

PREFACE TO PRODUCT LOAD TABLES

The following pages contain load tables for the standard products available from Coreslab Structures (ARIZ) Inc. Load capacities are in conformance with the American Concrete Institute "Building Code Requirements for Structural Concrete (ACI 318-05)". However, values given in the tables are intended for preliminary member selections, not final designs. These values assume that the safe superimposed load is composed of 60% dead load and 40% live load.

In some cases, loads in excess of those shown can be accommodated by modifying the general parameters such as concrete strength and/or reinforcing patterns.

GENERAL NOTATION

Width of Precast Section (ft)	Depth of Precast Section (in)	Description of Section
		DT = Double Tee Slab IT = Inverted Tee Beam LB = ELL Beam

MATERIAL PROPERTIES

Concrete:

Compressive Strength

Final (28-day) = 5000 psi (Precast)
 = 3000 psi (Topping)

At Prestress Release = 3500 to 4500 psi when maximum load is used.
 Otherwise a lower strength may be sufficient.

Normal Weight = 150 pcf
 Modulus of Elasticity = $W^{1.5} 33\sqrt{f'c}$

Steel:

Prestressing Strand:

Sizes: 1/2" Diameter
 Ultimate Strength = 270,000 psi
 Initial Tension = 70 to 75% of Ult. Strength
 Modulus of Elasticity = 28,000,000 psi

Reinforcing Steel:

Bar Sizes: 4, 5 and 6 are A706, Grade 60
 Bar Sizes: 7 and larger are A615, Grade 60

FLEXURAL MEMBERS

In general, maximum spans shown for the various prestressing conditions will result in an upward camber under dead load, after loss of prestress has occurred. Roof deflection, however, should always be checked. It is recommended that a positive slope always be provided for roofs. Whenever span-to-depth ratio exceeds 30 for double tees a positive roof slope is essential to preclude ponding. Also, see the 2006 Edition "International Building Code" IBC.

Topping Slab Design by Others

For composite members, reinforcement (i.e., welded wire fabric or reinforcing bar) is generally required for the structural design of the topping slab. The Engineer of Record should furnish this design.

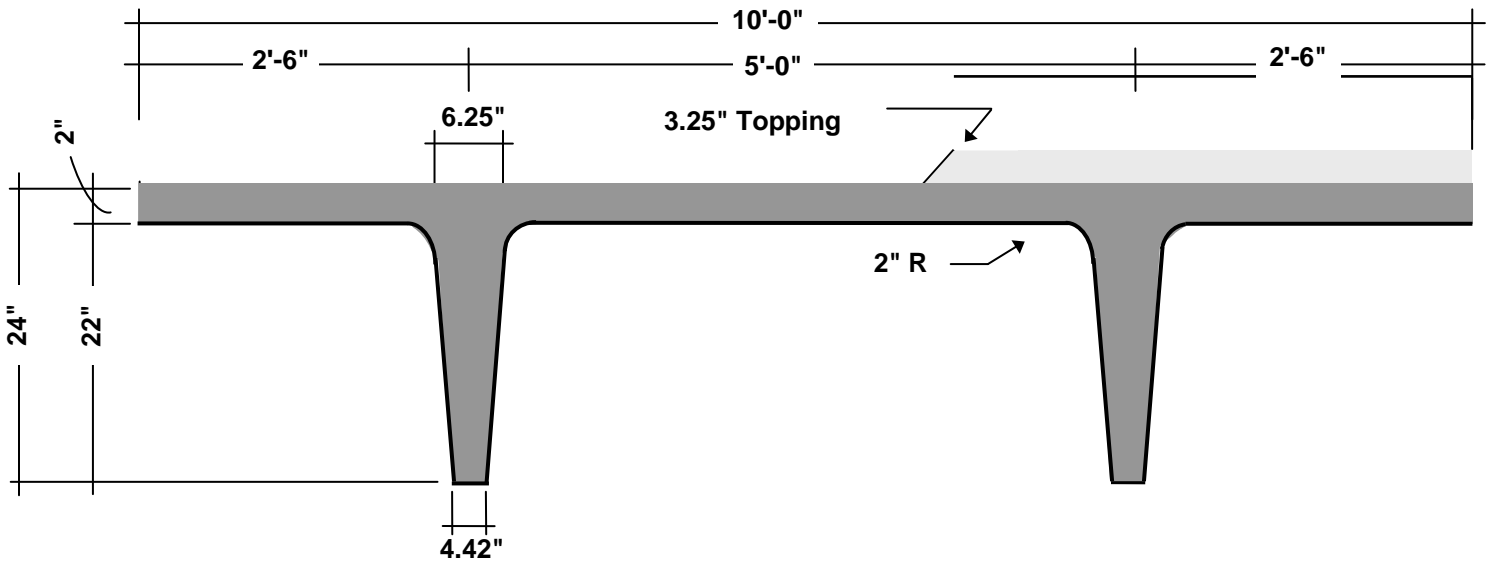
DESIGN RECOMMENDATIONS	Maximum Bottom Tension Stress	Range of Maximum Precast Span-To-Depth Ratio
Double Tee Floor Slabs	$12\sqrt{f'c}$	25 to 30
Double Tee Roof Slabs	$12\sqrt{f'c}$	35 to 40
Inverted Tee or ELL Beams	$7.5\sqrt{f'c}$	10 to 20
Hollow Core Slabs	$6\sqrt{f'c}$	45 to 50

The required depth of a beam or slab is influenced by the ratio of live load to total load. When this ratio is high, deeper sections may be needed.

24" DOUBLE TEES 10' WIDE

<u>Section Properties</u>	<u>Non-Composite</u>	<u>Composite</u>
A (in ²)	475	777
I (in ⁴)	24799	37623
y _b (in)	17.38	20.58
St (in ³)	3745	*11016
Sb (in ³)	1427	1818
Normal Weight (150 pcf)	49 psf	90 psf
	495 plf	901 plf

* At top of precast



Allowable Superimposed Service Loads, Pounds per Square Foot

Non-Composite

Span (ft)	50	52	54	56	58	60	62	64	66	68	70	72
Load (psf)	87	79	73	67	62	57	52	48	45	41	38	36

Composite (3¼" Topping)

Span (ft)	36	38	40	42	44	46	48	50	52	54	56	58	60
Load (psf)	201	177	158	138	121	104	93	80	68	56	48	40	32