

Tuff Span FRP Form Deck

Permanent Form & Corrosion Protection for Concrete Slabs

Extending concrete life and improving plant safety, Tuff Span Fiberglass Reinforced Plastic (FRP) Form Deck by Enduro delivers important value for industrial plants.

In chemical exposure, corrosion can attack steel form deck, concrete slabs, and its reinforcing bars. For these tough conditions, Tuff Span FRP Form Deck can provide corrosion protection and a permanent form for the underside of slabs. In addition the corrosion resistant, form deck can protect personnel and equipment located below by eliminating the threat of falling particles that can occur with a deteriorated steel deck.

Reinforced with high-tensile strength glass fibers consisting of 48% of its weight, Tuff Span has the strength and stiffness needed for reliable support of heavy, wet concrete. Strategically placed in bidirectional alignment, the straight and continuous glass fiber reinforcements provide efficient load transfer within the section.

The reinforcements are embedded within a vinyl ester resin system that provides enhanced strength retention at high temperatures in addition to outstanding corrosion resistance. The fire retardant material has a Class I flame spread rating of 25 or less per ASTM E84 testing.

For worker safety and finished slab quality, deflection must be minimized during concrete pour and curing stage. For form deck applications, Enduro recommends selection of one of its higher strength, Tuff Span panel products and minimum deflection of L/180.



Tuff Span Form Deck for road bridge.



Tuff Span Form Deck at food processing plant.

Uses

- > Permanent Form for Concrete
- > Protection for Underside of Slab

Features

- > Corrosion Resistance
- > Strongest FRP Building Panel
- > Fire Retardant

Benefits

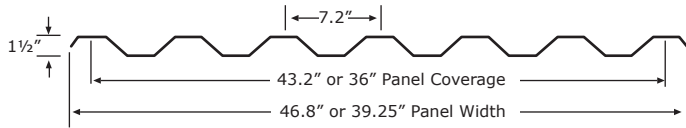
- > Longer Life for Concrete Slab
- > Improved Plant Safety

Properties	7.2 x 1.5 VFR 450	7.2D x 1.75 VFR 450*	6.5 x 2 VFR 500	8.0 x 3.5 VFR 700
Nominal Weight / SF	1.0 lb.	1.0 lb.	1.06 lb.	1.375 lb.
Nominal Glass Content	48% by Wt.	48% by Wt.	50% by Wt.	50% by Wt.
Moment Capacity / ft.	11,350 lb. in.	13,250 lb. in.	11,850 lb. in.	12,400 lb. in.
Stiffness EI / ft.	1.126 x 10 ⁶ lb. in. ²	1.385 x 10 ⁶ lb. in. ²	2.32 x 10 ⁶ lb. in. ²	5.85 x 10 ⁶ lb. in. ²
Resin System	Fire-Retardant, Vinyl Ester (VFR)			
Flame Spread Rating (ASTM E-84)	25 or less (Class 1)			
Standard Colors	White or Gray			

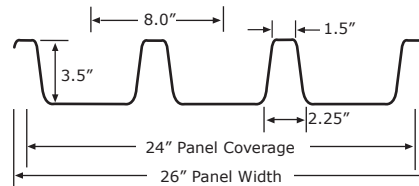
Tuff Span FRP Form Deck

Profiles

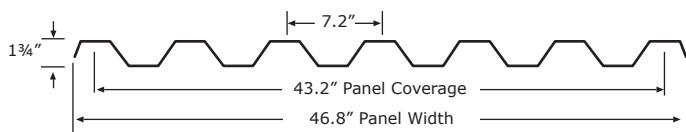
7.2 x 1.5 RIB



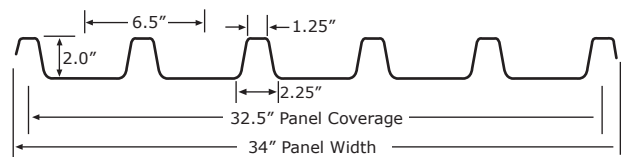
8.0 x 3.5



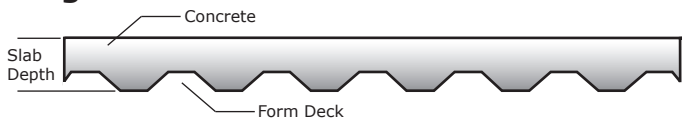
7.2D x 1.75 RIB



6.5 x 2.0



Diagram



Total slab depth is considered from bottom of deck to top of slab.

Maximum Unshored Spans: Normal Wt. Concrete, 145 PCF, Uniform Load

Slab Depth	Tuff Span Form Series		Load PSF	L/D = 180, FOS = 2.5			L/D = 240, FOS = 2.5		
	Profile	Series		1 Span	2 Span	3 Span	1 Span	2 Span	3 Span
4.0"	7.2D x 1.75	450	39	4'9"	6'5"	5'11"	4'4"	5'10"	5'4"
	7.2 x 1.5	450	41	4'3"	5'9"	5'3"	3'10"	5'2"	4'10"
4.5"	7.2D x 1.75	450	45	4'7"	6'1"	5'8"	4'2"	5'7"	5'1"
	7.2 x 1.5	450	47	4'1"	5'6"	5'1"	3'8"	5'0"	4'7"
5.0"	6.5 x 2.0	500	56	4'11"	6'7"	6'1"	4'6"	6'0"	5'6"
	7.2D x 1.75	450	51	4'4"	5'10"	5'5"	3'11"	5'4"	4'11"
5.5"	6.5 x 2.0	500	62	4'9"	6'5"	5'11"	4'3"	5'10"	5'4"
	7.2D x 1.75	450	57	4'2"	5'8"	5'2"	3'10"	5'1"	4'9"
6.0"	8.0 x 3.5	700	65	6'5"	7'1"	7'11"	5'10"	7'1"	7'2"
	6.5 x 2.0	500	68	4'7"	6'2"	5'9"	4'2"	5'8"	5'2"
6.5"	8.0 x 3.5	700	71	6'3"	6'9"	7'7"	5'8"	6'9"	7'0"
	6.5 x 2.0	500	74	4'6"	6'0"	5'7"	4'1"	5'6"	5'1"
7.0"	8.0 x 3.5	700	77	6'1"	6'6"	7'3"	5'6"	6'6"	6'10"
	6.5 x 2.0	500	80	4'4"	5'11"	5'5"	4'0"	5'4"	4'11"
7.5"	8.0 x 3.5	700	83	5'11"	6'3"	7'0"	5'4"	6'3"	6'7"
	6.5 x 2.0	500	86	4'3"	5'9"	5'3"	3'10"	5'2"	4'10"
8.0"	8.0 x 3.5	700	89	5'9"	6'1"	6'9"	5'3"	6'1"	6'6"
	6.5 x 2.0	500	92	4'2"	5'7"	5'2"	3'9"	5'1"	4'8"

- Notes:
- 1) Load, PSF = Uniform weight of concrete + Weight of form deck.
 - 2) Maximum spans shown are based on:
 - Deflection not exceeding the more conservative value of L/180 or L/240 (as specified) or 1/2" under uniform concrete load.
 - Deflection, prior to concrete placement, not exceeding L/120 under 50 lbs/SF construction load.
 - Minimum factor of safety of 2.5 for Moment Capacity.
 - 3) Form Deck panels must be fastened to structural supports in every low rib and to adjacent panels at side-laps, 18" on center.
 - 4) The information in the tables is intended for use as a guideline only. Please contact us for assistance with material selection and information not covered such as maximum shored spans and other slab conditions.