



Sky-Loc™ Common Shank Materials

Typical Material Characteristics				Comments
	UTS, ksi (MPa)	0.2% YS, ksi (Mpa)	Rock- well Hard- ness	
17-4 (H900)	210 (1448)	200 (1379)	C45	Our most popular material, 17-4 combines excellent corrosion resistance, strength and cost-effectiveness for most applications. Most common heat treats are H900 & H1150 (data given for H900.)
304	85 (586)	35 (241)	B80	304 stainless is available in tubing which makes it more cost-effective in low-strength applications. Big Sky manufactured the original 304 quick-release pins in 1999.
316	81 (558)	42 (290)	B79	For marine applications, 316 has the highest corrosion resistance of any stainless.
4130	223 (1537)	200 (1378)	C47	For high strength applications where corrosion is not an issue, 4130 is a good solution. Because it's available in tubing, it is typically used for longer pins.
Vasco 300	285 (1966)	275 (1897)	C50	Vasco 300 is an ideal choice for applications with extreme loading. Roughly 30% stronger than 17-4 stainless.
6AL4V	177 (1220)	163 (1120)	C40	6AL4V titanium is specified for low weight applications. Although materials costs are high, it has an unmatched strength-to-weight ratio and is the ultimate in corrosion resistance.
7075-T6	83 (572)	73 (503)	B87	7075-T6 aluminum is lighter and more cost-effective than titanium for low-strength, weight-sensitive applications. Normally clear-anodized, these can be virtually any color.

CD-SS: Calculated double-shear strength

MTL: Min tensile load (2 balls) ^Δ

Nom. Dia. (inches)	Stainless						Alloy Steel (zinc or cad plated)				Non-Ferrous Alloys			
	17-4 PH, H900		304		316		4130		Vasco 300		6AL4V Ti		7075-T6 Al	
	CD-SS (pounds)	MTL (pounds)	CD-SS (pounds)	MTL (pounds)	CD-SS (pounds)	MTL (pounds)	CD-SS (pounds)	MTL (pounds)	CD-SS (pounds)	MTL (pounds)	CD-SS (pounds)	MTL (pounds)	CD-SS (pounds)	MTL (pounds)
3/16	5,150	200	1,500	150	1,400	150	4,600	200	6,600	220	4,300	200	1,750	160
1/4	9,200	230	2,200	180	2,100	180	8,200	230	11,800	250	7,800	230	3,100	190
5/16	14,400	510	3,500	400	3,300	400	12,800	510	18,400	560	12,000	510	5,000	410
3/8	20,600	575	4,500	450	4,200	450	18,400	575	26,300	630	16,000	575	6,600	470
1/2	36,800	1,160	11,500	900	10,800	900	32,800	1,160	47,000	1,280	28,000	1,160	11,000	930
5/8	57,500	2,070	20,000	1,500	18,800	1,500	51,200	2,070	73,400	2,280	51,000	2,070	20,000	1,550
3/4	82,500	2,950	23,000	2,200	21,600	2,200	73,600	2,950	105,400	3,250	65,000	2,950	26,000	2,280
1	147,000	5,480	35,000	4,100	32,900	4,100	131,000	5,480	187,700	6,030	131,000	5,480	53,000	4,240

Notes:

Units are inches and pounds

^Δ Add 30% for 4-ball pins

Please note: above values are calculated based upon best available data for static loading conditions. For critical applications, Big Sky can test statistically relevant lots to your specifications.



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