1500 SERIES PERFORMANCE/SUBMITTAL

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)
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