

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	40 Ft Span					50 Ft Span				
		End		Centerline Depth in.	Depth at Tangent in.	Soffit Radius ft	End		Centerline Depth in.	Depth at Tangent in.	Soffit Radius ft
		Width (Plumb) in.	Depth in.				Width (Plumb) in.	Depth in.			
400	2/12	5	10	33	28.8	33.3	5	12.5	41 1/2	33.0	68.6
		6 3/4	13 1/2	27 1/2	23.9	22.0	6 3/4	13 1/2	37	29.1	54.4
	3/12	5	10	35 1/2	26.8	24.7	5	12 1/2	44	34.5	26.7
		6 3/4	13 1/2	30	21.0	23.4	6 3/4	13 1/2	39 1/2	29.4	27.1
	4/12	5	10	39	24.8	21.4	5	12 1/2	48	32.8	22.5
		6 3/4	13 1/2	33 1/2	18.5	21.8	6 3/4	13 1/2	43	28.1	21.5
600	2/12	5	15	35	29.3	40.7	6 3/4	14	42	34.0	62.1
		6 3/4	13 1/2	32	28.2	25.8	8 1/2	17	37	30.5	41.8
	3/12	5	15	38	26.0	32.9	6 3/4	14	44 1/2	35.4	25.2
		6 3/4	13 1/2	34 1/2	25.6	23.7	8 1/2	17	39 1/2	29.4	27.0
	4/12	5	15	41 1/2	26.8	21.5	6 3/4	14	48 1/2	32.9	22.9
		6 3/4	13 1/2	38	23.3	21.4	8 1/2	17	43	27.5	22.1
800	2/12	5	19 1/2	36	31.4	29.0	6 3/4	18 1/2	43 1/2	36.7	48.4
		6 3/4	14 1/2	35	29.9	36.6	8 1/2	17	41	35.1	41.2
	3/12	5	19 1/2	42	28.5	36.4	6 3/4	18 1/2	47	33.3	37.6
		6 3/4	14 1/2	38	26.5	31.9	8 1/2	17	43 1/2	34.3	24.4
	4/12	5	19 1/2	48	28.0	29.7	6 3/4	18 1/2	50	34.1	22.8
		6 3/4	14 1/2	41 1/2	25.6	23.5	8 1/2	17	47 1/2	31.5	23.1
1000	2/12	5	23 1/2	40	33.5	41.6	6 3/4	22 1/2	45	37.8	47.8
		6 3/4	18	36	30.5	36.7	8 1/2	18 1/2	43 1/2	37.0	45.9
	3/12	5	26	45 1/2	31.6	36.0	6 3/4	22 1/2	51	35.9	41.0
		6 3/4	18	40 1/2	28.0	33.9	8 1/2	18 1/2	47	33.7	36.4
	4/12	5	29 1/2	50	35.6	24.0	6 3/4	22 1/2	54 1/2	39.4	21.2
		6 3/4	18	46	31.6	21.0	8 1/2	18 1/2	50	34.1	22.8

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 $F_{bx} = 2400$ psi $F_{vx} = 200$ psi
 $E_x = 1700000$ psi $F_{rt} = 67$ 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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