

Pulley & Sheave Radius Guides



The service life of cable and wire rope can be increased if (1) it operates over the largest possible pulley or sheave diameter, and (2) it is properly supported in the pulley or sheave groove. The working life of the individual wire strands is greatly reduced as the pulley or sheave diameter is diminished. The chart below shows minimum tread diameters over which various sizes and constructions of cable should operate.

The recommendations below are based on the standard D:d ratio where:

D = diameter of the pulley at its groove

d = diameter of the aircraft cable or wire rope

	Desired Minimum			Critical Minimum		
	4:1	24:1	12:1	28:1	18:1	10:1
	Construction			Construction		
Cable Diameter	6x7 or 7x7	6x19 or 7x19	6x31 or 6x37	6x7 or 7x7	6x19 or 7x19	6x31 or 6x37
1/16	2/5/8	---	---	1-3/4	---	---
1/32	2-15/16	2-1/4	---	2-5/8	1-11/16	---
1/8	5-1/4	3	---	3-1/2	2-1/4	---
5/32	6-9/16	3-3/4	---	4-3/8	2-7/8	---
3/16	7-7/8	4-1/2	---	5-1/4	3-3/8	---
7/32	9-13/16	5-1/4	---	6-1/8	4	---
1/4	10-1/2	6	3	7	4-1/2	2-1/2
5/16	13-1/8	7-1/2	3-3/4	8-3/4	5-5/8	3-1/8
3/8	15-3/4	9	4-1/2	10-1/2	6-3/4	3-3/4
7/16	18-3/8	10-1/2	5-1/4	12-1/4	7-7/8	4-3/8
1/2	21	12	6	14	9	5
9/16	23-5/8	13-1/2	6-3/4	15-3/4	10-1/8	5-5/8
5/8	26-1/4	15	7-1/2	17-1/2	11-1/4	6-1/4