	✓	✓	✓	✓					
	2	4½	147-153 NW	✓	✓	✓	✓	✓					
	3	5¼	147-153 NW	✓	✓	✓	✓	✓					
	¾ or 1	2½	107-113 LW	✓	✓	✓	✓	✓					
	1	2⅝	107-120 LW	✓	✓	✓	✓	✓					
	1½	3	107-113 LW	✓	✓	✓	✓	✓					
	2	3¼	107-113 LW	✓	✓	✓	✓	✓					
	2	3¼	107-116 LW			✓	✓	✓					
	2	3½	107-120 LW	✓	✓	✓	✓	✓					
D924 D969	3	4¾	107-113 LW	✓	✓	✓	✓	✓					
	3	4¾	107-120 LW	✓	✓	✓	✓	✓					
	2	4⅞	142-148 NW <sup>9</sup>	✓	✓		✓	✓					
	3	5	142-148 NW <sup>9</sup>	✓	✓		✓	✓					
	2	4¾	142-148 NW <sup>10</sup>	✓	✓		✓	✓					
	3	5¾	142-148 NW <sup>10</sup>	✓	✓		✓	✓					
D924 D969	2	3⅞	105-111 LW	✓	✓		✓	✓					
	3	4	105-111 LW	✓	✓		✓	✓					

Type of Protection <sup>3</sup>			Minimum Concrete Reinforcement <sup>12</sup>	Unrestrained Assembly Rating <sup>1</sup> (hr)	UL Design Number
Deck	Beam	Minimum Beam or Joist			
D917, D928 Continued from Previous Page					
None	SFRM	Beams: W10x29	6x6-6/6 SWG	¾	D917
				¾, 1	D928
None	SFRM	Beams: W8x28	6x6-W1.4xW1.4	1½	D919 D968
None	SFRM	Beams: W8x28	6x6-W1.4xW1.4	1½	D920
None	SFRM	Beams: W8x28	6x6-10/10 SWG	1½	D923
None	SFRM	Beams: W8x28	Negative Reinforcing and Synthetic Fibers	1½	D924
				1½	D969



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		Thickness (in.)	Type (pcf)	B	BR	N3	W2	W3	2.0D	3.5D	SV	DV	
D947 D964 D984	1½	2	147-153 NW										✓
	2	2¼	147-153 NW										✓
	3	3¾	147-153 NW										✓
	1½	2	107-113 LW										✓
	2	2	107-113 LW										✓
	3	2¼	107-113 LW										✓
D966	2	3¼	102 LW	✓	✓		✓	✓					
D967	¾, 1	2½	110 LW	✓	✓	✓	✓	✓					
D973	2	3¾	142-148 NW				✓	✓					
D974	1, 1½, 2, 3	4½	114-120 NW	✓	✓	✓	✓	✓					
D976	1, 1½, 2	3½	111-117 NW	✓	✓	✓	✓	✓					
D977	1, 1½, 2	3½	106.5-112.5 LW	✓	✓	✓	✓	✓					
D978 D985	1	3½	147-153 NW	✓	✓	+	✓	✓					
	1½	4	147-153 NW	✓	✓	+	✓	✓					
	2	4½	147-153 NW	✓	✓	+	✓	✓					
	3	5¼	147-153 NW	✓	✓	+	✓	✓					
	¾ or 1	2½	107-113 LW	✓	✓	+	✓	✓					
	1	2 <sup>5</sup> / <sub>8</sub>	107-120 LW	✓	✓	+	✓	✓					
	1½	3	107-113 LW	✓	✓	+	✓	✓					
	2	3¼	107-113 LW	✓	✓	+	✓	✓					
	2	3¼	107-116 LW			+	✓	✓					
	2	3½	114-120 LW	✓	✓	+	✓	✓					
	3	4 <sup>3</sup> / <sub>16</sub>	107-113 LW	✓	✓	+	✓	✓					
	3	4 <sup>7</sup> / <sub>16</sub>	114-120 LW	✓	✓	+	✓	✓					
D981	2	4½	147-153 NW	✓	✓		✓	✓					
	2	3¼	107-113 LW	✓	✓		✓	✓					
	2	3¼	107-116 LW				✓	✓					
	2	3½	114-120 LW	✓	✓		✓	✓					
D996	2	3¾	142-148 NW				✓	✓					

+ N24 and N3 Decks are not permitted in UL Design D978

UL Design Number	Restrained Assembly Rating <sup>1</sup> (hr.)	Minimum Concrete Reinforcement <sup>12</sup>	Type of Protection <sup>3</sup>		Minimum Beam or Joist	Unrestrained Assembly Rating <sup>1</sup> (hr.)	UL Design Number
			Deck	Beam			
D947 D964 D984	¾, 1½	6x6-W1.4xW1.4	None	SFRM	Beams: W8x28, W10x29	¾, 1½	D947 D964 D984
	1	6x6-W1.4xW1.4	None	SFRM	Beams: W8x17	1	D966
	0	6x6-W1.4xW1.4	None	SFRM	Beams: W8x28	0	D967
	2	Fiber Reinforcement	None	MIC or SFRM	Beams: W8x28	2	D973
	1½	6x6-10/10 SWG, Fiber Reinforcement and Concrete Additive	None	MIC or SFRM	Beams: W8x28, OWSJ	1½	D974
	1, 1½, 2	6x6-8/8 SWG, Fiber Reinforcement and Concrete Additive	None	MIC or SFRM	Beams: W8x28, OWSJ	1, 1½, 2	D976
D977	1, 1½, 2	6x6-8/8 SWG, Fiber Reinforcement and Concrete Additive	None	MIC or SFRM	Beams: W8x28, OWSJ	1, 1½, 2	D977
	1, 1½, 2, 3	6x6-W1.4xW1.4	None	MIC	Beams: W6x16	1, 1½, 2, 3	D978
D985	1, 1½, 2, 3	6x6-10/10 SWG Optional Negative Reinforcing and Synthetic Fibers	None	SFRM	Beams: W8x28, OWSJ: 10K1	1, 1½, 2, 3	D985
D981		6x6-W1.4xW1.4	None	MIC	Beams: W6x12		D981
D996	2	Fiber Reinforcement	None	MIC or SFRM	Beams: W8x28	2	D996

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		Thickness (in.)	Type (pcf)	B	BR	N3	W2	W3	2.0D	3.5D	SV	DV			
<a href="#">E701</a>	1, 1½, 2, 3	2½	147-153 NW 109-115 LW	✓	✓	✓	✓	✓							
<a href="#">E702</a>	1, 1½, 2, 3, 4	2½	147-153 NW 108-115 LW	✓	✓	✓	✓	✓							
<a href="#">E703</a>	2, 3	2½	142-148 NW 102-120 LW	✓	✓		✓	✓							
<a href="#">E704</a>	2, 3, 4	2½	142-148 NW 102-120 LW	✓	✓		✓	✓							
<a href="#">G213</a>	1½, 2, 3	2½	152 NW	✓	✓		✓	✓					✓	✓	
<a href="#">G222</a>	2	2½	144-150 NW	✓	✓		✓	✓					✓	✓	
<a href="#">G227</a>	2	2½	147-153 NW	✓	✓		✓	✓					✓	✓	
<a href="#">G229</a>	1½, 2	2½	147-153 NW	✓	✓		✓	✓					✓	✓	
	3	¾	147-153 NW	✓	✓		✓	✓					✓	✓	
<a href="#">G236</a>	1½, 2	2½	147-153 NW	✓	✓		✓	✓					✓	✓	
<a href="#">G243</a>	1½, 2	2½	144-150 NW	✓	✓		✓	✓					✓	✓	
<a href="#">G547</a>	2	2½	149-155 NW	✓	✓		✓	✓					✓	✓	
	3	3													
<a href="#">G561</a>	1, 1½, 2, 3	2½	147-153 NW 108-120 LW	✓	✓		✓	✓						✓	
<a href="#">G710<sup>11</sup></a>	1, 1½, 2, 3	¾	150 NW 117 LW	✓	✓								✓	✓	
<a href="#">N789</a>	1, 1½, 2, 3, 4	2½	142-148 NW 104-120 LW	✓	✓		✓	✓					✓	✓	

Type of Protection <sup>3</sup>		Minimum Beam or Joist	Minimum Concrete Reinforcement <sup>12</sup>	Unrestrained Assembly Rating <sup>1</sup> (hr)	UL Design Number
Deck	Beam				
SFRM	SFRM	Beams: W8x28, Concrete Beams	6x6-W1.4xW1.4 only when electrical inserts used	1, 1½, 2, 3	<a href="#">E701</a>
SFRM	SFRM	Beams: W8x28, Concrete Beams	6x6-W1.4xW1.4	1, 1½, 2, 3, 4	<a href="#">E702</a>
SFRM	MIC	Beams: W6x16	6x6-W1.4xW1.4	1, 1½, 2	<a href="#">E703</a>
SFRM	MIC	Beams: W6x16	6x6-W1.4xW1.4	1, 1½, 2, 3	<a href="#">E704</a>
Acoustical Material below	Acoustical Material below	Beams: W6x9, W8x24, OWSJ or OWSG: 10 in. deep at 4.9 plf	6x6-W1.4xW1.4	1½, 2, 3	<a href="#">G213</a>
Gypsum Board below	Gypsum Board below	Beams: W6x9, W8x24, OWSJ or OWSG: 10 in. deep at 4.9 plf	6x6-W1.4xW1.4	2	<a href="#">G222</a>
Acoustical Material below	Acoustical Material below	Beams: W6x9, OWSJ or OWSG: 10 in. deep at 4.9 plf	6x6-W1.4xW1.4	2	<a href="#">G227</a>
Acoustical Material below	Acoustical Material below	Beams: W8x24, OWSJ or OWSG: 8 in. deep	6x6-W1.4xW1.4	1½, 2, 3	<a href="#">G229</a>
Acoustical Material below	Acoustical Material below	Beams: W6x9, OWSJ or OWSG: 10 in. deep at 4.9 plf	6x6-W1.4xW1.4	1½, 2	<a href="#">G236</a>
Acoustical Material below	Acoustical Material below	Beams: W6x9, OWSJ or OWSG: 10 in. deep at 4.9 plf	6x6-W1.4xW1.4	1½, 2	<a href="#">G243</a>
Gypsum Board below	Gypsum Board below	Beams: W10x21, OWSJ or OWSG: 8K1, 10K1	6x6-W1.4xW1.4	2, 3	<a href="#">G547</a>
Gypsum Board below	Gypsum Board below	Beams: W6x9, W8x24, OWSJ or OWSG: 10 in. deep at 4.9 plf	6x6-W1.4xW1.4 or Synthetic or Steel Fibers	1, 1½, 2, 3	<a href="#">G561</a>
SFRM	SFRM	OWSJ or OWSG: 8 in. deep at 4.9 plf	6x6-W2.1xW2.1	1, 1½, 2	<a href="#">G710<sup>11</sup></a>
None	SFRM	OWSJ or OWSG: 8K1	6x6-W1.4xW1.4	1, 1½, 2, 3, 4	<a href="#">N789</a>



# VERCO® COMPOSITE & NON-COMPOSITE DECK UL FIRE RATED ASSEMBLIES

## Notes:

1. Refer to the UL “Fire Resistance Directory” for complete assembly requirements.
2. “B” = PLB-36 and B-36 FormLok  
“BR” = BR-36 FormLok  
“N3” = PLN3-32 and N3-32 FormLok  
“W2” = PLW2-36 and W2-36 FormLok  
“W3” = PLW3-36 and W3-36 FormLok  
“SV” & “DV” = Shallow Vercor or Deep Vercor, respectively  
“2.0D” = 2.0D FormLok Dovetail Deck  
“3.5D” = 3.5D FormLok Dovetail Deck
3. “SFRM” = Spray-Applied Fire Resistive Materials  
“MFB” = Mineral Fiber Board  
“MIC” = Mastic and Intumescent Coating
4. Vercor steel decks in the assemblies listed above may be galvanized or painted, excluding assemblies D904, D917, D928, D947, D961, D964, and D984 which shall be galvanized only. Painted deck is bare (un-galvanized) steel deck with UL recognized Vercor gray primer paint on the bottom side only.
5. Galvanized decks with UL recognized Vercor gray primer paint on the bottom side only are approved for use in limited fire-rated systems. Refer to specific UL assemblies for complete information.
6. Cellular versions of the Vercor steel decks in the assemblies listed above may be used, excluding assemblies D742, D750, D754, D760, D771, D775, D777, D779, D780, D782, D798, D904, D917, D924, D928, D947, D961, D964, D969, D973, D981, D984, D996, E707 and G710 which shall be non-cellular decks.
7. Cellular acoustical versions of the Vercor steel decks may be used in all listed D9xx assemblies except D904, D917, D924, D928, D947, D961, D964, D969, D973, D981, D984, D996, and all listed Gxx assemblies except G710.
8. Topping thickness varies based on selected acoustical material.
9. Carbonate Aggregate Normal Weight Concrete
10. Siliceous Aggregate Normal Weight Concrete
11. For G710, the 1 hr rating, concrete topping thickness may be reduced to 2½ in. when composite or non-composite joist are used. For 1½ or 2 hr ratings, concrete topping thickness may be reduced to 2½ in. when non-composite joist are used.
12. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. See UL file R19307 for additional information.

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