Structural Prestressed Industries, Inc.
11405 N.W. 138th ST Medley, Florida 33178
Ph: (305) 556-6699 Fax: (305) 556-9696
www.spimiami.com

INVERTED TEE BEAMS

LOAD TABLES

2005

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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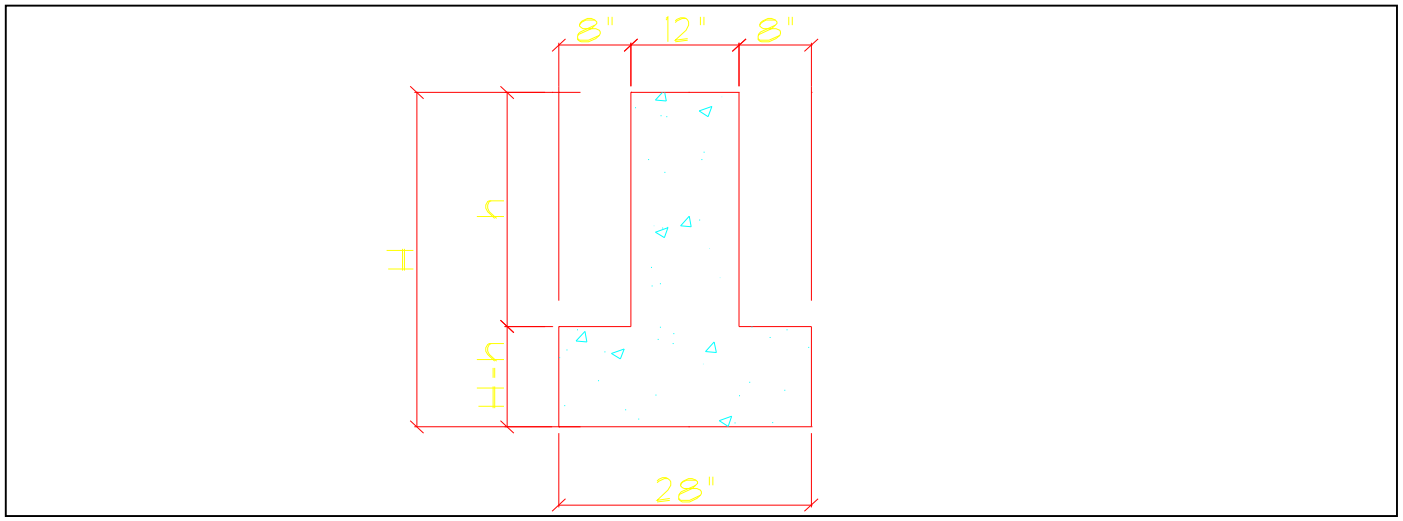
FOR SPANS AND LOADS NOT SHOWN IN TABLES AND FOR FIRE RATING CONTACT SPI.

CAMBER IS INHERENT TO PRESTRESSED MEMBERS. HEAVY LOADING AND LONG SPANS MAY RESULT IN HIGHER CAMBERS. CONTACT SPI WITH ANY CAMBER CONCERNS.

12" WEB PRESTRESSED INVERTED TEE BEAM



Description	Area (in)	I (in^4)	Sb (in^3)	Yb (in)	Weight (plf)
12" Web 28" Bottom 28" Height 12" Ledge	528	32075	2892	11.1	550
12" Web 28" Bottom 36" Height 12" Ledge	624	68100	4760	14.3	650
12" Web 28" Bottom 38" Height 12" Ledge	648	80009	5282	15.2	675

Service Loads in (klf)

Depth (in)		Span (ft)																		
H	h	20	22	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
28	16	11.0	9.0	8.0	7.5	7.0	6.5	6.0	5.0	4.5	4.0	3.8	3.6	3.4	3.2	3.0	2.8	2.5	2.4	2.3
36	24	18.0	15.0	12.5	11.5	10.5	9.5	8.5	8.0	7.5	7.0	6.5	6.0	5.8	5.3	5.0	4.8	4.5	4.2	4.0
38	26	19.5	16.5	13.5	12.5	11.5	10.5	9.5	9.0	8.5	7.7	7.2	7.0	6.2	6.0	5.5	5.3	5.0	4.7	4.3

These tables provide allowable superimposed service loads (in plf) on the Inverted Tee Beam based on the following assumptions:

1- Prestressed Concrete: f'c=6000 psi

2- Service loads in the shaded boxes represent members with f'ci > 4000 psi and cambers over 2".

3- 50% of the allowable superimposed service load is considered dead load on the member

4- Loads are based on ACI 318-02

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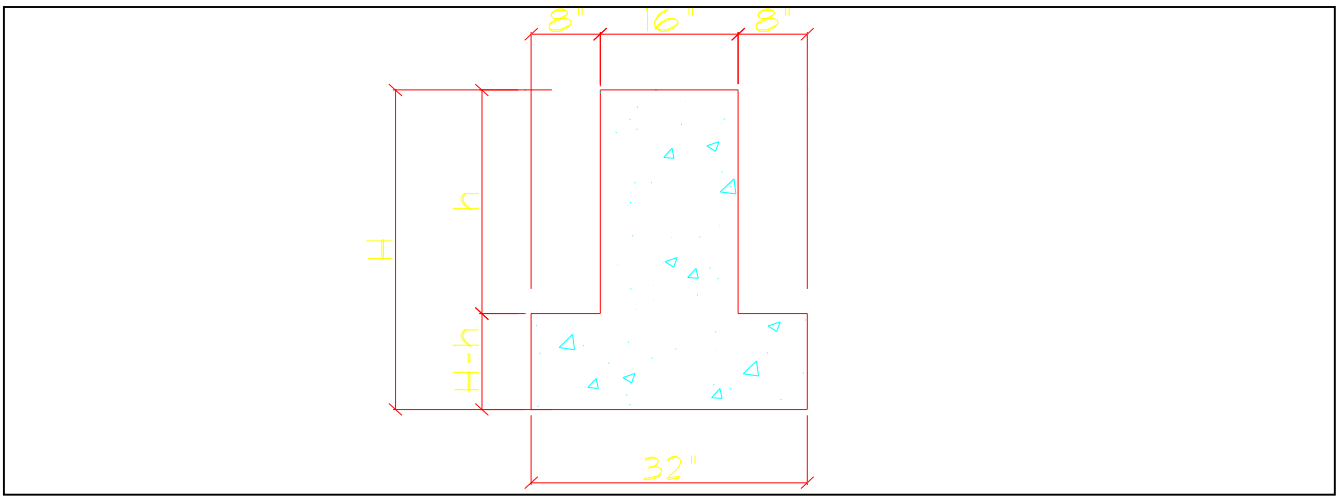
16" WEB PRESTRESSED INVERTED TEE BEAM



Description	Area (in)	I (in^4)	Sb (in^3)	Yb (in)	Weight (plf)
16" Web 32" Bottom 28" Height 12" Ledge	640	40175	3549	11.5	667
16" Web 32" Bottom 36" Height 12" Ledge	768	85248	5807	14.9	800
16" Web 32" Bottom 38" Height 12" Ledge	800	100127	6438	15.8	833

Service Loads in (klf)

Depth (in)		Span (ft)								
H	h	30	32	34	36	38	40	42	44	46
28	16	6.0	5.5	4.0	3.5	3.0	2.5	Call SPI Engineering		
36	24	9.0	8.0	7.0	6.0	5.5	5.0	4.5	4.0	Call SPI Engineering
38	26	10.5	9.5	8.5	7.5	6.5	6.0	5.0	4.0	3.0

These tables provide allowable superimposed service loads (in plf) on the Inverted Tee Beam based on the following assumptions:

1- Prestressed Concrete: f'c=6000 psi

2- Service loads in the shaded boxes represent members with f'ci > 4000 psi and cambers over 2.25".

3- 50% of the allowable superimposed service load is considered dead load on the member

4- Loads are based on ACI 318-02

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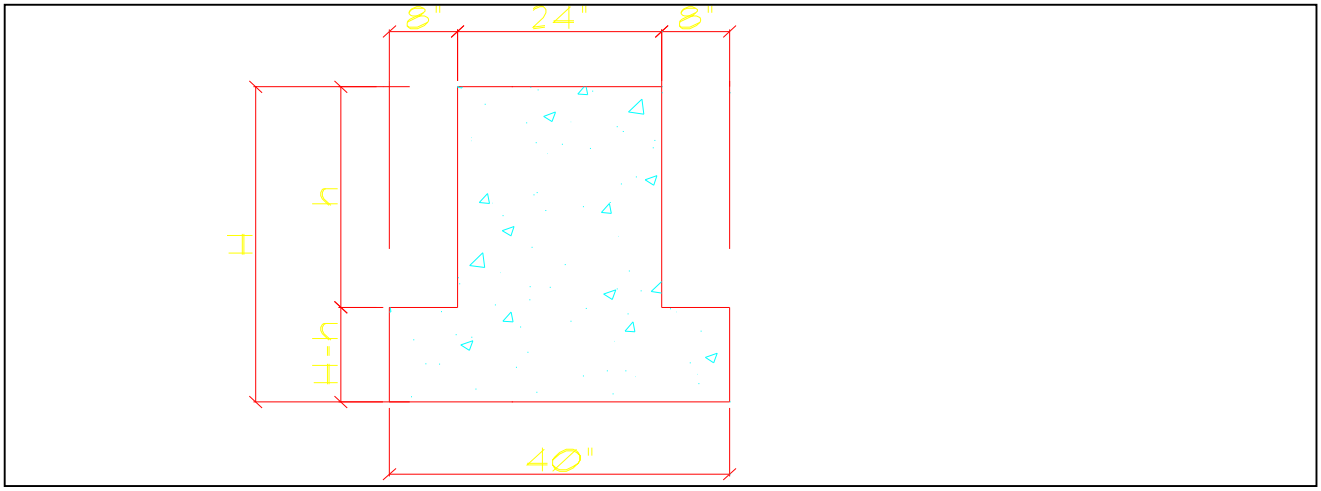
24" WEB PRESTRESSED INVERTED TEE BEAM



Description	Area (in)	I (in^4)	Sb (in^3)	Yb (in)	Weight (plf)
24" Web 40" Bottom 28" Height 12" Ledge	864	55765	4688	12.1	900
24" Web 40" Bottom 36" Height 12" Ledge	1056	118237	7654	15.7	1100
24" Web 40" Bottom 38" Height 12" Ledge	1104	138853	8487	16.6	1150

Depth (in)		Span (ft)								
H	h	36	38	40	42	44	46	48	50	52
28	16	5	4.5	4	3.5	3	2	Call SPI Engineering		
36	24	9	8.5	8	6	5.5	5	4.5	4	Call SPI Engineering
38	26	10	9.5	8	7	6.5	6	5	4.5	3.5

These tables provide allowable superimposed service loads (in plf) on the Inverted Tee Beam based on the following assumptions:

1- Prestressed Concrete: f'c=6000 psi

2- Service loads in the shaded boxes represent members with f'ci > 4000 psi and cambers over 2.75".

3- 50% of the allowable superimposed service load is considered dead load on the member

4- Loads are based on ACI 318-02

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.