

Pitched and Tapered Curved Beams (Curved Length = 1/4 Span)

This table contains selected spans, roof pitches and loadings. Configurations and dimensions for these PTC beams are symmetrical about the centerline.

Total Load plf	Roof Pitch	60 Ft Span					70 Ft Span				
		End		Centerline Depth	Depth at Tangent	Soffit Radius	End		Centerline Depth	Depth at Tangent	Soffit Radius
		Width (Plumb)	Depth				Width (Plumb)	Depth			
in.	in.	in.	in.	ft	in.	in.	in.	in.	ft		
400	2/12	6 3/4	13 1/2	45 1/2	39.5	45.1	6 3/4	13 1/2	55	44.1	90.5
		8 1/2	17	40	34.6	34.1	8 1/2	17	49 1/2	38.2	77.8
	3/12	6 3/4	13 1/2	48 1/2	40.2	22.0	6 3/4	13 1/2	59	46.0	37.1
		8 1/2	17	43	32.2	28.0	8 1/2	17	52 1/2	42.0	27.5
	4/12	6 3/4	13 1/2	53	37.7	22.1	6 3/4	13 1/2	63 1/2	47.8	22.5
		8 1/2	17	47	30.2	23.9	8 1/2	17	57	40.7	22.9
600	2/12	6 3/4	17	50	42.9	54.2	6 3/4	20	58 1/2	49.7	67.7
		8 1/2	17	46 1/2	39.7	48.1	8 1/2	17	56 1/2	45.5	86.6
	3/12	6 3/4	17	53	44.0	24.3	6 3/4	20	62 1/2	48.6	38.5
		8 1/2	17	49 1/2	39.6	26.2	8 1/2	17	60 1/2	46.1	40.4
	4/12	6 3/4	17	57 1/2	41.1	23.6	6 3/4	20	66 1/2	50.6	22.2
		8 1/2	17	53 1/2	36.2	21.7	8 1/2	17	64 1/2	49.0	21.8
800	2/12	6 3/4	22	52 1/2	44.0	61.4	6 3/4	26	61	52.5	60.6
		8 1/2	18	51	41.5	72.7	8 1/2	21 1/2	59 1/2	47.4	91.5
	3/12	6 3/4	22	56 1/2	41.1	42.2	6 3/4	28	66 1/2	49.3	47.0
		8 1/2	18	53 1/2	44.8	23.1	8 1/2	21 1/2	63	49.6	36.7
	4/12	6 3/4	22	59 1/2	42.4	24.3	6 3/4	26	68 1/2	52.3	22.1
		8 1/2	18	58	42.4	22.2	8 1/2	21 1/2	67	50.7	22.6
1000	2/12	6 3/4	27 1/2	53 1/2	47.5	38.6	6 3/4	32	64	56.3	51.6
		8 1/2	22 1/2	52	45.6	44.9	8 1/2	26 1/2	61	51.8	64.8
	3/12	6 3/4	27 1/2	62	43.8	49.4	6 3/4	32	73	52.8	55.1
		8 1/2	22 1/2	56 1/2	40.9	42.6	8 1/2	26 1/2	66 1/2	48.9	47.9
	4/12	6 3/4	27 1/2	64	46.7	24.1	6 3/4	32	75 1/2	55.6	27.7
		8 1/2	22 1/2	59	42.7	22.9	8 1/2	26 1/2	68 1/2	51.2	23.8

Table Specifications:

Lamination thickness = 1-3/8 in. Deflection limit = 1/180 of span for total load. Total load includes the weight of the beam. The length of curve on the soffit face of the beam is 1/4 the span length.

Beams shall be laterally supported with adequate bracing along the length at the top and at the bottom at the ends. Designs are based on uniformly distributed loads using load duration factor for snow loads, C_D = 1.15. Beams

Design values used for the table are: $F_{bx} = 2400 \text{ psi}$ $F_{vx} = 200 \text{ psi}$
 $E_x = 1700000 \text{ psi}$ $F_{rt} = 67 \text{ psi}$

Span , L, = the distance between centerlines of the bearings. Beam depth/width ratios are approximately 9 to 1 for centerline depth and 6 to 1 for tangent point depth.

While these designs have been prepared in accordance with recognized engineering principles and are based on accurate technical data available, designs should not be used without competent professional examination and verification of the accuracy, suitability, and applicability by a licensed design professional.

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