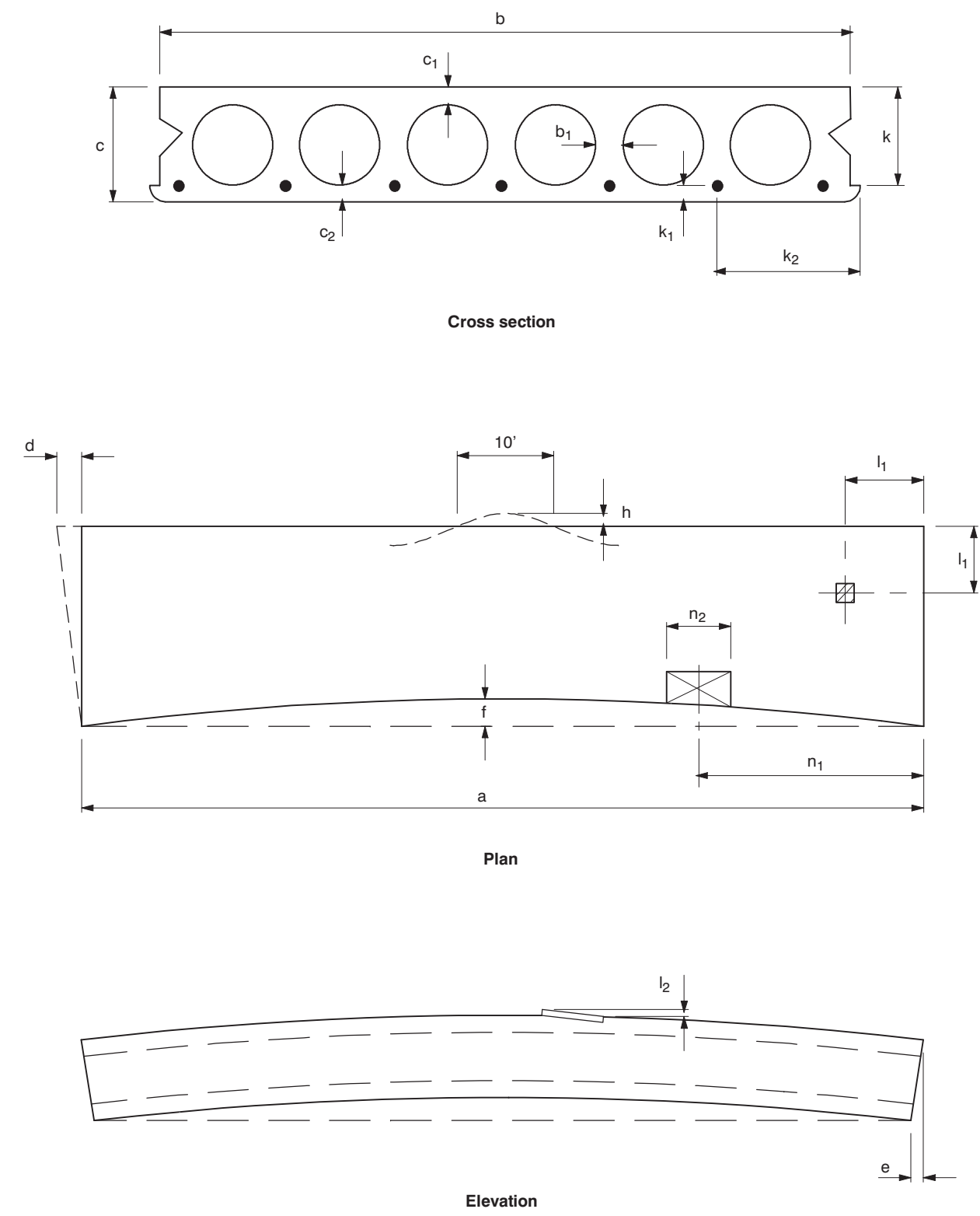


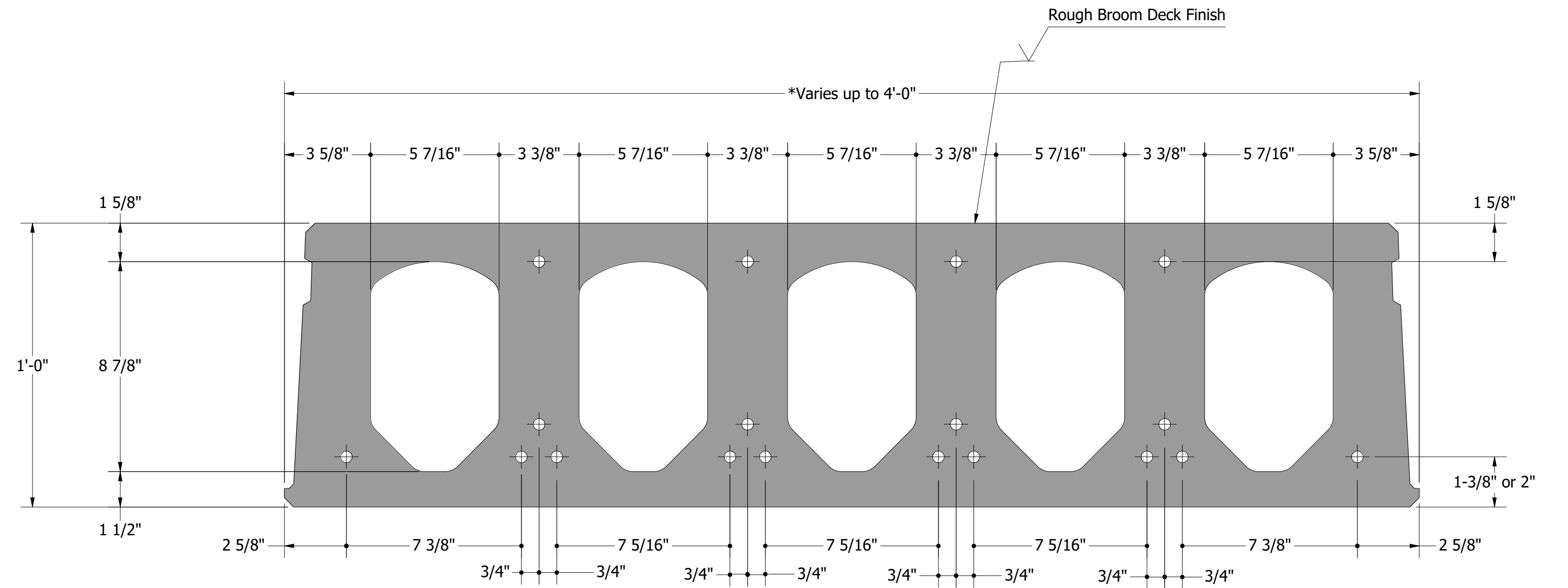
Fig. 10.13.1 Hollow-core Slabs



10.13 Hollow-core Slabs

- a = Length ..... ± 1/2 in. [±13 mm]
- b = Width (overall) ..... ± 1/4 in. [±6 mm]
- b<sub>1</sub> = Web width:  
The total web width defined by the sum of the actual measured values of "b<sub>1</sub>" shall not be less than 85 percent of the sum of the nominal web widths "b<sub>1, nominal</sub>"
- c = Depth (overall) ..... ± 1/4 in. [±6 mm]
- c<sub>1</sub> = Top flange depth:  
Top flange area defined by the actual measured values of average "c<sub>1</sub>" x "b" shall not be less than 85 percent of the nominal area calculated by "c<sub>1, nominal</sub>" x "b nominal"
- c<sub>2</sub> = Bottom flange depth:  
Bottom flange area defined by the actual measured values of average "c<sub>2</sub>" x "b" shall not be less than 85 percent of the nominal area calculated by "c<sub>2, nominal</sub>" x "b nominal"
- d = Variation from specified plan end squareness or skew ..... ± 1/2 in. [±13 mm]
- e = Variation from specified elevation end squareness or skew ..... ± 1/8 in. per 12 in., ± 1/2 in. maximum [±3 mm per 300 mm, ±13 mm maximum]
- f = Sweep ..... ± 3/8 in. [±10 mm]
- g = Applications requiring close control of differential camber between adjacent members should be discussed with the producer to determine applicable tolerances.
- h = Local smoothness of any surface ..... 1/4 in. in 10 ft. [6 mm in 3 m]
- k = Center of gravity (CG) of strand group ..... ± 1/4 in. [±6 mm]
- k<sub>1</sub> = Location of strand perpendicular to plane of panel ..... ± 1/2 in. [±13 mm]  
Minimum cover ..... 1/4 in. [19 mm]
- k<sub>2</sub> = Location of strand parallel to plane of panel ..... ± 3/4 in. [±19 mm]  
Minimum cover ..... 1/4 in. [19 mm]
- l<sub>1</sub> = Location of embedment\* ..... ± 2 in. [±50 mm]
- l<sub>2</sub> = Tipping and flushness of embedment ..... ± 1/4 in. [±6 mm]
- n<sub>1</sub> = Location of breakout ..... ± 2 in. [±50 mm]
- n<sub>2</sub> = Size of blockouts ..... ± 1/2 in. [±13 mm]
- x = Weight:  
Actual measured value shall not exceed 110 percent of the nominal published unit weight used in the design.

\* Some hollow-core production systems do not permit the incorporation of embedments. Contact local producers for suitable alternate details if embedments are not practical.



H12" x 48" SECTION (HEAVY)

1.125" Minimum Strand Cover				
No Structural Topping				
Unrestrained 1 hour				
Restrained 4 hours				
IBC Fire Ratings		Section Properties		
		A = 347 in <sup>2</sup>	Y <sub>t</sub> = 6.13 in	b <sub>w</sub> = 19.44 in
		I = 5578 in <sup>4</sup>	Y <sub>b</sub> = 5.87 in	wt = 90 psf
φM <sub>n</sub>	k-ft/ft	46.58	74.35	92.38
Series		1.125E12-86	1.125E12-810	1.125E12-814
Span (ft)	Allowable Superimposed Load in lbs/ft <sup>2</sup>			
20	515			
25	305	518		
30	191	346	419	
35	123	236	310	
40	78	165	221	
45		116	161	
50		81	117	

Strands: 1/2"φ 270 ksi Low-Lax Stress to 65% (26.9 kip)  
Concrete Strength: f<sub>c</sub> = 8,000 psi at 28 days  
Topping Strength: f<sub>c</sub> = 3,000 psi at 28 days

H12" x 48" SECTION (HEAVY)

1.125" Minimum Strand Cover				
2" Bonded Structural Topping				
Unrestrained 1 hour				
Restrained 4 hours				
IBC Fire Ratings		Section Properties		
		A <sub>c</sub> = 415 in <sup>2</sup>	Y <sub>tc</sub> = 6.96 in	b <sub>w</sub> = 19.44 in
		I <sub>c</sub> = 8487 in <sup>4</sup>	Y <sub>bc</sub> = 7.04 in	wt = 115 psf
φM <sub>n</sub>	k-ft/ft	53.35	84.15	107.30
Series		1.125E12-86T	1.125E12-810T	1.125E12-814T
Span (ft)	Allowable Superimposed Load in lbs/ft <sup>2</sup>			
25	341			
30	210	381	501	
35	132	257	352	
40	80	177	249	
45		122	179	
50		82	128	

Strands: 1/2"φ 270 ksi Low-Lax Stress to 65% (26.9 kip)  
Concrete Strength: f<sub>c</sub> = 8,000 psi at 28 days  
Topping Strength: f<sub>c</sub> = 3,000 psi at 28 days  
Design Standards: ACI 318-14, IBC 2015  
\*Horizontal shear failure is not considered



DESCRIPTION:  
Heavy 12" HC - 4' Standard Width - Spans to 50'  
DATE: 1/2/2021

PART:  
56-H12