

Ramset fasteners may be specified by their type or catalog number to satisfy fastening requirements.

PIN SPECIFICATIONS

- Made from AISI 1070 steel. Austempered to a core hardness of 52-56 Rc
- Typical tensile strength: 270,000 psi
- Typical shear strength: 162,000 psi
- **STANDARD FINISHES**

Mechanical zinc plate to a minimum thickness of .0002 meets requirements of ASTM B695—Class 5 Type 1

APPROVALS/LISTINGS

- **ICC Evaluation Service, Inc.**
#ESR-1799 Powder Pins & Clips
- **City of Los Angeles**
#RR-22668 Powder pins



FASTENERS IN NORMAL WEIGHT CONCRETE										
PART NUMBER SERIES	SHANK DIAMETER (INCH)	MINIMUM PENETRATION (INCH)	INSTALLED IN STONE AGGREGATE CONCRETE CONCRETE COMPRESSIVE STRENGTH ALLOWABLE LOAD - Ultimate Load							
			2000 PSI		4000 PSI		6000 PSI			
			TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
1500/1600 SERIES	0.145	3/4	50 655	66 739	100 511	104 552	.....	.....	.....	.....
		1	152 943	166 1229	157 937	182 1342	.....	.....	.....	.....
		1-1/4	159 1078	265 1665	179 1043	267 1538	.....	.....	.....	.....
		1-1/2	154 1450	340 2027	209 1357	342 1712	.....	.....	.....	.....

FASTENERS IN LIGHTWEIGHT CONCRETE						
PART NUMBER SERIES	SHANK DIAMETER (INCH)	MINIMUM PENETRATION (INCH)	ALLOWABLE WORKING VALUES INSTALLED IN 3000 PSI LIGHTWEIGHT CONCRETE ALLOWABLE LOAD - Ultimate Load			
			3000 PSI LIGHTWEIGHT W/DECKING		3000 PSI LIGHTWEIGHT	
			LOWER FLUTE TENSION	LOWER FLUTE SHEAR	TENSION	SHEAR
1500 SERIES	0.145	3/4	76 395	260 1409	167 837	179 894
		1	134 668	265 1505	200 998	228 1141
		1-1/4	157 784	269 1344	333 1664	400 2090
		1-1/2	233 1163	346 1728	391 1957	410 2050

Note 1: ALLOWABLE loads are shown in the **LARGE BOLD** font, Ultimate loads are shown in smaller italic font. **Note 2:** Testing conducted in accordance with ICC AC70 & ASTM E1190. **Note 3:** Safety factors are based on coefficient of variation. In accordance with ICC AC70, the safety factor will be no less than 5. **Note 4:** Values shown in concrete are for the fastener only. Connected members must be investigated separately. **Note 5:** Cyclic, fatigue, shock loads, and other design criteria may require a different safety factor. **Note 6:** Job site testing may be required to determine actual job site values. **Note 7:** Minimum edge distance is 3 inches unless otherwise approved. **Note 8:** For SI: 1 lbf = 4.448 N, 1 inch = 25.4 mm, 1 ksi = 6.89MPa

FASTENERS IN STEEL												
PART NUMBER SERIES	SHANK DIA (INCH)	TYPE OF SHANK	INSTALLED IN A36 STRUCTURAL STEEL-STEEL THICKNESS (INCHES) ALLOWABLE LOAD - Ultimate Load									
			3/16		1/4		3/8		1/2		3/4	
			TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
1500/1600	0.145	SMOOTH	81 790	373 2039	181 1269	273 1642	397 2169	489 2771	243 1328 ⁸	277 1514 ⁸	.....	.....
		KNURLED	296 1633	636 3516	584 3384	659 3822	680 3755	730 4030	253 1459 ⁸	293 1632 ⁸	.....	.....

PART NUMBER SERIES	SHANK DIA (INCH)	TYPE OF SHANK	INSTALLED IN A572 GRADE 50 STRUCTURAL STEEL-STEEL THICKNESS (INCHES) ALLOWABLE LOAD - Ultimate Load									
			3/16		1/4		3/8		1/2		3/4	
			TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
1500/1600	0.145	SMOOTH	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		KNURLED	260 1609	499 3182	579 3411	725 4272	383 2216 ⁷	595 3431 ⁷	.....	.....	.....	.....

Note 1: ALLOWABLE loads are shown in the **LARGE BOLD** font, Ultimate loads are shown in smaller italic font. **Note 2:** Testing conducted in accordance with ICC AC70 & ASTM E1190. **Note 3:** Safety factors are based on coefficient of variation. In accordance with ICC AC70, the safety factor will be no less than 5. **Note 4:** Cyclic, fatigue, shock loads, and other design criteria may require a different safety factor. **Note 5:** Job site testing may be required to determine actual job site values. **Note 6:** Values shown are for fastenings that have the entire pointed end of the fastener driven through the steel plate; except as noted below. **Note 7:** Fastener penetration is 3/8" minimum. **Note 8:** Fastener penetration is 7/16" minimum. **Note 9:** Fastener penetration is 1/2" minimum. **Note 10:** For SI: 1 lbf = 4.448 N, 1 inch = 25.4 mm, 1 ksi = 6.89MPa. * Partial penetration = .28