GENERAL INFORMATION

POWER-STUD®+ SD4/SD6

Stainless Steel Wedge Expansion Anchors

PRODUCT DESCRIPTION

The Power-Stud+™ SD4 and Power-Stud+™ SD6 anchors are fully threaded, torque-controlled, stainless steel wedge expansion anchors which are designed for consistent performance in cracked and uncracked concrete. Suitable base materials are normal-weight, sand-lightweight concrete, and grouted concrete masonry (CMU). The anchor is manufactured with a stainless steel body and expansion clip. Nut and washer are included.

GENERAL APPLICATIONS AND USES

- Structural connections, i.e., beam and column anchorage
- Safety-related and common attachments
- Interior and exterior applications
- Tension zone applications, i.e., cable trays and strut, pipe supports, fire sprinklers

FEATURES AND BENEFITS

+ Knurled mandrel design provides consistent performance in cracked concrete and helps prevent galling during service life.
+ Nominal drill bit size is the same as the anchor diameter
+ Anchor can be installed through standard clearance 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
+ Corrosion resistant stainless steel anchors
+ Domestically manufactured by request, call for details

APPROVALS AND LISTINGS

- International Code Council Evaluation Service (ICC-ES), ESR-2502 for cracked and uncracked concrete [2015 IBC, 2015 IRC, 2012 IBC & IRC, 2009 IBC & IRC, and 2006 IBC & IRC]
- Tested in accordance with ACI 355.2/ASTM E 488 and ICC-ES AC193 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)

GUIDE SPECIFICATIONS

CSI Divisions: 031600-Concrete Anchors, 04 05 19.16 - Masonry Anchors and 050519 Post-installed Concrete Anchors. Expansion anchors shall be Power-Stud+ SD4 and Power-Stud+ SD6 as supplied by Powers Fasteners, Inc., Brewster, NY. Anchors shall be installed in accordance with published instructions and the Authority Having Jurisdiction.

SECTION CONTENTS

POWER-STUD+ STAINLESS STEEL ASSEMBLY

THREAD VERSION

- UNC threaded stud

ANCHOR MATERIALS

- Stainless steel body and expansion clip, nut and washer

ANCHOR SIZE RANGE (TYP.)

- 1/4" diameter through 3/4" diameter

SUITABLE BASE MATERIALS

- Normal-weight concrete
- Structural sand-lightweight
- Grouted Concrete Masonry (CMU)

This Product Available In

Powers Design Assist®
Real-Time Anchor Design Software
www.powersdesignassist.com

CODE LISTED
ICC-ES ESR-2502
CONCRETE

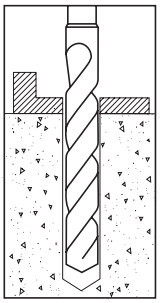
MATERIAL SPECIFICATIONS

Anchor component	Specification	
	SD4[1]	SD6[1]
Anchor body	Type 304 Stainless Steel	Type 316 Stainless Steel
Washer	300 Series Stainless Steel	Type 316 Stainless Steel
Hex Nut	Type 316 Stainless Steel	
Expansion wedge (clip)	Type 316 Stainless Steel	

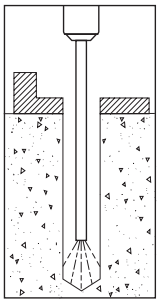
1. Domestically manufactured anchors are available upon request (see ordering information for details).

INSTALLATION INSTRUCTIONS

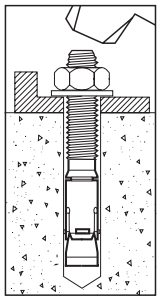
Installation Instructions for Power-Stud+ SD4 and Power-Stud+ SD6



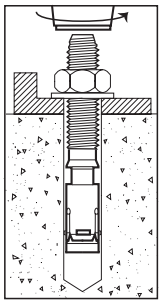
Step 1
Using the proper drill bit size, drill a hole into the base material to the required depth. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15.



Step 2
Remove dust and debris from the hole, using a hand pump, compressed air or a vacuum to remove loose particles left from drilling.



Step 3
Position the supplied washer on the anchor and thread on the supplied nut. If installing through a fixture, drive the anchor through the fixture into the hole. Be sure the anchor is driven to the minimum required embedment depth.



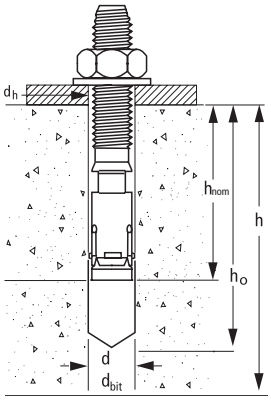
Step 4
Tighten the anchor with a torque wrench by applying the required installation torque, T_{inst}.

Length Identification

Mark	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
From	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5"	5-1/2"	6"	6-1/2"	7"	7-1/2"	8"	8-1/2"	9"	9-1/2"	10"
Up to but not including	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5"	5-1/2"	6"	6-1/2"	7"	7-1/2"	8"	8-1/2"	9"	9-1/2"	10"	11"

Length identification mark indicates overall length of anchor.

Anchor Detail



Nomenclature

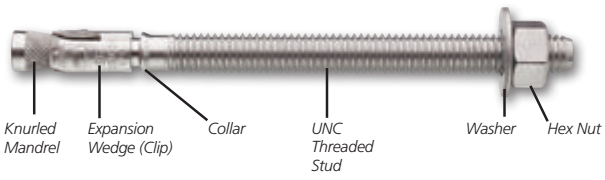
d = Diameter of anchor
d_{bit} = Diameter of drill bit
d_h = Diameter of fixture clearance hole
h = Base material thickness
The minimum value of h should be $1.5h_{nom}$ or 3" whichever is greater
h_{nom} = Minimum embedment depth

Head Marking

Legend

Letter Code = Length Identification Mark
'+' Symbol = Strength Design Compliant Anchor (see ordering information, symbol not on 1/4" diameter anchors)
Number Code = Stainless Steel Body Type (4 or 6)

Anchor Assembly



REFERENCE DATA (ASD)

Installation Specifications Table for Power-Stud+ SD4 and Power-Stud+ SD6 in Concrete

Anchor Property/Setting Information	Notation	Units	Nominal Anchor Diameter (inch)				
			1/4	3/8	1/2	5/8	3/4
Anchor outside diameter	d	in. (mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)
Nominal drill bit diameter	d_{bit}	in.	1/4 ANSI	3/8 ANSI	1/2 ANSI	5/8 ANSI	3/4 ANSI
Minimum diameter of hole clearance in fixture	d_h	in. (mm)	5/16 (7.9)	7/16 (11.1)	9/16 (14.3)	11/16 (17.5)	13/16 (20.6)
Minimum embedment depth	h_{nom}	in. (mm)	1-3/4 (44)	1-7/8 (48)	2-1/2 (64)	3-1/4 (83)	3-3/4 (95)
Minimum hole depth	h_o	in. (mm)	1-7/8 (48)	2 (51)	2-5/8 (67)	3-1/2 (89)	4 (102)
Installation torque	T_{inst}	ft.-lbf. (N-m)	6 (8)	25 (34)	40 (54)	60 (81)	110 (149)
Torque wrench/socket size	-	in.	7/16	9/16	3/4	15/16	1-1/8
Nut height	-	in.	7/32	21/64	7/16	35/64	41/64

For SI: 1 inch = 25.4 mm, 1 ft-lbf = 1.356 N-m.

Ultimate Load Capacities for Power-Stud+ SD4 and Power-Stud+ SD6 in Normal-Weight Concrete[1,2]

Nominal Anchor Diameter in.	Minimum Embedment Depth h_{nom} in. (mm)	Minimum Concrete Compressive Strength									
		f'c = 2,500 psi (17.3 MPa)		f'c = 3,000 psi (20.7 MPa)		f'c = 4,000 psi (27.6 MPa)		f'c = 6,000 psi (41.4 MPa)		f'c = 8,000 psi (55.2 MPa)	
		Tension lbs (kN)	Shear lbs (kN)	Tension lbs (kN)	Shear lbs (kN)	Tension lbs (kN)	Shear lbs (kN)	Tension lbs (kN)	Shear lbs (kN)	Tension lbs (kN)	Shear lbs (kN)
1/4	1-1/8 (29)	1,095 (4.9)	2,135 (9.5)	1,200 (5.3)	2,135 (9.5)	1,390 (6.2)	2,135 (9.5)	1,455 (6.5)	2,135 (9.5)	1,680 (7.5)	2,135 (9.5)
	1-3/4 (44)	1,890 (8.4)	2,135 (9.5)	2,070 (9.2)	2,135 (9.5)	2,390 (10.6)	2,135 (9.5)	2,480 (11.0)	2,135 (9.5)	2,480 (11.0)	2,135 (9.5)
3/8	1-3/8 (41)	1,530 (6.8)	2,745 (12.2)	1,680 (7.5)	2,745 (12.2)	1,940 (8.6)	2,745 (12.2)	2,520 (11.2)	2,745 (12.2)	2,910 (12.9)	2,745 (12.2)
	1-7/8 (48)	2,790 (12.4)	2,745 (12.2)	3,060 (13.6)	2,745 (12.2)	3,530 (15.7)	2,745 (12.2)	4,195 (18.7)	2,745 (12.2)	4,840 (21.5)	2,745 (12.2)
	3 (76)	4,700 (20.9)	2,745 (12.2)	4,895 (21.8)	2,745 (12.2)	4,895 (21.8)	2,745 (12.2)	4,895 (21.8)	2,745 (12.2)	4,895 (21.8)	2,745 (12.2)
1/2	1-7/8 (48)	2,745 (12.2)	5,090 (22.6)	3,010 (13.4)	5,090 (22.6)	3,475 (15.5)	5,090 (22.6)	4,525 (20.1)	5,090 (22.6)	5,230 (23.3)	5,090 (22.6)
	2-3/8 (60)	5,370 (23.9)	5,090 (22.6)	5,880 (26.2)	5,090 (22.6)	6,790 (30.2)	5,090 (22.6)	6,790 (30.2)	5,090 (22.6)	7,845 (34.9)	5,090 (22.6)
	3-3/4 (95)	8,840 (39.3)	5,090 (22.6)	9,300 (41.4)	5,090 (22.6)	9,300 (41.4)	5,090 (22.6)	9,300 (41.4)	5,090 (22.6)	9,300 (41.4)	5,090 (22.6)
5/8	2-1/2 (64)	5,015 (22.3)	9,230 (41.1)	5,495 (24.4)	9,230 (41.1)	6,345 (28.2)	9,230 (41.1)	7,250 (32.2)	9,230 (41.1)	8,370 (37.2)	9,230 (41.1)
	3-1/4 (83)	6,760 (30.1)	9,230 (41.1)	7,405 (32.9)	9,230 (41.1)	8,560 (38.1)	9,230 (41.1)	9,615 (42.8)	9,230 (41.1)	11,105 (49.4)	9,230 (41.1)
	4-3/4 (121)	10,550 (46.9)	9,230 (41.1)	11,555 (51.4)	9,230 (41.1)	13,345 (59.4)	9,230 (41.1)	14,560 (64.8)	9,230 (41.1)	14,560 (64.8)	9,230 (41.1)
3/4	3-3/8 (86)	6,695 (29.8)	11,255 (50.1)	7,330 (32.6)	12,625 (56.2)	8,465 (37.7)	14,580 (64.9)	9,705 (43.2)	15,440 (68.7)	11,210 (49.9)	15,440 (68.7)
	4-1/2 (114)	10,800 (48.0)	15,440 (68.7)	11,830 (52.6)	15,440 (68.7)	13,575 (60.4)	15,440 (68.7)	17,110 (76.1)	15,440 (68.7)	19,760 (87.9)	15,440 (68.7)
	5-5/8 (143)	11,730 (52.2)	15,440 (68.7)	12,850 (57.2)	15,440 (68.7)	13,575 (60.4)	15,440 (68.7)	19,710 (87.7)	15,440 (68.7)	21,705 (96.5)	15,440 (68.7)

1. Tabulated load values are for anchors installed in uncracked concrete with no edge or spacing considerations. Concrete compressive strength must be at the specified minimum at the time of installation.
2. Ultimate load capacities must be reduced by a minimum safety factor of 4.0 or greater to determine allowable working loads.

Allowable Load Capacities for Power-Stud+ SD4 and Power-Stud+ SD6 in Normal-Weight Concrete[1,2,3,4]

Nominal Anchor Diameter in.	Minimum Embedment Depth h_{nom} in. (mm)	Minimum Concrete Compressive Strength									
		f'c = 2,500 psi (17.3 MPa)		f'c = 3,000 psi (20.7 MPa)		f'c = 4,000 psi (27.6 MPa)		f'c = 6,000 psi (41.4 MPa)		f'c = 8,000 psi (55.2 MPa)	
		Tension lbs (kN)	Shear lbs (kN)	Tension lbs (kN)	Shear lbs (kN)	Tension lbs (kN)	Shear lbs (kN)	Tension lbs (kN)	Shear lbs (kN)	Tension lbs (kN)	Shear lbs (kN)
1/4	1-1/8 (28)	275 (1.2)	535 (2.4)	300 (1.3)	535 (2.4)	350 (1.6)	535 (2.4)	365 (1.6)	535 (2.4)	420 (1.9)	535 (2.4)
	1-3/4 (44)	475 (2.1)	535 (2.4)	520 (2.3)	535 (2.4)	600 (2.7)	535 (2.4)	620 (2.8)	535 (2.4)	620 (2.8)	535 (2.4)
3/8	1-3/8 (41)	385 (1.7)	685 (3.0)	420 (1.9)	685 (3.0)	485 (2.2)	685 (3.0)	630 (2.8)	685 (3.0)	730 (3.2)	685 (3.0)
	1-7/8 (60)	700 (3.1)	685 (3.0)	765 (3.4)	685 (3.0)	885 (3.9)	685 (3.0)	1,050 (4.7)	685 (3.0)	1,210 (5.4)	685 (3.0)
	3 (60)	1,175 (5.2)	685 (3.0)	1,225 (5.4)	685 (3.0)	1,225 (5.4)	685 (3.0)	1,225 (5.4)	685 (3.0)	1,225 (5.4)	685 (3.0)
1/2	1-7/8 (57)	685 (3.0)	1,275 (5.7)	755 (3.4)	1,275 (5.7)	870 (3.9)	1,275 (5.7)	1,130 (5.0)	1,275 (5.7)	1,310 (5.8)	1,275 (5.7)
	2-3/8 (64)	1,345 (6.0)	1,275 (5.7)	1,470 (6.5)	1,275 (5.7)	1,700 (7.6)	1,275 (5.7)	1,700 (7.6)	1,275 (5.7)	1,960 (8.7)	1,275 (5.7)
	3-3/4 (95)	2,210 (9.8)	1,275 (5.7)	2,325 (10.3)	1,275 (5.7)	2,325 (10.3)	1,275 (5.7)	2,325 (10.3)	1,275 (5.7)	2,325 (10.3)	1,275 (5.7)
5/8	2-1/2 (70)	1,255 (5.6)	2,310 (10.3)	1,375 (6.1)	2,310 (10.3)	1,585 (7.1)	2,310 (10.3)	1,815 (8.1)	2,310 (10.3)	2,095 (9.3)	2,310 (10.3)
	3-1/4 (86)	1,690 (7.5)	2,310 (10.3)	1,850 (8.2)	2,310 (10.3)	2,140 (9.5)	2,310 (10.3)	2,405 (10.7)	2,310 (10.3)	2,775 (12.3)	2,310 (10.3)
	4-3/4 (117)	2,640 (11.7)	2,310 (10.3)	2,890 (12.9)	2,310 (10.3)	3,335 (14.8)	2,310 (10.3)	3,640 (16.2)	2,310 (10.3)	3,640 (16.2)	2,310 (10.3)
3/4	3-3/8 (86)	1,675 (7.5)	2,815 (12.5)	1,835 (8.2)	3,155 (14.0)	2,115 (9.4)	3,645 (16.2)	2,425 (10.8)	3,860 (17.2)	2,805 (12.5)	3,860 (17.2)
	4-1/2 (114)	2,700 (12.0)	3,860 (17.2)	2,960 (13.2)	3,860 (17.2)	3,395 (15.1)	3,860 (17.2)	4,280 (19.0)	3,860 (17.2)	4,940 (22.0)	3,860 (17.2)
	5-5/8 (143)	2,935 (13.1)	3,860 (17.2)	3,215 (14.3)	3,860 (17.2)	3,395 (15.1)	3,860 (17.2)	4,930 (21.9)	3,860 (17.2)	5,425 (24.1)	3,860 (17.2)

1. Tabulated load values are for anchors installed in uncracked concrete. Concrete compressive strength must be at the specified minimum at the time of installation.
2. Allowable load capacities listed are calculated using and applied safety factor of 4.0.
3. Allowable load capacities must be multiplied by reduction factors when anchor spacing or edge distances are less than critical distances.
4. Linear interpolation may be used to determine allowable loads for intermediate embedments and compressive strengths.

SPACING DISTANCE AND EDGE DISTANCE ADJUSTMENT FACTORS FOR NORMAL WEIGHT CONCRETE - TENSION (F_{NS}, F_{NC})

Spacing Reduction Factors - Tension (F_{NS})

Diameter (in)		1/4	3/8	1/2	5/8	3/4
Nominal Embed. h_{nom} (in)		1-3/4	1-7/8	2-1/2	3-1/4	4-1/2
Minimum Spacing, s_{min} (in)		2	3	3	5	5
Spacing Distance (inches)	1-3/4	-	-	-	-	-
	2	0.79	-	-	-	-
	2-1/4	0.81	-	-	-	-
	2-1/2	0.83	-	-	-	-
	2-3/4	0.85	-	-	-	-
	3	0.87	0.87	0.82	-	-
	3-1/2	0.91	0.91	0.85	-	-
	4	0.96	0.96	0.88	-	-
	4-1/2	1.00	1.00	0.91	-	-
	5	1.00	1.00	0.94	0.85	0.76
	5-1/2	1.00	1.00	0.97	0.87	0.78
	6	1.00	1.00	1.00	0.90	0.80
	6-1/2	1.00	1.00	1.00	0.92	0.82
	7	1.00	1.00	1.00	0.94	0.84
	7-1/2	1.00	1.00	1.00	0.97	0.86
	8	1.00	1.00	1.00	0.99	0.87
	8-1/4	1.00	1.00	1.00	1.00	0.88
	8-1/2	1.00	1.00	1.00	1.00	0.89
	9	1.00	1.00	1.00	1.00	0.91
	9-1/2	1.00	1.00	1.00	1.00	0.93
	10	1.00	1.00	1.00	1.00	0.95
	10-1/2	1.00	1.00	1.00	1.00	0.97
	11	1.00	1.00	1.00	1.00	0.99
	11-1/4	1.00	1.00	1.00	1.00	1.00

Edge Distance Reduction Factors- Tension (F_{NC})

Diameter (in)		1/4	3/8	1/2	5/8	3/4
Nominal Embed. h_{nom} (in)		1-3/4	1-7/8	2-1/2	3-1/4	4-1/2
Critical Edge Distance, c_{ac} (in)		5	5	7-1/2	9-1/2	9
Min. Edge Distance, c_{min} (in)		1-3/4	3	3	4-1/2	5
Edge Distance (inches)	1-1/2	-	-	-	-	-
	1-3/4	0.35	-	-	-	-
	2	0.40	-	-	-	-
	2-1/4	0.45	-	-	-	-
	2-1/2	0.50	-	-	-	-
	2-3/4	0.55	-	-	-	-
	3	0.60	0.60	0.40	-	-
	3-1/2	0.70	0.70	0.47	-	-
	4	0.80	0.80	0.53	-	-
	4-1/2	0.90	0.90	0.60	0.47	-
	5	1.00	1.00	0.67	0.53	0.56
	5-1/2	1.00	1.00	0.73	0.58	0.61
	6	1.00	1.00	0.80	0.63	0.67
	6-1/2	1.00	1.00	0.87	0.68	0.72
	7	1.00	1.00	0.93	0.74	0.78
	7-1/2	1.00	1.00	1.00	0.79	0.83
	8	1.00	1.00	1.00	0.84	0.89
	8-1/2	1.00	1.00	1.00	0.89	0.94
	9	1.00	1.00	1.00	0.95	1.00
	9-1/2	1.00	1.00	1.00	1.00	1.00

SPACING DISTANCE AND EDGE DISTANCE ADJUSTMENT FACTORS FOR NORMAL WEIGHT CONCRETE - SHEAR (F_{VS}, F_{VC})

Spacing Reduction Factors - Shear (F_{VS})

Diameter (in)		1/4	3/8	1/2	5/8	3/4
Nominal Embed. h_{nom} (in)		1-3/4	1-7/8	2-1/2	3-1/4	4-1/2
Minimum Spacing, s_{min} (in)		2	3	3	5	5
Spacing Distance (inches)	1-3/4	-	-	-	-	-
	2	0.87	-	-	-	-
	2-1/4	0.88	-	-	-	-
	2-1/2	0.90	-	-	-	-
	2-3/4	0.91	-	-	-	-
	3	0.92	0.92	0.89	-	-
	3-1/2	0.95	0.95	0.91	-	-
	4	0.97	0.97	0.93	-	-
	4-1/2	1.00	1.00	0.95	-	-
	5	1.00	1.00	0.96	0.91	0.84
	5-1/2	1.00	1.00	0.98	0.93	0.85
	6	1.00	1.00	1.00	0.94	0.86
	6-1/2	1.00	1.00	1.00	0.95	0.88
	7	1.00	1.00	1.00	0.97	0.89
	7-1/2	1.00	1.00	1.00	0.98	0.90
	8	1.00	1.00	1.00	0.99	0.92
	8-1/4	1.00	1.00	1.00	1.00	0.92
	8-1/2	1.00	1.00	1.00	1.00	0.93
	9	1.00	1.00	1.00	1.00	0.94
	9-1/2	1.00	1.00	1.00	1.00	0.95
	10	1.00	1.00	1.00	1.00	0.97
	10-1/2	1.00	1.00	1.00	1.00	0.98
	11	1.00	1.00	1.00	1.00	0.99
	11-1/4	1.00	1.00	1.00	1.00	1.00

Edge Distance Reduction Factors - Shear (F_{VC})

Diameter (in)		1/4	3/8	1/2	5/8	3/4
Nominal Embed. h_{nom} (in)		1-3/4	1-7/8	2-1/2	3-1/4	4-1/2
Min. Edge Distance, c_{min} (in)		1-3/4	3	3	4-1/2	5
Edge Distance (inches)	1-1/2	-	-	-	-	-
	1-3/4	0.39	-	-	-	-
	2	0.44	-	-	-	-
	2-1/4	0.50	-	-	-	-
	2-1/2	0.56	-	-	-	-
	2-3/4	0.61	-	-	-	-
	3	0.67	0.67	-	-	-
	3-1/2	0.78	0.78	-	-	-
	4	0.89	0.89	-	-	-
	4-1/2	1.00	1.00	-	0.55	-
	5	1.00	1.00	-	0.61	0.44
	5-1/2	1.00	1.00	-	0.67	0.49
	6	1.00	1.00	1.00	0.73	0.53
	6-1/2	1.00	1.00	1.00	0.79	0.58
	7	1.00	1.00	1.00	0.85	0.62
	7-1/2	1.00	1.00	1.00	0.91	0.67
	8	1.00	1.00	1.00	0.97	0.71
	8-1/4	1.00	1.00	1.00	1.00	0.73
	8-1/2	1.00	1.00	1.00	1.00	0.76
	9	1.00	1.00	1.00	1.00	0.80
	9-1/2	1.00	1.00	1.00	1.00	0.84
	10	1.00	1.00	1.00	1.00	0.89
	10-1/2	1.00	1.00	1.00	1.00	0.93
	11	1.00	1.00	1.00	1.00	0.98
	11-1/4	1.00	1.00	1.00	1.00	1.00

PERFORMANCE DATA

Ultimate Load Capacities for Power-Stud+ SD4 and Power-Stud+ SD6 installed into the Face of Grout Filled Concrete Masonry[1,2]

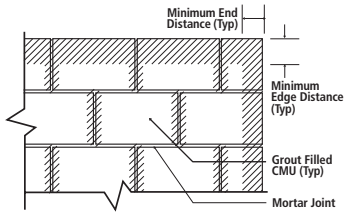
Nominal Anchor Diameter in.	Minimum Embedment h_{nom} in. (mm)	Minimum Edge Distance in. (mm)	Minimum End Distance in. (mm)	Ultimate Tension Load lb (kN)	Direction of Shear Loading	Ultimate Shear Load lb (kN)
1/2	2-3/8 (60)	3 (76.2)	3 (76.2)	1,695 (7.5)	Any	2,080 (9.3)
		12 (304.8)	12 (304.8)	2,425 (10.8)	Any	4,905 (21.8)
5/8	3-1/4 (83)	12 (304.8)	12 (304.8)	5,565 (24.8)	Any	7,944 (35.3)

1. Tabulated load values are for anchors installed in minimum 8 inch wide, minimum Grade N, Type II, normal-weight concrete masonry units conforming to ASTM C 90. Mortar must be minimum Type N. Masonry compressive strength must be at the specified minimum at the time of installation.
2. Ultimate load capacities must be reduced by a minimum safety factor of 5.0 or greater to determine allowable working loads.

Allowable Load Capacities for Power-Stud+ SD4 and Power-Stud+ SD6 installed into the Face of Grout Filled Concrete Masonry[1,2,3,4,5]

Nominal Anchor Diameter in.	Minimum Embedment h_{nom} in. (mm)	Minimum Edge Distance in. (mm)	Minimum End Distance in. (mm)	Allowable Tension Load lb (kN)	Direction of Shear Loading	Allowable Shear Load lb (kN)
1/2	2-3/8 (60)	3 (76.2)	3 (76.2)	340 (1.5)	Any	415 (1.8)
		12 (304.8)	12 (304.8)	485 (2.2)	Any	980 (4.4)
5/8	3-1/4 (83)	12 (304.8)	12 (304.8)	1,115 (5.0)	Any	1,590 (7.1)

1. Tabulated load values are for anchors installed in minimum 8 inch wide, minimum Grade N, Type II, normal-weight concrete masonry units conforming to ASTM C 90. Mortar must be minimum Type N. Masonry compressive strength must be at the specified minimum at the time of installation.
2. Allowable load capacities listed are calculated using an applied safety factor of 5.0. Consideration of safety factors of 10 or higher may be necessary depending upon the application such as life safety.
3. The tabulated values are applicable for anchors installed in grouted masonry wall faces at a critical spacing distance, s_{cr}, between anchors of 16 times the anchor diameter. The spacing distance between two anchors may be reduced to a minimum distance, s_{min}, of 8 times the anchor diameter provided the allowable tension loads are multiplied a reduction factor of 0.80 and allowable shear loads are multiplied by a reduction factor of 0.90. Linear interpolation for calculation of allowable loads may be used for intermediate anchor spacing distances.
4. Anchors may be installed in the grouted cells and in cell webs and bed joints not closer than 1-3/8" from head joints. The minimum edge and end distances must also be maintained.
5. Allowable tension values for anchors installed into bed joints of grouted masonry wall faces with a minimum of 12" edge and end distance may be increased by 20 percent for the 1/2-inch diameter and 10 percent for the 5/8-inch diameter.



Wall Face
Permissible Anchor Locations
(Un-hatched Area)

STRENGTH DESIGN (SD)

Strength Design Installation Table for Power-Stud+ SD4 and Power-Stud+ SD6[1,4]

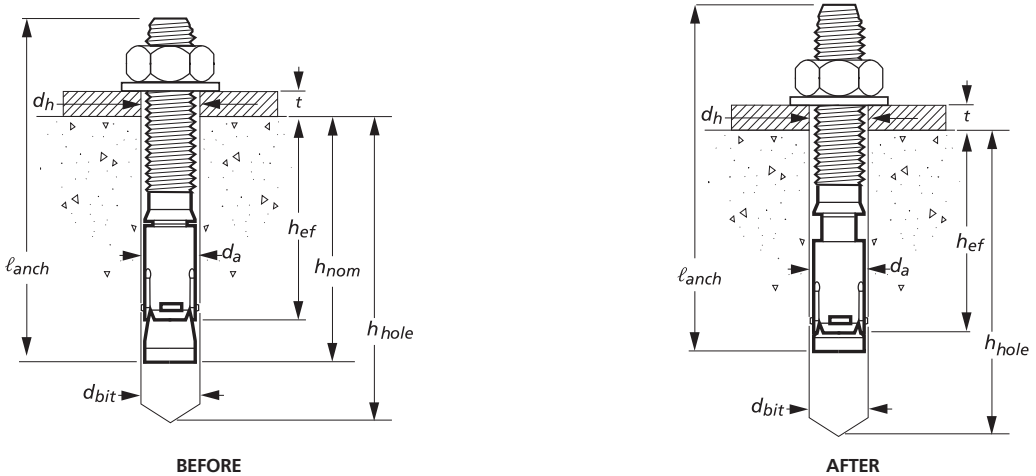
CODE LISTED
ICC-ES ESR-2502

Anchor Property/Setting Information	Notation	Units	Nominal Anchor Diameter									
			1/4	3/8		1/2		5/8		3/4		
Anchor outside diameter	d_a [d_o][5]	in. (mm)	0.250 (6.4)	0.375 (9.5)		0.500 (12.7)		0.625 (15.9)		0.750 (19.1)		
Minimum diameter of hole clearance in fixture	d_h	in. (mm)	5/16 (7.9)	7/16 (11.1)		9/16 (14.3)		11/16 (17.5)		13/16 (20.6)		
Nominal drill bit diameter	d_{bit}	in.	1/4 ANSI	3/8 ANSI		1/2 ANSI		5/8 ANSI		3/4 ANSI		
Minimum nominal embedment depth[2]	h_{nom}	in. (mm)	1-3/4 (44)	1-7/8 (48)		2-1/2 (64)		3-1/4 (83)		4-1/2 (114)		
Effective embedment	h_{ef}	in. (mm)	1.50 (38)	1.50 (38)		2.00 (51)		2.75 (70)		3-3/4 (95)		
Minimum hole depth	h_{hole}	in. (mm)	1-7/8 (48)	2 (51)		2-5/8 (67)		3-1/2 (89)		4-3/4 (121)		
Minimum member thickness	h_{min}	in. (mm)	3-1/4 (83)	3-1/4 (83)	4 (102)	4 (102)		5 (127)		6 (152)		
Minimum overall anchor length[3]	ℓ_{anch}	in. (mm)	2-1/4 (57)	2-3/4 (70)		3-3/4 (95)		4-1/2 (114)		5-1/2 (140)		
Minimum edge distance	c_{min}	in. (mm)	1-3/4 (44)	3 (76)	3-1/2 (89)	6 (152)	3 (76)	4-1/2 (114)	8-1/2 (216)	5 (127)	9 (229)	
Minimum spacing distance	s_{min}	in. (mm)	2 (51)	5-1/2 (140)	3 (76)	3 (76)	6 (152)	8-1/2 (216)	5 (127)	9 (229)	5 (127)	
Critical edge distance	c_{ac}	in. (mm)	5 (127)	5 (127)		7-1/2 (191)		9-1/2 (241)		9 (229)		
Installation torque	T_{inst}	ft.-lbf. (N-m)	6 (8)	25 (34)		40 (54)		60 (81)		110 (149)		
Torque wrench/socket size	-	in.	7/16	9/16		3/4		15/16		1-1/8		
Nut height	-	in.	7/32	21/64		7/16		35/64		41/64		

For SI: 1 inch = 25.4 mm; 1 ft-lbf = 1.356 N-m.

1. The information presented in this table is to be used in conjunction with ACI 318 Appendix D.
2. The embedment depth, h_{nom}, is measured from the outside surface of the concrete member to the embedded end of the anchor prior to tightening.
3. The listed minimum overall anchor length is based on anchor sizes commercially available at the time of publication compared with the requirements to achieve the minimum nominal embedment depth and possible fixture attachment.
4. The anchors may be installed in the topside of concrete-filled steel deck floor and roof assemblies in accordance with the following: the 1/4-inch diameter anchors must be installed in uncracked normal-weight or sand-lightweight concrete; 3/8-inch to 3/4-inch diameter anchors must be installed in cracked and uncracked normal-weight or sand-lightweight concrete over steel deck having a minimum specified compressive strength, f'c, of 3,000 psi (20.7 MPa) provided the concrete thickness above the upper flute meets the minimum thickness specified in this table.
5. The notation in brackets is for the 2006 IBC.

Power-Stud+ SD4 and Power-Stud+ SD6 Anchor Detail



Application of Installation Torque

Tension Design Information for Power-Stud+ SD4 and Power-Stud+ SD6 Anchors in Concrete (For use with load combinations taken from ACI 318, Section 9.2)[1,7]

CODE LISTED ICC-ES ESR-2502

Design Characteristic	Notation	Units	Nominal Anchor Diameter				
			1/4	3/8	1/2	5/8	3/4
Anchor category	1,2 or 3	-	1	1	1	1	1
Nominal embedment depth	h_{nom}	in.	1-3/4	1-7/8	2-3/8	3-1/4	4-1/2
STEEL STRENGTH IN TENSION[4]							
Minimum specified yield strength (neck	f_y	ksi (N/mm²)	60 (414)	60 (414)	60 (414)	60 (414)	60 (414)
Minimum specified ultimate tensile strength (neck)	f_{uta}	ksi (N/mm²)	90 (621)	90 (621)	90 (621)	90 (621)	90 (621)
Effective tensile stress area (neck)	$A_{se,N}$ [A_{sa}][9]	in² (mm²)	0.0249 (16.1)	0.0530 (34.2)	0.1020 (65.8)	0.1630 (105.2)	0.2380 (151)
Steel strength in tension	N_{sa}	lb (kN)	2,240 (10.0)	4,780 (21.3)	9,160 (40.8)	14,635 (65.1)	21,380 (95.1)
Reduction factor for steel strength[2]	ϕ	-	0.75				
CONCRETE BREAKOUT STRENGTH IN TENSION							
Effective embedment	h_{ef}	in. (mm)	1.50 (38)	1.50 (38)	2.00 (51)	2.75 (70)	3.75 (95)
Effectiveness factor for uncracked concrete	k_{uncr}	-	24	24	24	24	24
Effectiveness factor for cracked concrete	k_{cr}	-	Not Applicable	17	21	21	21
Modification factor for cracked and uncracked concrete	$\psi_{c,N}$	-	1.0 See Note 4	1.0 See Note 4	1.0 See Note 4	1.0 See Note 4	1.0 See Note 4
Critical edge distance (uncracked concrete only)	c_{ac}	in. (mm)	5 (127)	5 (127)	7-1/2 (191)	9-1/2 (241)	9 (229)
Reduction factor for concrete breakout strength[3]	ϕ	-	0.65 (Condition B)				
PULLOUT STRENGTH IN TENSION (NON-SEISMIC APPLICATIONS)							
Characteristic pullout strength, uncracked concrete (2,500 psi)[5]	$N_{p,uncr}$	lb (kN)	1,510 (6.7)	See Note 6	See Note 6	See Note 6	8,520 (37.8)
Characteristic pullout strength, cracked concrete (2,500 psi)[5]	$N_{p,cr}$	lb (kN)	Not Applicable	See Note 6	See Note 6	See Note 6	See Note 6
Reduction factor for pullout strength[3]	ϕ	-	0.65 (Condition B)				
PULLOUT STRENGTH IN TENSION FOR SEISMIC APPLICATIONS[8]							
Characteristic pullout strength, seismic (2,500 psi)[5,8]	$N_{p,eq}$	lb (kN)	Not Applicable	1,645 (7.3)	See Note 6	See Note 6	See Note 6
Reduction factor for pullout strength[3]	ϕ	-	0.65 (Condition B)				

For SI: 1 inch = 25.4 mm; 1 ft-lbf = 1.356 N-m; 1 ksi = 6.894 N/mm²; 1 lb = 0.0044 kN.

1. The data in this table is intended to be used with the design provisions of ACI 318 Appendix D; for anchors resisting seismic load combinations the additional requirements of ACI 318 D.3.3 shall apply.
2. The tabulated value of ϕ for steel strength applies when the load combinations of Section 1605.2 of the IBC or ACI 318 Section 9.2 are used. If the load combinations of ACI 318 Appendix C are used, the appropriate value of ϕ for steel strength must be determined in accordance with ACI 318-11 D.4.4 (ACI 318-08 and -05 D.4.5). The anchors are ductile steel elements as defined in ACI 318 D.1.
3. The tabulated value of ϕ for concrete breakout strength and pullout strength applies when both the load combinations of Section 1605.2 of the IBC or ACI 318 Section 9.2 are used and the requirements of ACI 318-11 D.4.3 (ACI 318-08 and -05 D.4.4) for Condition B are satisfied. If the load combinations of Section 1605.2 of the IBC or ACI 318 Section 9.2 are used and the requirements of ACI 318-11 D.4.3 (ACI 318-08 and -05 D.4.4) for Condition A are satisfied, the appropriate value of ϕ for concrete breakout strength and pullout strength must be determined in accordance with ACI 318-11 D.4.3 (ACI 318-08 and -05 D.4.4). If the load combinations of ACI 318 Appendix C are used, the appropriate value of ϕ for concrete breakout strength and pullout strength must be determined in accordance with ACI 318-11 D.4.4 (ACI 318-08 or -05 D.4.5).
4. For all design cases $\psi_{c,N} = 1.0$. The appropriate effectiveness factor for cracked concrete (k_{cr}) or uncracked concrete (k_{uncr}) must be used.
5. For all design cases $\psi_{c,P} = 1.0$. For concrete compressive strength greater than 2,500psi, N_{pn} = (pullout strength value from table)*(specified concrete strength/2500)$^{0.5}$.
6. Pullout strength does not control design of indicated anchors. Do not calculate pullout strength for indicated anchor size and embedment.
7. Anchors are permitted to be used in sand-lightweight concrete provided that the modification factor λ_a (ACI 318-11) or λ (ACI 318-08) for concrete breakout strength is taken as 0.6 in lieu of ACI 318-11 D.3.6 (2012 IBC) or ACI 318-08 D.3.4 (2009 IBC). In addition, the pullout strength $N_{p,cr}$, $N_{p,eq}$, $N_{p,uncr}$ must be multiplied by 0.6, as applicable. For ACI 318-05, the values N_b, $N_{p,eq}$, $N_{p,cr}$, $N_{p,uncr}$ and V_b must be multiplied by 0.6.
8. Tabulated values for characteristic pullout strength in tension are for seismic applications and based on test results per ACI 355.2 Section 9.5.
9. The notation in brackets is for the 2006 IBC.

Shear Design Information for Power-Stud+ SD4 and Power-Stud+ SD6 Anchors in Concrete (For use with load combinations taken from ACI 318, Section 9.2)[1,6]

CODE LISTED
ICC-ES ESR-2502

Design Characteristic	Notation	Units	Nominal Anchor Diameter				
			1/4	3/8	1/2	5/8	3/4
Anchor category	1, 2 or 3	-	1	1	1	1	1
Nominal embedment depth	h_{nom}	in.	1-3/4	1-7/8	2-3/8	3-1/4	4-1/2
STEEL STRENGTH IN SHEAR							
Minimum specified yield strength (threads)	f_y	ksi (N/mm²)	60 (414)	60 (414)	60 (414)	60 (414)	60 (414)
Minimum specified ultimate strength (threads)	f_{uta}	ksi (N/mm²)	90 (621)	90 (621)	90 (621)	90 (621)	90 (621)
Effective tensile stress area (threads)	$A_{se,\,v}$ [A_{se}][8]	in² (mm²)	0.0318 (20.5)	0.078 (50.3)	0.142 (91.6)	0.226 (145.8)	0.334 (212)
Steel strength in shear[5]	V_{sa}	lb (kN)	1,115 (5.0)	1,470 (6.6)	3,170 (14.3)	7,455 (33.6)	11,955 (53.2)
Reduction factor for steel strength[2]	ϕ	-	0.65				
CONCRETE BREAKOUT STRENGTH IN SHEAR[6]							
Load bearing length of anchor (h_{ef} or $8d_a$, whichever is less)	ℓ_e	in. (mm)	1.50 (38.1)	1.50 (38.1)	2.00 (50.8)	2.75 (69.9)	3.75 (95)
Nominal anchor diameter	d_a [d_o][8]	in. (mm)	0.250 (6.4)	0.375 (9.5)	0.500 (12.7)	0.625 (15.9)	0.750 (19.1)
Reduction factor for concrete breakout[3]	ϕ	-	0.70 (Condition B)				
CONCRETE PRYOUT STRENGTH IN SHEAR[6]							
Coefficient for pryout strength (1.0 for $h_{ef} < 2.5$ in., 2.0 for $h_{ef} \geq 2.5$ in.)	k_{cp}	-	1.0	1.0	1.0	2.0	2.0
Effective embedment	h_{ef}	in. (mm)	1.50 (38.1)	1.50 (38.1)	2.00 (50.8)	2.75 (69.9)	3.75 (95)
Reduction factor for pryout strength[4]	ϕ	-	0.70 (Condition B)				
STEEL STRENGTH IN SHEAR FOR SEISMIC APPLICATIONS							
Steel strength in shear, seismic[7]	$V_{sa,eq}$	lb (kN)	Not Applicable	1,305 (5.9)	2,765 (12.3)	5,240 (23.3)	7,745 (34.5)
Reduction factor for steel strength in shear for seismic[2]	ϕ	-	0.65				

For SI: 1 inch = 25.4 mm; 1 ft-lbf = 1.356 N-m; 1 ksi = 6.894 N/mm²; 1 lb = 0.0044 kN.

1. The data in this table is intended to be used with the design provisions of ACI 318 Appendix D; for anchors resisting seismic load combinations the additional requirements of ACI 318 D.3.3 shall apply.
2. The tabulated value of ϕ for steel strength applies when the load combinations of Section 1605.2 of the IBC or ACI 318 Section 9.2 are used. If the load combinations of ACI 318 Appendix C are used, the appropriate value of ϕ for steel strength must be determined in accordance with ACI 318-11 D.4.4 (ACI 318-08 and -05 D.4.5). The anchors are ductile steel elements as defined in ACI 318 D.1.
3. The tabulated value of ϕ for concrete breakout strength applies when both the load combinations of Section 1605.2 of the IBC or ACI 318 Section 9.2 are used and the requirements of ACI 318-11 D.4.3 (ACI 318-08 and -05 D.4.4) for Condition B are satisfied. If the load combinations of Section 1605.2 of the IBC or ACI 318 Section 9.2 are used and the requirements of ACI 318-11 D.4.3 (ACI 318-08 and -05 D.4.4) for Condition A are satisfied, the appropriate value of ϕ for concrete breakout strength and pullout strength must be determined in accordance with ACI 318-11 D.4.3 (ACI 318-08 and -05 D.4.4). If the load combinations of ACI 318 Appendix C are used, the appropriate value of ϕ for concrete breakout strength must be determined in accordance with ACI 318-11 D.4.4 (ACI 318-08 or -05 D.4.5).
4. The tabulated value for pryout strength applies if the load combinations of Section 1605.2 of the IBC or ACI 318 Section 9.2 are used. If the load combinations of ACI 318 Appendix C are used, the appropriate value of ϕ for pryout strength must be determined in accordance with ACI 318-11 D.4.4 (ACI 318-08 and -05 D.4.5), Condition B.
5. Tabulated values for steel strength in shear must be used for design
6. Anchors are permitted to be used in sand-lightweight concrete provided that the modification factor λ_a (ACI 318-11) or λ (ACI 318-08) for concrete breakout strength is taken as 0.6 in lieu of ACI 318-11 D.3.6 (2012 IBC) or ACI 318-08 D.3.4 (2009 IBC). In addition, the pullout strength $N_{p,cr}$, $N_{p,eq}$, $N_{p,uncr}$ must be multiplied by 0.6, as applicable. For ACI 318-05, the values N_b, $N_{p,eq}$, $N_{p,cr}$, $N_{p,uncr}$ and V_b must be multiplied by 0.6.
7. Tabulated values for steel strength in shear are for seismic applications and based on test results per ACI 355.2, Section 9.6.
8. The notation in brackets is for the 2006 IBC.

STRENGTH DESIGN PERFORMANCE DATA

Factored design strength ϕN_n and ϕV_n
Calculated in accordance with ACI 318 Appendix D
Compliant with the International Building Code

Tension and Shear Design Strengths Installed in Cracked Concrete[1-6]

Nominal Anchor Diameter (in.)	Nominal Embed. h_{nom} (in.)	Minimum Concrete Compressive Strength									
		f'c = 2,500 psi		f'c = 3,000 psi		f'c = 4,000 psi		f'c = 6,000 psi		f'c = 8,000 psi	
		ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)	ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)	ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)	ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)	ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)
1/4	-	-	-	-	-	-	-	-	-	-	-
3/8	1-7/8	1,015	955	1,110	955	1,285	955	1,570	955	1,815	955
1/2	2-1/2	1,930	2,060	2,115	2,060	2,440	2,060	2,990	2,060	3,455	2,060
5/8	3-1/4	3,110	4,520	3,410	4,845	3,935	4,845	4,820	4,845	5,570	4,845
3/4	4-1/2	4,955	5,270	5,430	5,770	6,270	6,665	7,680	7,770	8,865	7,770

- Anchor Pullout/Pryout Strength Controls - Concrete Breakout Strength Controls - Steel Strength Controls

Tension and Shear Design Strengths Installed in Uncracked Concrete[1-6]

Nominal Anchor Diameter (in.)	Nominal Embed. h_{nom} (in.)	Minimum Concrete Compressive Strength									
		f'c = 2,500 psi		f'c = 3,000 psi		f'c = 4,000 psi		f'c = 6,000 psi		f'c = 8,000 psi	
		ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)	ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)	ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)	ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)	ϕN_{sa}, ϕN_{cb} or ϕN_{cp} Tension (lbs.)	ϕV_{sa}, ϕV_{cb} or ϕV_{cp} Shear (lbs.)
1/4	1-3/4	980	725	1,075	725	1,240	725	1,520	725	1,680	725
3/8	1-7/8	1,435	955	1,570	955	1,815	955	2,220	955	2,565	955
1/2	2-1/2	2,205	2,060	2,415	2,060	2,790	2,060	3,420	2,060	3,945	2,060
5/8	3-1/4	3,555	4,845	3,895	4,845	4,500	4,845	5,510	4,845	6,365	4,845
3/4	4-1/2	5,540	7,375	6,065	7,770	7,005	7,770	8,580	7,770	9,905	7,770

- Anchor Pullout/Pryout Strength Controls - Concrete Breakout Strength Controls - Steel Strength Controls

1- Tabular values are provided for illustration and are applicable for single anchors installed in normal-weight concrete with minimum slab thickness, $h_a = h_{min}$, and with the following conditions:
   - c_{a1} is greater than or equal to the critical edge distance, c_{ac} (table values based on $c_{a1} = c_{ac}$).
   - c_{a2} is greater than or equal to 1.5 times c_{a1}.

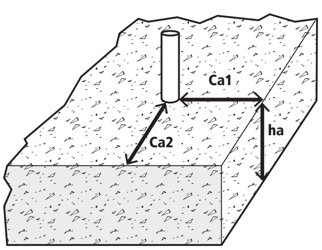
2- Calculations were performed according to ACI 318-11 Appendix D. The load level corresponding to the controlling failure mode is listed. (e.g. For tension: steel, concrete breakout and pullout; For shear: steel, concrete breakout and pryout). Furthermore, the capacities for concrete breakout strength in tension and pryout strength in shear are calculated using the effective embedment values, h_{ef}, for the selected anchors as noted in the design information tables. Please also reference the installation specifications for more information.

3- Strength reduction factors (ø) were based on ACI 318 Section 9.2 for load combinations. Condition B is assumed.

4- Tabular values are permitted for static loads only, seismic loading is not considered with these tables.

5- For designs that include combined tension and shear, the interaction of tension and shear loads must be calculated in accordance with ACI 318 Appendix D.

6- Interpolation is not permitted to be used with the tabular values. For intermediate base material compressive strengths please see ACI 318 Appendix D. For other design conditions including seismic considerations please see ACI 318 Appendix D.



ORDERING INFORMATION

Power-Stud+ SD4 (Type 304 Stainless Steel Body)

Cat. No.	Anchor Size	Thread Length	Box Qty.	Carton Qty.	ANSI Carbide Drill Bit Cat. No.				
					SDS-Plus		SDS-Max	Spline	
					Fathead	SDS-Plus/S-4 Plus	4-X Cutter SDS-Max	4-X Cutter Head Spline	Single Tip Spline
7300SD4	1/4" x 1-3/4"	3/4"	100	600	00711	00320			
7302SD4	1/4" x 2-1/4"	1-1/4"	100	600	00713	00321			
7304SD4	1/4" x 3-1/4"	2-1/4"	100	600	00713	00321			
7310SD4*	3/8" x 2-1/4"	7/8"	50	300	00727	00333			01401
7312SD4*	3/8" x 2-3/4"	1-3/8"	50	300	00727	00333			01401
7313SD4	3/8" x 3"	1-5/8"	50	300	00727	00333			01401
7314SD4*	3/8" x 3-1/2"	2-1/8"	50	300	00727	00333			01402
7315SD4	3/8" x 3-3/4"	2-3/8"	50	300	00727	00333			01402
7316SD4	3/8" x 5"	3-5/8"	50	300	00729	00334			01402
7317SD4*	3/8" x 7"	5-5/8"	50	200	00729	00334			01403
7320SD4*	1/2" x 2-3/4"	1"	50	200	00739	00346	08801		01407
7322SD4	1/2" x 3-3/4"	2"	50	200	00739	00346	08801		01407
7323SD4	1/2" x 4-1/2"	2-3/4"	50	200	00741	00348	08801		01407
7324SD4	1/2" x 5-1/2"	3-3/4"	50	150	00741	00348	08801		01408
7326SD4	1/2" x 7"	5-1/4"	25	100	00741	00348	08801		01408
7330SD4*	5/8" x 3-1/2"	1-1/2"	25	100		00359	08809	07017	
7332SD4*	5/8" x 4-1/2"	2-1/2"	25	100		00359	08809	07017	
7333SD4	5/8" x 5"	3"	25	100		00359	08809	07017	
7334SD4	5/8" x 6"	4"	25	75		00359	08809	07020	
7336SD4*	5/8" x 7"	5"	25	75		00361	08809	07020	
7338SD4	5/8" x 8-1/2"	6-1/2"	25	50		00361	08810	07020	
7340SD4*	3/4" X 4-1/4"	1-7/8"	20	60		00368	08817	07031	
7341SD4*	3/4" X 4-3/4"	2-3/8"	20	60		00368	08817	07031	
7342SD4	3/4" X 5-1/2"	3-1/8"	20	60		00368	08817	07031	
7344SD4*	3/4" X 6-1/4"	3-7/8"	20	60		00370	08817	07033	
7346SD4*	3/4" X 7"	4-5/8"	20	60		00370	08817	07033	
7348SD4	3/4" X 8-1/2"	6-1/8"	10	40		00370	08818	07033	
7349SD4	3/4" X 10"	7-5/8"	10	40		00370	08818	07033	

Power-Stud+ SD4 and Power-Stud+ SD6 anchors can be domestically manufactured (assembled in the USA with foreign and domestic components) and are available for special order only. Call for details.

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.

* Discontinued item once current stock exhausted.

Power-Stud+ SD6 (Type 316 Stainless Steel Body)

Cat. No.	Anchor Size	Thread Length	Box Qty.	Carton Qty.	ANSI Carbide Drill Bit Cat. No.				
					SDS-Plus		SDS-Max	Spline	
					Fathead	SDS-Plus/S-4 Plus	4-X Cutter SDS-Max	4-X Cutter Head Spline	Single Tip Spline
7600SD6	1/4" x 1-3/4"	3/4"	100	600	00711	00320			
7602SD6	1/4" x 2-1/4"	1-1/4"	100	600	00713	00321			
7604SD6	1/4" x 3-1/4"	2-1/4"	100	600	00713	00321			
7610SD6	3/8" x 2-1/4"	7/8"	50	300	00727	00333			01401
7612SD6	3/8" x 2-3/4"	1-3/8"	50	300	00727	00333			01401
7613SD6	3/8" x 3"	1-5/8"	50	300	00727	00333			01401
7614SD6	3/8" x 3-1/2"	2-1/8"	50	300	00727	00333			01402
7615SD6	3/8" x 3-3/4"	2-3/8"	50	300	00727	00333			01402
7616SD6	3/8" x 5"	3-5/8"	50	300	00729	00334			01402
7617SD6	3/8" x 7"	5-5/8"	50	200	00729	00334			01403
7620SD6	1/2" x 2-3/4"	1"	50	200	00739	00346	08801		01407
7622SD6	1/2" x 3-3/4"	2"	50	200	00739	00346	08801		01407
7623SD6	1/2" x 4-1/2"	2-3/4"	50	200	00741	00348	08801		01407
7624SD6	1/2" x 5-1/2"	3-3/4"	50	100	00741	00348	08801		01408
7626SD6	1/2" x 7"	5-1/4"	25	100	00741	00348	08801		01408
7630SD6	5/8" x 3-1/2"	1-1/2"	25	100		00359	08809	07017	
7632SD6	5/8" x 4-1/2"	2-1/2"	25	100		00359	08809	07017	
7633SD6	5/8" x 5"	3"	25	100		00359	08809	07017	
7634SD6	5/8" x 6"	4"	25	75		00359	08809	07020	
7636SD6	5/8" x 7"	5"	25	75		00361	08809	07020	
7638SD6	5/8" x 8-1/2"	6-1/2"	25	50		00361	08810	07020	
7640SD6	3/4" X 4-1/4"	1-7/8"	20	60		00368	08817	07031	
7641SD6	3/4" X 4-3/4"	2-3/8"	20	60		00368	08817	07031	
7642SD6	3/4" X 5-1/2"	3-1/8"	20	60		00368	08817	07031	
7644SD6	3/4" X 6-1/4"	3-7/8"	20	60		00370	08817	07033	
7646SD6	3/4" X 7"	4-5/8"	20	60		00370	08817	07033	
7648SD6	3/4" X 8-1/2"	6-1/8"	10	40		00370	08818	07033	

Power-Stud+ SD4 and Power-Stud+ SD6 anchors can be domestically manufactured (assembled in the USA with foreign and domestic components) and are available for special order only. Call for details.

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.

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