



Pin Standards



Pinning is a reliable and positive fastening method. The pin can be designed to shear under overload conditions.

Straight pins require precision because of their interference fit, whereas tapered pins avoid reaming to critical diametordimensions. The strain on the shaftcaused byatightly driven taper pin can cause shaft bowing. Roll pins and Spiral pins present an economical solution.

The allowable shearing force and torque is given in the following table, It has to be noted that if recommended shaft size is used, the shaft strength will be the limiting factor rather than the pin.

SHEAR STRENGTHS FOR SOLID PINS

Straight Pin Diameter	Cross Section Area sq. in.	Double Shear Area sq.in.	Double Shear Strength lb.		*Shear Torque lb. -in.		Tapper Pin Equivalent	Recommended Shaft Size
			C1212	S.S18-8	C1212	S.S18-8		
.031	.0008	.0016	104	144	4	5.5	9/0	.093
.047	.0017	.0034	220	306	15.2	21	8/0	.141
.062	.0031	.0062	402	558	37.6	52	7/0	.183
.078	.0048	.0096	624	864	68	94	6/0	.219
.093	.0069	.0138	896	1242	112	155	5/0	.250
.109	.0094	.0188	1222	1692	190.4	263	4/0	.312
.125	.0123	.0246	1600	2214	299.2	413	3/0	.375

This table is calculated on C1212 and S.S. 18-8 shearing strength of 65,000 psi, and 90,000 psi, respectively.

* Shear torque values should be divided by a safety factor of 8 to yield recommended working torques.

ROLL PIN HOLE TOLERANCES AND SHEAR STRENGTHS

Hole Diameter	Recommended Hole Size		Minimum Double Shear Strength lb. Carbon Steel and Stainless Steel
	Nominal	Minimum	
.062	.062	.065	425
.094	.094	.097	1000
.125	.125	.129	2100
.156	.156	.160	3000
.187	.187	.192	4400