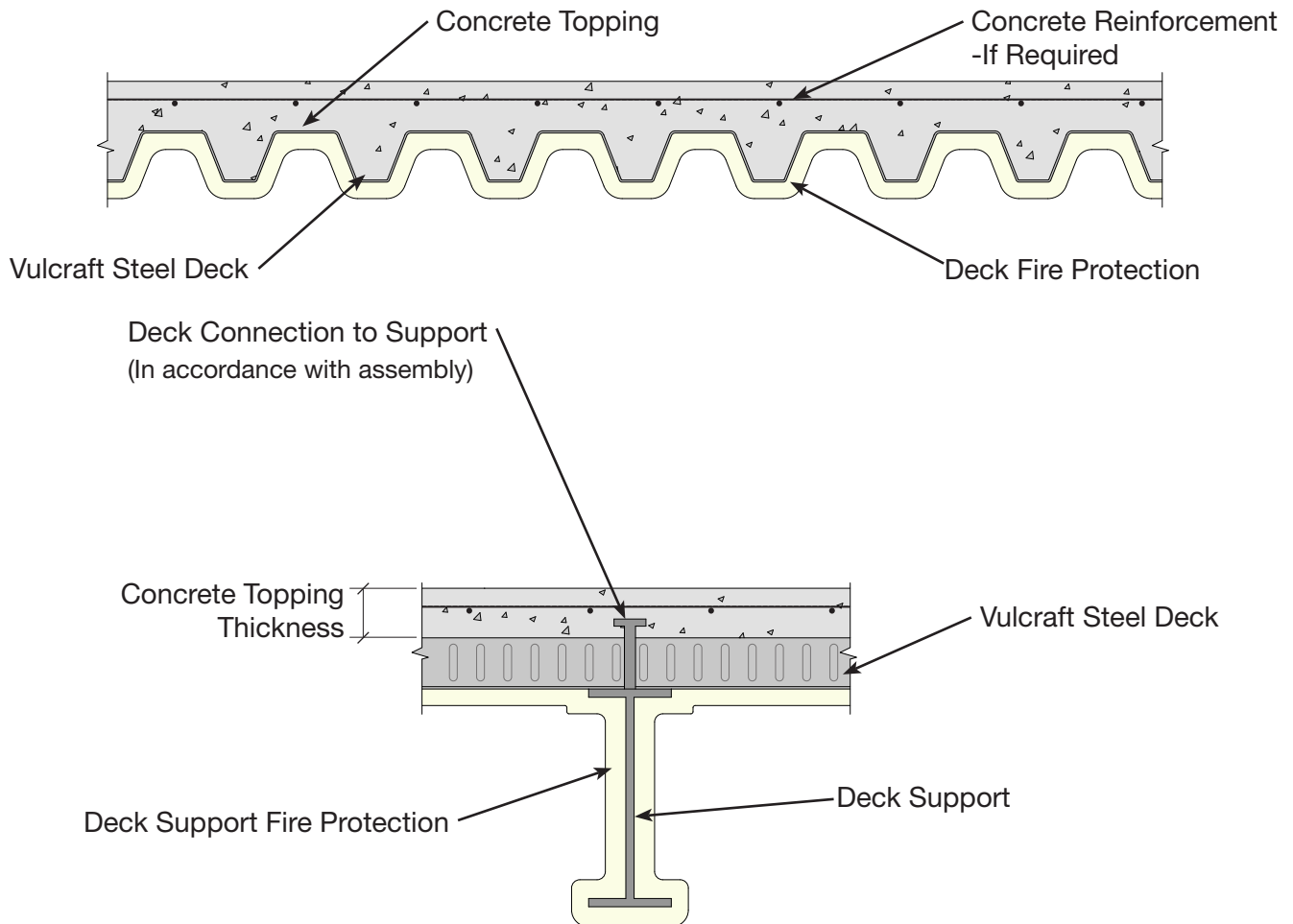


VULCRAFT® COMPOSITE DECK

ULC FIRE RATED ASSEMBLIES

USE ULC RECOGNIZED COMPOSITE DECKS FOR YOUR FIRE RATED ASSEMBLIES WITH STRUCTURAL CONCRETE FILL

- Vulcraft 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 composite or non-composite deck.



REPRESENTATIVE FIRE RATED ASSEMBLY

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



UL Fire Resistance Ratings

Restrained Assembly Rating (hr.)	Type of Protection	Concrete Type & Thickness	UL Design No.	Deck Type					Deck Type					Unrestrained Beam Rating (hr.)	Load Restricted						
				1.5VL	1.5VLI	1.5PLVLI	2VLI	2PLVLI	2VLJ	3VLI	3PLVLI	3VLJ	1.5VLP			2VLP	2PLVLP	3VLP	3PLVLP		
1	Sprayed Fiber	65 mm ND, SLD	F816		✓	✓	✓	✓			✓	✓						1	✓		
		65 mm ND, LD	F818	✓	✓		✓					✓			✓	✓		✓	1	✓	
	Unprotected Deck	89 mm ND	F904	✓	✓		✓					✓			✓	✓		✓	1	✓	
		64 mm LD	F904	✓	✓		✓					✓			✓	✓		✓	1	✓	
		83 mm ND	F906	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
		64 mm LD	F906	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
		83 mm ND	F910	✓	✓		✓					✓			✓	✓		✓	1	✓	
		64 mm LD	F910	✓	✓		✓					✓			✓	✓		✓	1	✓	
		89 mm ND	F916	✓	✓	✓	✓					✓			✓			✓	1	✓	
		89 mm LD	F917	✓	✓	✓	✓					✓			✓			✓	1	✓	
		83 mm ND	F919	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
		64 mm LD	F919	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
		83 mm ND	F920	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
		64 mm LD	F921	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
1.5	Sprayed Fiber	65 mm ND, SLD	F816		✓	✓	✓	✓			✓	✓						1	✓		
		65 mm ND, LD	F817	✓	✓		✓					✓			✓	✓		✓	1	✓	
	Unprotected Deck	102 mm ND	F904	✓	✓		✓					✓			✓	✓		✓	1.5	✓	
		73 mm LD	F904	✓	✓		✓					✓			✓	✓		✓	1.5	✓	
		100 mm ND	F906	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
		71 mm LD	F906	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
		100 mm ND	F910	✓	✓		✓					✓			✓	✓		✓	1	✓	
		71 mm LD	F910	✓	✓		✓					✓			✓	✓		✓	1	✓	
		89 mm ND	F916	✓	✓	✓	✓					✓			✓			✓	1.5	✓	
		89 mm LD	F917	✓	✓	✓	✓					✓			✓			✓	1.5	✓	
		100 mm ND	F919	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1	
71 mm LD	F919	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	1			

SL - Sand-Limestone Concrete
LD - Low Density Concrete
ND - Normal-Density Concrete
SLD - Structural Low-Density Concrete



UL Fire Resistance Ratings

Restrained Assembly Rating (hr.)	Type of Protection	Concrete Type & Thickness	UL Design No.	Deck Type					Deck Type					Unrestrained Beam Rating (hr.)	Load Restricted					
				1.5VL	1.5VLI	1.5PLVLI	2VLI	2PLVLI	2VLJ	3VLI	3PLVLI	3VLJ	1.5VLP			2VLP	2PLVLP	3VLP	3PLVLP	
2	Cementitious	65 mm SG	F701	✓	✓		✓				✓							2	✓	
		64 mm LD	F703	✓															1.5	✓
		64 mm LD	F704				✓	✓							✓	✓	✓	✓	1.5	✓
		64 mm LD	F705				✓	✓		✓	✓	✓	✓						1, 1.5	✓
	Sprayed Fiber	65 mm ND, SLD	F816		✓	✓	✓	✓				✓	✓						1	✓
		65 mm ND, LD	F817	✓	✓		✓							✓	✓			✓	1	✓
		64 mm LD	F821				✓	✓				✓	✓						1	✓
	Unprotected Deck	114 mm ND	F904	✓	✓		✓					✓		✓	✓			✓	1.5	✓
		83 mm LD	F904	✓	✓		✓							✓	✓			✓	1.5	✓
		114 mm ND	F906	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓		1	
		85 mm LD	F906	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓		1	
		114 mm ND	F910	✓	✓		✓							✓	✓			✓	1	✓
		83 mm LD	F910	✓	✓		✓							✓	✓			✓	1	✓
		89 mm ND	F916	✓	✓	✓	✓							✓				✓	1.5, 2	✓
		89 mm LD	F917	✓	✓	✓	✓							✓				✓	1.5	✓
		114 mm ND	F919	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓		1	
		85 mm LD	F919	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓		1	
	Cementitious	65 mm SL	F700	✓	✓		✓							✓	✓			✓	1.5	✓
	Sprayed Fiber	65 mm ND, SLD	F816		✓	✓	✓	✓											1.5	✓
		86 mm LD	F821				✓	✓											1.5	✓
3	Unprotected Deck	140 mm ND	F906	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	1.5		
		110 mm LD	F906	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	1.5		
		114 mm ND	F910	✓	✓		✓							✓	✓			✓	1.5	✓
		115 mm ND	F915	✓	✓	✓	✓	✓						✓	✓	✓	✓	✓	1.5	✓
		140 mm ND	F919	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓		1.5	
		110 mm LD	F919	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓		1.5	

SL - Sand-Limestone Concrete
LD - Low Density Concrete
ND - Normal-Density Concrete
SLD - Structural Low-Density Concrete

VULCRAFT® COMPOSITE & NON-COMPOSITE DECK ULC FIRE RATED ASSEMBLIES

Notes:

1. Refer to the ULC Online Directory for the necessary construction details.
2. 1.5VL = 1.5VL, 1.5VLI, and 1.5PLVLI
2VL = 2VLI, 2VLJ, and 2PLVLI
3VL = 3VLI, 3VLJ, and 3PLVLI
1.5VLP = 1.5VLP and 1.5PLVLP
2VLP = 2VLP, and 2PLVLP
3VLP = 3VLP, and 3PLVLP
3. Concrete thickness is thickness of slab above deck, mm.
4. All Dovetail FormLok composite deck assemblies are subject to an upper live load limit of 6.22 kPa.
5. Fluted deck finish shall be galvanized.
6. Vulcraft cellular deck used in the listed assemblies shall be galvanized.
7. Vulcraft cellular deck units are approved by UL for use as electrical raceways under UL Standard 209.
8. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. See UL file R19307 for additional information.

Concrete Thickness

(mm)	(in.)
64	2½
65	2 ⁹ / ₁₆
71	2 ¹³ / ₁₆
73	2 ⁷ / ₈
83	3¼
85	3 ³ / ₈
86	3 ³ / ₈
89	3½
100	4
102	4
110	4 ⁵ / ₁₆
114	4½
115	4½
140	5½

NOTICE: Design defects that could cause injury or death may result from relying on the information in this document without independent verification by a qualified professional. The information in this document is provided "AS IS". Nucor Corporation and its affiliates expressly disclaim: (i) any and all representations, warranties and conditions and (ii) all liability arising out of or related to this document and the information in it.