

Recommended Bend Radius Guide

The tables below provide the minimum recommended pulley diameter as well as the approximate bend radius of the rope. You'll notice that the calculation is approximately half of the minimum recommended pulley tread diameter. Whether running fully over the sheave or drum, or some fraction thereof, check your design against the recommendations to better understand the service life you can expect, in relation to the other factors involved.

3x7, 6x7, 6x42, 7x3, & 7x7		
Rope Diameter	Min. Rec. Pulley Diameter	Approx. Bend Radius
0.009"	3/8"	3/16"
0.014"	5/8"	5/16"
0.024"	1"	1/2"
0.027"	1 5/32"	37/64"
0.030"	1 9/32"	41/64"
0.031"	1 5/16"	21/32"
0.032"	1 11/32"	43/64"
0.035"	1 1/2"	3/4"
0.036"	1 17/32"	49/64"
0.047"	2"	1"
0.063"	2 5/8"	1 5/16"
0.075"	3 9/32"	1 41/64"
0.094"	3 15/16"	1 31/32"
0.125"	5 1/4"	2 5/8"
0.156"	6 9/16"	3 9/32"
0.188"	7 7/8"	3 15/16"
0.250"	10 1/2"	5 1/4"
.0313"	13 1/8"	6 9/16"
0.375"	15 3/4"	7 7/8"

6x19, 7x19, & 19x7		
Rope Diameter	Min. Rec. Pulley Diameter	Approx. Bend Radius
0.024"	19/32"	19/64"
0.027"	21/32"	21/64"
0.032"	25/32"	25/64"
0.036"	7/8"	7/16"
0.038"	15/16"	15/32"
0.047"	1 1/8"	9/16"
0.063"	1 1/2"	3/4"
0.094"	2 1/4"	1 1/8"
0.125"	3"	1 1/2"
0.156"	3 3/4"	1 7/8"
0.178"	4 1/2"	2 1/4"
0.219"	5 1/4"	2 5/8"
0.250"	6"	3"
0.313"	7 1/2"	3 3/4"
0.375"	9"	4 1/2"
0.438"	10 1/2"	5 1/4"
0.500"	12"	6"
0.563"	13 1/2"	6 3/4"
0.625"	15"	7 1/2"

6x37 & 8x19		
Rope Diameter	Min. Rec. Pulley Diameter	Approx. Bend Radius
0.188"	2 1/4"	1 1/8"
0.250"	3"	1 1/2"
0.313"	3 3/4"	1 7/8"
0.375"	4 1/2"	2 1/4"
0.438"	5 1/4"	2 5/8"
0.500"	6"	3"
0.563"	6 3/4"	3 3/8"
0.625"	7 1/2"	3 3/4"

