

# Power-Stud+™ SD1 Wedge Expansion Anchor

## PRODUCT DESCRIPTION

The Power-Stud+ SD1 anchor is a fully threaded, torque-controlled, wedge expansion anchor which is designed for consistent performance in cracked and uncracked concrete. Suitable base materials include normal-weight concrete, structural sand-lightweight concrete and concrete over steel deck. The anchor is manufactured with a zinc plated carbon steel body and expansion clip. Nut and washer are included.

## GENERAL APPLICATIONS AND USES

- Structural connections, i.e., beam and column anchorage
- Safety-related attachments
- Interior applications / low level corrosion environment
- Tension zone applications, i.e., cable trays and strut, pipe supports, fire sprinklers
- Seismic and wind loading

## FEATURES AND BENEFITS

- + Consistent performance in high and low strength concrete
- + Nominal drill bit size is the same as the anchor diameter
- + Anchor can be installed through standard fixture holes
- + Length ID code and identifying marking stamped on head of each anchor
- + Anchor design allows for follow-up expansion after setting under tensile loading

## APPROVALS AND LISTINGS

International Code Council, Evaluation Service (ICC-ES), ESR-2818 for concrete  
 Code compliant with the 2009 IBC, 2009 IRC, 2006 IBC, 2006 IRC, 2003 IBC, 2003 IRC and 1997 UBC  
 International Code Council, Evaluation Service (ICC-ES), ESR-2966 for masonry Code compliant with the 2006 IBC, 2006 IRC, 2003 IBC, 2003 IRC, 2000 IBC, and 1997 UBC  
 Tested in accordance with ACI 355.2 and ICC-ES AC 193 for use in structural concrete under the design provisions of ACI 318 (Strength Design method using Appendix D)  
 Evaluated and qualified by an accredited independent testing laboratory for recognition in cracked and uncracked concrete including seismic and wind loading (Category 1 anchors)  
 FM Global (Factory Mutual) - File No. 3033795, 3/8" and 1/2" diameters Pipe hanger components for automatic sprinkler systems  
 Underwriters Laboratories (UL Listed) - File No. EX1289. See listing for sizes.

## GUIDE SPECIFICATIONS

**CSI Divisions:** 03151-Concrete Anchoring, 04081-Masonry Anchorage and 05090-Metal Fastenings.  
 Expansion anchors shall be Power-Stud+ SD1 as supplied by Powers Fasteners, Inc., Brewster, NY.  
 Anchors shall be installed in accordance with published instructions and the Authority Having Jurisdiction.

## MATERIAL SPECIFICATIONS

Anchor component	Specification
Anchor body	Medium carbon steel
Hex nut	Carbon steel, ASTM A 563, Grade A
Washer	Carbon steel, ASTM F 844; meets dimensional requirements of ANSI B18.22.2, Type A plain
Expansion wedge (clip)	Carbon steel
Plating	Zinc plating according to ASTM B 633, SC1, Type III (Fe/Zn 5) Minimum plating requirement for Mild Service Condition



### THREAD VERSION

UNC threaded stud

### ANCHOR MATERIALS

Zinc plated carbon steel body and expansion clip, nut and washer

### ANCHOR SIZE RANGE (TYP.)

1/4" diameter (uncracked concrete only)  
 3/8" diameter through 1-1/4" diameter

### SUITABLE BASE MATERIALS

Normal-weight concrete  
 Structural sand-lightweight concrete  
 Concrete over steel deck  
 Grouted concrete masonry (CMU)



This Product Available In



**Powers Design Assist**  
 Real Time Anchor Design Software  
[www.powersdesignassist.com](http://www.powersdesignassist.com)

**ORDERING INFORMATION**

**Power-Stud+ SD1 (Carbon Steel Body and Expansion Clip)**

Cat. No.	Anchor Size	Thread Length	Box Qty.	Carton Qty.	Wt./100 (lbs)
7400SD1	1/4" x 1-3/4"	3/4"	100	600	3
7402SD1	1/4" x 2-1/4"	1-1/4"	100	600	4
7404SD1	1/4" x 3-1/4"	2-1/4"	100	600	5
7410SD1	3/8" x 2-1/4"	7/8"	50	300	8
7412SD1	3/8" x 2-3/4"	1-3/8"	50	300	9
7413SD1	3/8" x 3"	1-5/8"	50	300	10
7414SD1	3/8" x 3-1/2"	2-1/8"	50	300	12
7415SD1	3/8" x 3-3/4"	2-3/8"	50	300	13
7416SD1	3/8" x 5"	3-5/8"	50	300	15
7417SD1	3/8" x 7"	5-5/8"	50	200	21
7420SD1	1/2" x 2-3/4"	1"	50	200	19
7422SD1	1/2" x 3-3/4"	2"	50	200	23
7423SD1	1/2" x 4-1/2"	2-3/4"	50	200	27
7424SD1	1/2" x 5-1/2"	3-3/4"	50	150	30
7426SD1	1/2" x 7"	5-1/4"	25	100	38
7427SD1	1/2" x 8-1/2"	6-3/4"	25	100	44
7430SD1	5/8" x 3-1/2"	1-1/2"	25	100	37
7432SD1	5/8" x 4-1/2"	2-1/2"	25	100	43
7433SD1	5/8" x 5"	3"	25	100	47
7434SD1	5/8" x 6"	4"	25	75	53
7436SD1	5/8" x 7"	5"	25	75	60
7438SD1	5/8" x 8-1/2"	6-1/2"	25	50	70
7439SD1	5/8" x 10"	8-1/2"	25	75	87
7440SD1	3/4" x 4-1/4"	2-3/8"	20	60	63
7441SD1	3/4" x 4-3/4"	2-7/8"	20	60	68
7442SD1	3/4" x 5-1/2"	3-5/8"	20	60	76
7444SD1	3/4" x 6-1/4"	3-3/8"	20	60	83
7446SD1	3/4" x 7"	3-3/8"	20	60	91
7448SD1	3/4" x 8-1/2"	3-3/8"	10	40	107
7449SD1	3/4" x 10"	3-3/8"	10	30	123
7451SD1	3/4" x 12"	3-3/8"	10	30	144
7450SD1	7/8" x 6"	2-3/4"	10	20	128
7452SD1	7/8" x 8"	4-3/4"	10	40	161
7454SD1	7/8" x 10"	6-3/4"	10	30	187
7461SD1	1" x 6"	4-1/2"	10	30	168
7463SD1	1" x 9"	4-1/2"	10	30	234
7465SD1	1" x 12"	4-1/2"	5	15	307
7473SD1	1-1/4" x 9"	4-3/4"	5	15	374
7475SD1	1-1/4" x 12"	7-3/4"	5	15	476



**Installation Accessories**

Cat. No.	Description	Box Qty.
08466	Adjustable torque wrench with 1/2" square drive (25 to 250 ft.-lbs.)	1
08280	Hand pump / dust blower	1



ICC-ES Pending

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**Tie Wire Power-Stud+ SD1 (Carbon Steel Body and Expansion Clip)**

7409SD1	1/4"	N/A	100	500	3
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Shaded catalog numbers denote sizes which are less than the minimum standard anchor length for strength design.

The published size includes the diameter and the overall length of the anchor.

All anchors are packaged with nuts and washers.

