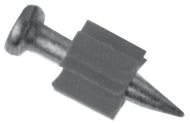
PULLOUT LOADS IN CONCRETE



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

PIN SPECIFICATIONS

- Made from AISI 1060-1065 steel. Austempered to a core hardness of 52-56 Rc
- Typical tensile strength: 270,000 psi
- Typical shear strength: 162,000 psi
- STANDARD FINISHES
  - Proprietary black
  - Mechanical zinc plate to a minimum thickness of .0002 meets requirements of ASTM B695

APPROVALS/LISTINGS

ICC Evaluation Service, Inc.

#ER-1147 Sill Plate
#ESR-1799 Powder Pins & Clips
#ESR-2579 TrakFast Pins
#ESR-1955 T3 Pins

City of Los Angeles

#RR-22668 Powder pins
#RR-25264 TrakFast pins

Performance Tables

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*	-----	-----	-----	-----
SP	0.150	3/4	-----	-----	-----	-----	**150**	*803*	**105**	*786*	**81**	*493*	**82**	*454*
SP SERIES	.150/.180	1	**154**	*1043*	**200**	*1173*	**243**	*1307*	**175**	*1037*	**189**	*1125*	**210**	*1177*
		1-1/4	**207**	*1553*	**230**	*1636*	**298**	*1749*	**218**	*1471*	**213**	*1568*	**305**	*1780*
		1-1/2	-----	-----	-----	-----	**384**	*2126*	**391**	*1957*	**239**	*1886*	**594**	*2968*
3300 SERIES	0.180	1	**196**	*1084*	**100**	*1328*	**255**	*1504*	**284**	*1557*	-----	-----	-----	-----
		1-1/4	**241**	*1207*	**329**	*1710*	**294**	*1574*	**373**	*2104*	-----	-----	-----	-----
		1-1/2	**254**	*1601*	**379**	*1971*	**419**	*2239*	**501**	*2505*	-----	-----	-----	-----
1900	0.145	3/4	**105**	*694*	**71**	*458*	**101**	*685*	**99**	*627*	-----	-----	-----	-----
9100 STUD	0.205	1	**187**	*988*	**212**	*1385*	**186**	*1070*	**303**	*1618*	-----	-----	-----	-----
		1-1/4	**262**	*1450*	**304**	*1674*	**335**	*2161*	**400**	*2000*	-----	-----	-----	-----

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

Tables converted to metric are available on our website.