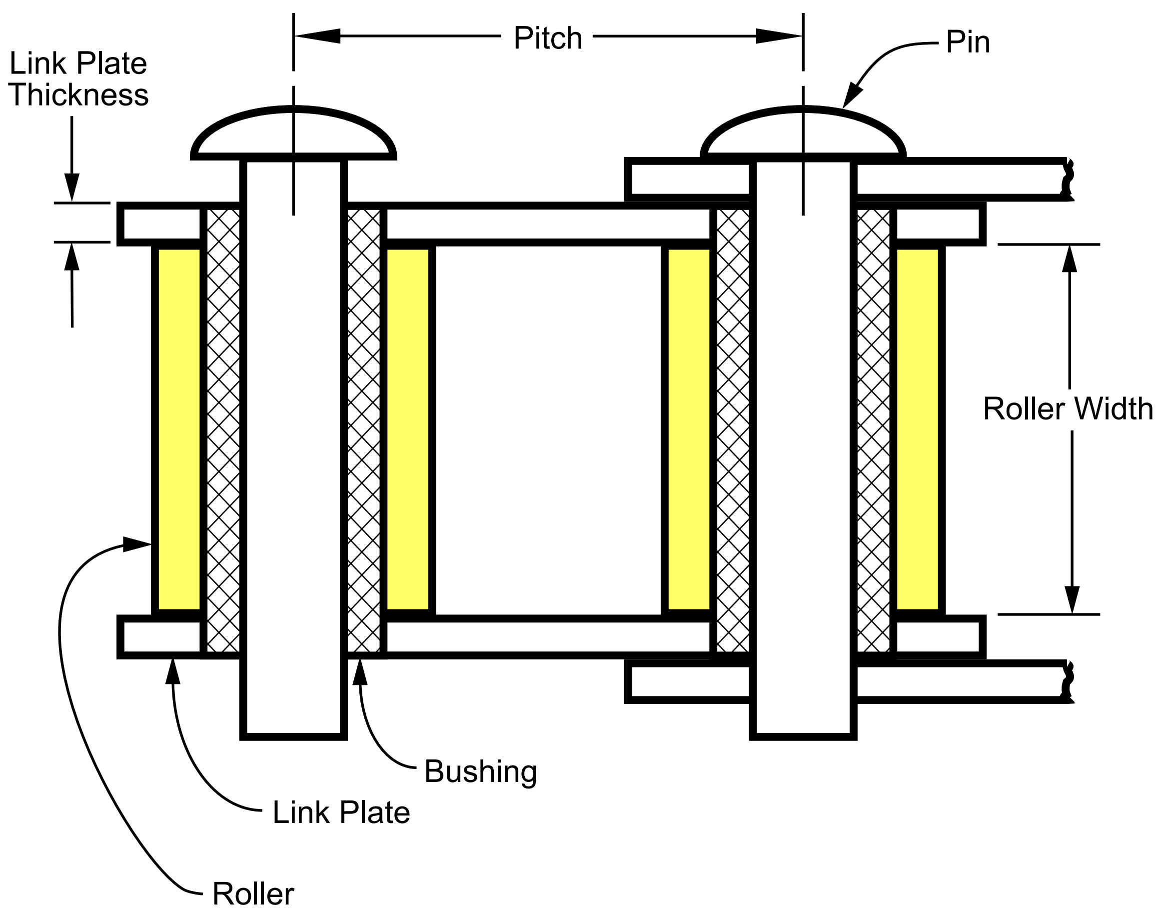
Standard Roller Chain Dimensions

Chain No.	Pitch In.	Roller Dia	Roller Width	Pin Dia	Link Plate Thick.	Ultimate Strength Lbs.	Wt/ft. Lbs.
25*	1/4	.130*	1/8	.0905	.030	875	.084
35*	3/8	.200*	3/16	.141	.050	2,100	.21
41†	1/2	.306	1/4	.141	.050	2,000	.28
40	1/2	5/16	5/16	.156	.060	3,700	.41
50	5/8	.400	3/8	.200	.080	6,100	.68
60	3/4	15/32	1/2	.234	.094	8,500	1.00
80	1	5/8	5/8	.312	.125	14,500	1.69
100	1-1/4	3/4	3/4	.375	.156	24,000	2.49
120	1-1/2	7/8	1	.437	.187	34,000	3.67
140	1-3/4	1	1	.500	.219	46,000	4.93
160	2	1-1/8	1-1/4	.562	.250	58,000	6.43
180	2-1/4	1-13/32	1-13/32	.687	.281	76,000	8.70
200	2-1/2	1-9/16	1-1/2	.781	.312	95,000	10.51
240	3	1-7/8	1-7/8	.937	.375	130,000	16.90

* Without Rollers
† Lightweight Chain



Horsepower Capacity of Roller Chains

At lower speeds, the horsepower capacity is determined by the fatigue life of the link plates. For this value use the following formula:

$$HP = K_1 \times N^{1.08} \times n^{0.9} \times p^{3.0-0.07p}$$

K_1	=	Constant, .004 for all chains except for No. 41 chain, then use .0022
N	=	Number of teeth in the smaller sprocket
n	=	rpm of the smaller sprocket
p	=	Chain pitch in inches

At higher speeds, the roller bushing fatigue life determines the horsepower capacity. For this value use the following formula:

$$HP = \frac{1{,}000 \times K_2 \times N^{1.5} \times p^{0.8}}{n^{1.5}}$$

K_2	=	Constant, 29 for chains Nos. 25 and 35 or 3.4 for chain No. 41 or 17 for chains Nos. 40 to 240
N	=	Number of teeth in the smaller sprocket
n	=	rpm of the smaller sprocket
p	=	Chain pitch in inches

Horsepower capacity is the lower of the two above calculations.