

HOLLOWCORE LOAD TABLES

2014

"PCI Certified Manufacturers and Qualified Erectors"

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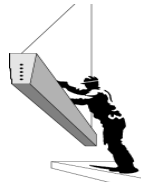
Structural Prestressed Industries, Inc.
11405 N.W. 112th ST Medley, Florida 33178
Ph: (305) 556-6699 Fax: (305) 556-9696
www.spimiami.com

About This Publication

To the best of our knowledge and understanding, the information given in this reference book is complete and accurate. This document is intended to guide the design professional while making his or her own preliminary evaluations of approximate depth, span, spacing and connections. The information given represents typical installations and applications for Structural Prestressed Industries Inc. (SPI) products. For applications requiring special loadings and or special serviceability requirements please contact SPI.

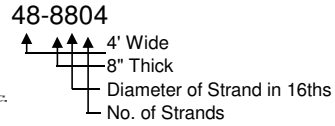
These guidelines are specific to Structural Prestressed Industries (SPI) precast/prestressed members and should never be used to evaluate members from other precast producers. These guidelines are not expressed nor implied warranties for other applications.

SPI encourages the Design and Construction Professionals to contact our Engineering Department for value engineering solutions and design build projects. Our team of experienced engineers, designers and project managers are available to assist you with all your needs.



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Designation Key

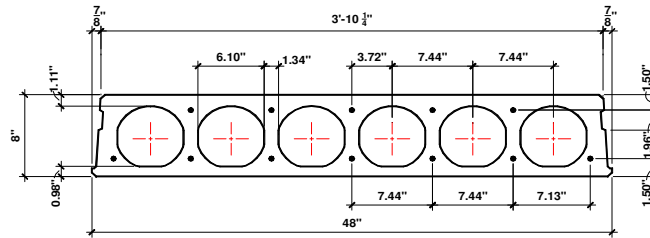


8" x 4'-0" SPI Ultra Deck Hollowcore Slab With No Topping

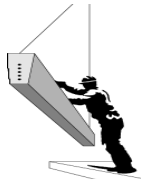
Standard Designation	No. & Dia. of 7-Wire 270 Lo-Lax P/S Strand	Strand Area in ²	φM _N in ft-kips per Unit	Simple Span (ft)																								φV _c in kips per Unit							
				14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37								
48-8804	4 1/2" Ø	0.612	72.6	280	260	225	195	180	200	180	150	130	100	85	55	40																			14.7
48-8805	5 1/2" Ø	0.765	89.0				300	290	275	270	245	215	185	145	125	110	95	90	75	60	50													14.7	
48-8807	7 1/2" Ø	1.071	120.0						300	280	260	240	225	205	195	175	155	140	130	120	105	95	80	70	60	50	40							14.7	

The above allowable superimposed service loads (in psf) are based on the following assumptions:

- 1- Prestressed Concrete f'c = 6000 psi
- 2- Grout f'c = 4000 psi
- 3- Loads are based on slabs being 100% grouted.
- 4- Allowable superimposed service loads include dead load of 20 psf.
- 5- Loads are based on ACI 318-02.
- 6- Camber is inherent to prestressed members. Heavy loading and long spans may result in higher cambers. Contact SPI with any camber concerns.
- 7- Values to the left of the dark stepped line are controlled by shear.
The use of a plant cast solid core may be required.
- 8- Values in shaded boxes require serviceability analysis by SPI Engineering for specific project requirements.

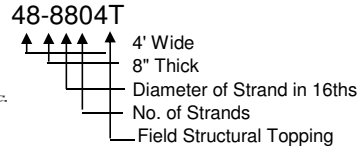


AREA OF CROSS-SECTION: 228 sq. inch.
THEORETICAL WEIGHT OF THE SLAB: 50.4 lb/sq.ft (+ STRANDS & GROUT)
DENSITY: 150 lb/cu.ft.
THERMAL RESISTANCE R = 2.8 SOUND TRANSMISSION STC = 46
IMPACT INSULATION IIC = 26



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Designation Key

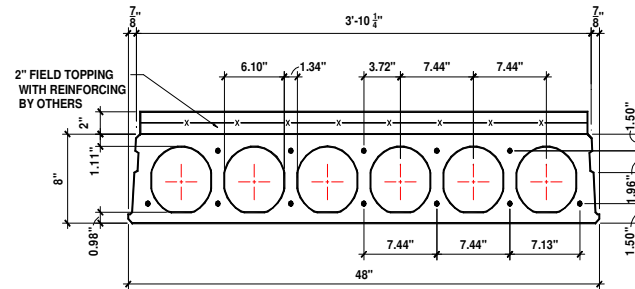


8" x 4'-0" SPI Ultra Deck Hollowcore Slab With 2" Topping

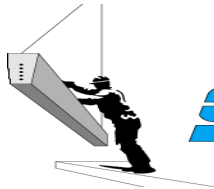
Standard Designation	No. & Dia. of 7-Wire 270 Lo-Lax P/S Strand	Strand Area in ²	φM _N in ft-kips per Unit	Simple Span (ft)																										φV _c in kips per Unit						
				12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35									
48-8804T	4 1/2" Ø	0.612	92.0	325	300	280	260	235	200	245	235	215	190	165	140	120	95	70																		18.8
48-8805T	5 1/2" Ø	0.765	112.0				325	305	290	320	300	285	250	220	175	150	125	105	90	75	65	50													18.8	
48-8807T	7 1/2" Ø	1.071	160.0							320	310	290	280	270	255	240	225	215	200	175	150	135	120	100	80	60	50							18.8		

The above allowable superimposed service loads (in psf) are based on the following assumptions:

- 1- Prestressed Concrete f'c = 6000 psi
- 2- Field Topping f'c = 4000 psi
- 3- Grout f'c = 4000 psi
- 4- Loads are based on slabs being 100% grouted.
- 5- Allowable superimposed service loads include dead load of 20 psf.
- 6- Loads are based on ACI 318-02.
- 7- Camber is inherent to prestressed members. Heavy loading and long spans may result in higher cambers. Contact SPI with any camber concerns.
- 8- Values to the left of the dark stepped line are controlled by shear.
- The use of a plant cast solid core may be required.
- 9- Values in shaded boxes require serviceability analysis by SPI Engineering for specific project requirements.
- 10- Slabs designed with a composite structural topping are to be thoroughly cleaned and prepared prior to pouring to insure adequate bond. SPI recommends the top of the slab be thoroughly saturated prior to topping placement.

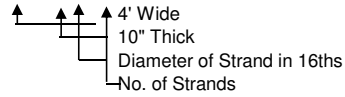


AREA OF CROSS-SECTION: 228 sq. inch.
 WEIGHT OF 2" STRUCTURAL TOPPING: 25 lb/sq.ft
 THEORETICAL WEIGHT OF THE SLAB: 50.4 lb/sq.ft (+ STRANDS & GROUT)
 DENSITY: 150 lb/cu.ft.
 THERMAL RESISTANCE R = 2.8 SOUND TRANSMISSION STC=46
 IMPACT INSULATION IIC = 26



Designation Key

48-10804



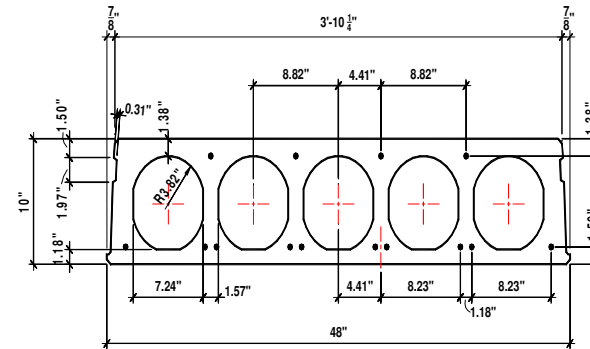
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10" x 4'-0" SPI Ultra Deck Hollowcore Slab With No Topping

Standard Designation	No. & Dia. of 7-Wire 270 Lo-Lax P/S Strand	Strand Area in ²	φM _N in ft-kips per Unit	Simple Span (ft)																								φV _c in kips per Unit		
				23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46		47	48
48-10806	6 1/2" Ø	0.919	114.1	160	145	130	115	105	95	85	75	65	50	45	40														18.1	
48-10808	8 1/2" Ø	1.225	146.3	200	190	180	170	160	150	140	130	120	115	110	105	95	90	85	75	65	55	50							18.1	
48-108010	10 1/2" Ø	1.531	176.8				220	215	210	200	190	180	170	160	145	130	120	110	100	95	90	85	80	75	70	65	60	55	50	18.1

The above allowable superimposed service loads (in psf) are based on the following assumptions:

- 1- Prestressed Concrete f'c = 6000 psi. Slabs with (10) 1/2" Ø strands will require a f'c=4000psi
- 2- Grout f'c =4000 psi
- 3- Loads are based on slabs being 100% grouted.
- 4- Allowable superimposed service loads include dead load of 20 psf.
- 5- Loads are based on ACI 318-02.
- 6- Camber is inherent to prestressed members. Heavy loading and long spans may result in higher cambers. Contact SPI with any camber concerns.
- 7- Values to the left of the dark stepped line are controlled by shear. The use of a plant cast solid core may be required.
- 8- Values in shaded boxes require serviceability analysis by SPI Engineering for specific project requirements.



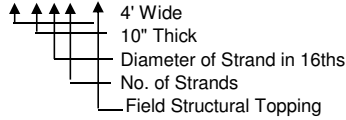
AREA OF CROSS-SECTION: 248.5 SQ. INCH.
 THEORETICAL WEIGHT OF SLAB: 64.6 LB/SQ.FT (+ STRANDS)
 DENSITY: 150 LB/CU.FT.
 THERMAL RESISTANCE R = 3.25 SOUND TRANSMISSION CLASS STC = 50
 IMPACT INSULATION IIC = 32



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Designation Key

48-10804T

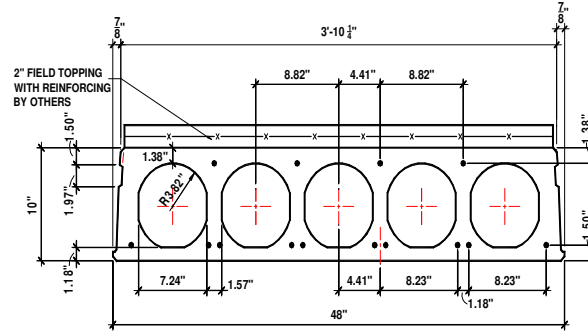


10" x 4'-0" SPI Ultra Deck Hollowcore Slab With Topping

Standard Designation	No. & Dia. of 7-Wire Lo-Lax P/S Strand	Strand Area in ²	φM _N in ft-kips per Unit	Simple Span (ft)																							φV _c in kips per Unit									
				23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45		46								
48-10806	6 1/2" Ø	0.919	142.0	200	190	180	170	160	145	130	115	100	85	70	60	55	50																			24.0
48-10808	8 1/2" Ø	1.225	182.0			245	230	215	200	190	170	150	130	110	90	80	70	60	55	50																24.0
48-108010	10 1/2" Ø	1.531	220.0				260	240	230	210	190	170	150	140	130	120	110	105	95	85	80	75	70	65	60	55	50								24.0	

The above allowable superimposed service loads (in psf) are based on the following assumptions:

- 1- Prestressed Concrete f_c = 6000 psi
 - 2- Field Topping f_c = 4000 psi
 - 3- Grout f_c = 4000 psi
 - 4- Loads are based on slabs being 100% grouted.
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 - 8- Values to the left of the dark stepped line are controlled by shear.
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- 9- Values in shaded boxes require serviceability analysis by SPI Engineering for specific project requirements.
 - 10- Slabs designed with a composite structural topping are to be thoroughly cleaned and prepared prior to pouring to insure adequate bond. SPI recommends the top of the slab be thoroughly saturated prior to topping placement.



AREA OF CROSS-SECTION: 248.5 SQ. INCH.
 WEIGHT OF 2" STRUCTURAL TOPPING: 25 LB/SQ.FT
 THEORETICAL WEIGHT OF SLAB: 64.6 LB/SQ.FT (+ STRANDS)
 DENSITY: 150 LB/CU.FT.
 THERMAL RESISTANCE R = 3.25 SOUND TRANSMISSION CLASS STC = 50
 IMPACT INSULATION IIC = 32

Disclaimer

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As far as the load tables provided in this web site, the information and data illustrated are intended to assist the designer in determining applicable prestressed members. They should not be construed as expressed nor implied warranties of suitability. The data is not reflective for unusual loads and stresses. Designers are encouraged to consult with S.P.I.'s Engineering Department for information on their specific project.