

**GENERAL INFORMATION**

**POWER-STUD® HD5**

*Hot-Dip Galvanized Wedge Expansion Anchor*

**PRODUCT DESCRIPTION**

The Power-Stud HD5 anchor is a fully threaded, torque-controlled, wedge expansion anchor. Suitable base materials include normal-weight concrete, sand-lightweight concrete and grouted concrete masonry. The anchor is manufactured with a hot-dip galvanized carbon steel body and stainless steel expansion clip. Nut and washer are included.

**GENERAL APPLICATIONS AND USES**

- Racking and Shelving
- Material Handling
- Support Ledgers
- Storage Facilities
- Fencing
- Repairs
- Maintenance
- Retrofits

**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

**GUIDE SPECIFICATIONS**

CSI Divisions: 03 16 00 - Concrete Anchors, 04 05 19.16 - Masonry Anchors and 05 05 19 Post - Installed Concrete Anchors. Expansion Anchors shall be Power-Stud HD5 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)	Type 304 Stainless Steel
Plating (Anchor, body, nut, washer)	Zinc Galvanized According to ASTM A 153 Class C or D

**SECTION CONTENTS**

General Information..... 1  
 Material Specifications ..... 1  
 Installation Instructions..... 2  
 Reference Data (ASD)..... 2  
 Masonry Performance Data ..... 7  
 Ordering Information..... 8



**POWER-STUD HD5 ASSEMBLY**

**THREAD VERSION**

- UNC Threaded Stud

**ANCHOR MATERIALS**

- Hot-dip galvanized carbon steel body, stainless steel expansion clip, hot-dip galvanized nut and washer

**ROD/ANCHOR SIZE RANGE (TYP.)**

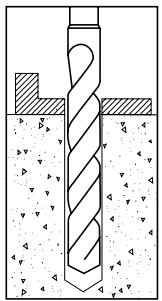
- 3/8" diameter through 3/4" diameter

**SUITABLE BASE MATERIALS**

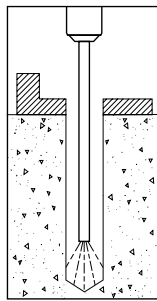
- Normal-weight concrete
- Sand-lightweight concrete
- Grouted concrete masonry

## INSTALLATION INSTRUCTIONS

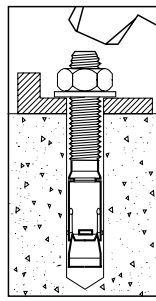
### Installation Instructions for Power-Stud HD5



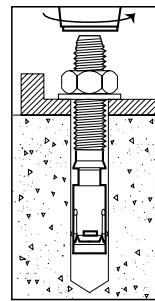
**Step 1**  
Using the proper drill bit size, drill a hole into the base material to the required depth. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15.



**Step 2**  
Remove dust and debris from the hole, using a hand pump, compressed air or a vacuum.

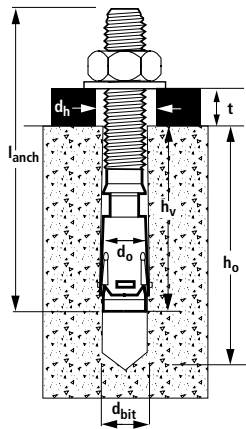


**Step 3**  
Position the washer on the anchor and thread on the nut. If installing through a fixture, drive the anchor through the fixture into the hole. Be sure the anchor is driven to the minimum required embedment depth,  $h_v$ .



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

### Anchor Specifications



### Length Identification

Mark	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
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"
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"

Length identification mark indicates overall length of anchor.

### REFERENCE DATA (ASD)

#### Installation Specification for Power-Stud HD5 in Concrete

Anchor Property/ Setting Information	Notation	Units	Nominal Anchor Diameter (inch)												
			3/8			1/2			5/8			3/4			
Anchor outside diameter	d	in. (mm)	0.375 (9.525)			0.500 (12.7)			0.625 (15.9)			0.750 (19.05)			
Minimum diameter of hole clearance in fixture	$d_h$	in. (mm)	7/16 (11.1)			9/16 (14.3)			11/16 (17.5)			13/16 (20.6)			
Nominal drill bit diameter	$d_{bit}$	in. (mm)	3/8 ANSI			1/2 ANSI			5/8 ANSI			3/4 ANSI			
Minimum nominal embedment depth	$h_v$	in. (mm)	1-3/4 (44)	2-3/8 (60)	2 (51)	2-1/2 (64)	3-3/4 (95)	2-3/8 (60)	3-3/8 (86)	4-5/8 (117)	3-3/8 (66)	5 (127)			
Minimum hole depth	$h_o$	in. (mm)	2 (51)	2-5/8 (67)	2-1/2 (64)	3 (76)	4-1/4 (108)	2-7/8 (73)	3-7/8 (98)	5-1/8 (130)	3-7/8 (98)	5-1/2 (140)			
Minimum member thickness	$h_{min}$	in. (mm)	3-1/4 (83)	4 (102)	4 (102)	5 (127)	6 (152)	5 (127)	6 (152)	7 (178)	6 (152)	10 (254)			
Minimum overall anchor length <sup>1</sup>	$\ell_{anch}$	in. (mm)	3 (76)	3 (76)	2-3/4 (70)	3-3/4 (95)	4-1/2 (114)	3-1/2 (89)	5 (127)	6 (152)	4-3/4 (121)	5-1/2 (140)			
Minimum edge distance	$c_{min}$	in. (mm)	3 (76)	2-1/4 (57)	4 (102)	5-1/4 (133)	4 (102)	4-1/4 (108)	5-1/2 (140)	4-1/4 (108)	5 (127)	4-1/2 (114)			
Minimum spacing distance	$s_{min}$	in. (mm)	5-1/4 (133)	3-3/4 (95)	6 (152)	7-1/4 (184)	5 (127)	7-1/8 (181)	10-1/8 (257)	4-1/4 (108)	9 (229)	6 (152)			
Critical edge distance	$c_{cac}$	in. (mm)	5 (127)	6-1/2 (165)	8 (203)	8-1/2 (216)	8 (203)	8 (203)	6 (152)	10 (254)	5 (127)	12 (305)			
Installation torque (Normal-weight concrete)	$T_{inst}$	ft.-lbf. (N-m)	20 (27)			40 (54)			60 (81)			110 (149)			
Installation torque (Grout Filled CMU)	$T_{inst}$	ft.-lbf. (N-m)	20 (27)			40 (54)			50 (68)			80 (108)			
Torque wrench/socket size	-	in.	9/16			3/4			15/16			1-1/8			
Nut height	-	in.	21/64			7/16			35/64			41/64			

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

1. The listed minimum overall anchor length is based on anchor sizes available at the time of publication compared with the requirements for the minimum nominal embedment depth and fixture attachment.

**Ultimate Load Capacities for Power-Stud HD5 in Normal-Weight Concrete<sup>1,2</sup>**

Nominal Anchor Diameter (in.)	Minimum Embedment Depth (in.)	Minimum Concrete Compressive Strength - f'c (psi)									
		2,500 psi		3,000 psi		4,000 psi		6,000 psi		8,000 psi	
		Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)
3/8	1-3/4	2,470	3,925	2,710	3,925	3,130	3,925	3,220	3,925	3,715	3,925
	2-3/8	3,620	3,925	3,965	3,925	4,580	3,925	5,470	3,925	6,320	3,925
1/2	2	2,690	4,195	2,950	4,195	3,405	4,195	4,170	4,195	4,815	4,195
	2-1/2	4,140	4,195	4,540	4,195	5,240	4,195	6,415	4,195	7,410	4,195
	3-3/4	8,580	4,195	9,400	4,195	10,300	4,195	10,300	4,195	10,300	4,195
5/8	2-1/2	4,115	6,815	4,505	6,815	5,200	6,815	6,370	6,815	7,355	6,815
	3-3/8	7,305	6,815	8,000	6,815	9,240	6,815	11,315	6,815	13,065	6,815
	4-5/8	11,715	6,815	12,830	6,815	14,815	6,815	16,400	6,815	16,400	6,815
3/4	3-3/8	7,080	11,570	7,750	11,570	8,955	11,570	12,125	11,570	14,000	11,570
	5	16,965	11,570	18,580	11,570	21,330	11,570	21,330	11,570	21,330	11,570

1. Tabulated load values are applicable to single 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 load.



**Allowable Load Capacities for Power-Stud HD5 in Normal-Weight Concrete<sup>1</sup>**

Nominal Anchor Diameter (in.)	Minimum Embedment Depth (in.)	Minimum Concrete Compressive Strength - f'c (psi)									
		2,500 psi		3,000 psi		4,000 psi		6,000 psi		8,000 psi	
		Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)	Tension (lbs)	Shear (lbs)
3/8	1-3/4	620	980	680	980	785	980	805	980	930	980
	2-3/8	905	980	990	980	1,145	980	1,370	980	1,580	980
1/2	2	675	1,050	740	1,050	850	1,050	1,045	1,050	1,205	1,050
	2-1/2	1,035	1,050	1,135	1,050	1,310	1,050	1,605	1,050	1,855	1,050
	3-3/4	2,145	1,050	2,350	1,050	2,575	1,050	2,575	1,050	2,575	1,050
5/8	2-1/2	1,030	1,705	1,125	1,705	1,300	1,705	1,595	1,705	1,840	1,705
	3-3/8	1,825	1,705	2,000	1,705	2,310	1,705	2,830	1,705	3,265	1,705
	4-5/8	2,930	1,705	3,210	1,705	3,705	1,705	4,100	1,705	4,100	1,705
3/4	3-3/8	1,770	2,895	1,940	2,895	2,240	2,895	3,030	2,895	3,500	2,895
	5	4,240	2,895	4,645	2,895	5,335	2,895	5,335	2,895	5,335	2,895

1. Allowable load capacities listed are calculated using and applied safety factor of 4.0.
2. Allowable load capacities are multiplied by reduction factors when anchor spacing or edge distances are less than critical distances.

**Spacing Distance and Edge Distance Tension ( $F_{NS}$ ,  $F_{NC}$ ) Adjustment Factors for Normal-Weight Concrete**

Spacing Distance - Tension ( $F_{NS}$ )											
Diameter, d (in)	3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	3/4	3/4	
Minimum Embedment, $h_v$ (in)	1-3/4	2-3/8	2	2-1/2	3-3/4	2-3/8	3-3/8	4-5/8	3-3/8	5	
Min. Slab Thickness, $h_{min}$ (in)	3-1/4	4	4	5	6	5	6	7	6	10	
Minimum Spacing, $s_{min}$ (in)	5-1/4	3-3/4	6	7-1/4	5	7-1/8	10-1/8	4-1/4	9	6	
Critical Spacing, $s_{cr}$ (in)	5-1/4	7-1/8	6	7-1/2	11-1/4	7-1/8	10-1/8	13-7/8	10-1/8	15	
Spacing Distance (inches)	3-3/4	-	0.80	-	-	-	-	-	-	-	
	4	-	0.82	-	-	-	-	-	-	-	
	4-1/4	-	0.83	-	-	-	-	0.69	-	-	
	4-1/2	-	0.85	-	-	-	-	0.70	-	-	
	5	-	0.88	-	-	0.75	-	0.71	-	-	
	5-1/2	1.00	0.91	-	-	0.77	-	0.73	-	-	
	6	1.00	0.93	1.00	-	0.79	-	0.74	-	0.74	
	6-1/2	1.00	0.96	1.00	-	0.81	-	0.76	-	0.75	
	7	1.00	0.99	1.00	-	0.83	-	0.78	-	0.77	
	7-1/4	1.00	1.00	1.00	0.99	0.84	-	0.78	-	0.78	
	7-1/2	1.00	1.00	1.00	1.00	0.85	1.00	-	0.79	-	0.78
	8	1.00	1.00	1.00	1.00	0.87	1.00	-	0.81	-	0.80
	8-1/2	1.00	1.00	1.00	1.00	0.89	1.00	-	0.83	-	0.81
	9	1.00	1.00	1.00	1.00	0.91	1.00	-	0.84	0.94	0.83
	9-1/2	1.00	1.00	1.00	1.00	0.93	1.00	-	0.86	0.97	0.84
	10	1.00	1.00	1.00	1.00	0.95	1.00	-	0.87	0.99	0.86
	10-1/2	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.89	1.00	0.87
	11	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.91	1.00	0.88
11-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	1.00	0.90	
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	1.00	0.91	
12-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	0.93	
13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	0.94	
13-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.96	
14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	
14-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	
15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Edge Distance - Tension ( $F_{NC}$ )											
Diameter, d (in)	3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	3/4	3/4	
Minimum Embedment, $h_v$ (in)	1-3/4	2-3/8	2	2-1/2	3-3/4	2-3/8	3-3/8	4-5/8	3-3/8	5	
Min. Slab Thickness, $h_{min}$ (in)	3-1/4	4	4	5	6	5	6	7	6	10	
Minimum Edge Distance, $c_{min}$ (in)	3	2-1/4	4	5-1/4	4	4-1/4	5-1/2	4-1/4	5	4-1/2	
Critical Edge Distance, $c_{cr}$ (in)	5	6-1/2	8	8-1/2	8	8	6	10	5	12	
Edge Distance (inches)	2-1/4	-	0.35	-	-	-	-	-	-	-	
	2-1/2	-	0.38	-	-	-	-	-	-	-	
	3	0.60	0.46	-	-	-	-	-	-	-	
	3-1/2	0.70	0.54	-	-	-	-	-	-	-	
	4	0.80	0.62	0.50	-	0.50	-	-	-	-	
	4-1/4	0.85	0.65	0.53	-	0.53	0.53	-	0.43	-	
	4-1/2	0.90	0.69	0.56	-	0.56	0.56	-	0.45	-	0.38
	5	1.00	0.77	0.63	-	0.63	0.63	-	0.50	1.00	0.42
	5-1/4	1.00	0.81	0.66	0.62	0.66	0.66	-	0.53	1.00	0.44
	5-1/2	1.00	0.85	0.69	0.65	0.69	0.69	0.92	0.55	1.00	0.46
	6	1.00	0.92	0.75	0.71	0.75	0.75	1.00	0.60	1.00	0.50
	6-1/2	1.00	1.00	0.81	0.76	0.81	0.81	1.00	0.65	1.00	0.54
	7	1.00	1.00	0.88	0.82	0.88	0.88	1.00	0.70	1.00	0.58
	7-1/2	1.00	1.00	0.94	0.88	0.94	0.94	1.00	0.75	1.00	0.63
	8	1.00	1.00	1.00	0.94	1.00	1.00	1.00	0.80	1.00	0.67
	8-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	1.00	0.71
	9	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	0.75
	9-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.79
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	
10-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	
11	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	
11-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**MECHANICAL ANCHORS**

**POWER-STUD® HD5**  
Hot-Dip Galvanized Wedge Expansion Anchor

**Spacing Distance Shear ( $F_{vs}$ ) Adjustment Factors for Normal-Weight Concrete**

Spacing Distance - Shear ( $F_{vs}$ )											
Diameter, d (in)	3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	3/4	3/4	
Minimum Embedment, $h_{min}$ (in)	1-3/4	2-3/8	2	2-1/2	3-3/4	2-3/8	3-3/8	4-5/8	3-3/8	5	
Min. Slab Thickness, $h_{min}$ (in)	3-1/4	4	4	5	6	5	6	7	6	10	
Minimum Spacing, $s_{min}$ (in)	5-1/4	3-3/4	6	7-1/4	5	7-1/8	11	4-1/4	9	6	
Critical Spacing, $s_c$ (in)	5-1/4	7-1/8	6	7-1/2	11-1/4	7-1/8	11	13-7/8	10-1/8	15	
Spacing Distance (inches)	3-3/4	-	0.87	-	-	-	-	-	-	-	
	4	-	0.88	-	-	-	-	-	-	-	
	4-1/4	-	0.89	-	-	-	-	0.78	-	-	
	4-1/2	-	0.90	-	-	-	-	0.79	-	-	
	5	-	0.92	-	-	0.82	-	0.80	-	-	
	5-1/2	1.00	0.94	-	-	0.84	-	0.81	-	-	
	6	1.00	0.96	1.00	-	0.85	-	0.82	-	0.82	
	6-1/2	1.00	0.98	1.00	-	0.87	-	0.83	-	0.83	
	7	1.00	1.00	1.00	-	0.88	-	0.84	-	0.84	
	7-1/2	1.00	1.00	1.00	1.00	0.89	1.00	-	0.85	-	0.85
	8	1.00	1.00	1.00	1.00	0.91	1.00	-	0.87	-	0.86
	8-1/2	1.00	1.00	1.00	1.00	0.92	1.00	-	0.88	-	0.87
	9	1.00	1.00	1.00	1.00	0.94	1.00	-	0.89	0.96	0.88
	9-1/2	1.00	1.00	1.00	1.00	0.95	1.00	-	0.90	0.98	0.89
	10	1.00	1.00	1.00	1.00	0.96	1.00	-	0.91	1.00	0.90
	10-1/2	1.00	1.00	1.00	1.00	0.98	1.00	-	0.92	1.00	0.91
	11	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.93	1.00	0.92
	11-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.93
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	0.94	
12-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	0.95	
13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.96	
13-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.97	
14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	
14-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	
15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**MECHANICAL ANCHORS**

**POWER-STUD® HDS**

Hot-Dip Galvanized Wedge Expansion Anchor

**Edge Distance Shear ( $F_{vc}$ ) Adjustment Factors for Normal-Weight Concrete**

Edge Distance - Shear ( $F_{vc}$ )										
Diameter, d (in)	3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	3/4	3/4
Minimum Embedment, $h_v$ (in)	1-3/4	2-3/8	2	2-1/2	3-3/4	2-3/8	3-3/8	4-5/8	3-3/8	5
Min. Slab Thickness, $h_{min}$ (in)	3-1/4	4	4	5	6	5	6	7	6	10
Minimum Edge Distance, $c_{min}$ (in)	5	6-1/2	6	8-1/2	8	7-1/8	6	10	5	12
Critical Edge Distance, $c_{cr}$ (in)	5-1/4	7-1/8	6	8-1/2	11-1/4	7-1/8	10-1/8	13-7/8	10-1/8	15
Edge Distance (inches)	5	0.95	-	-	-	-	-	-	0.49	-
	5-1/2	1.00	-	-	-	-	-	-	0.54	-
	6	1.00	-	1.00	-	-	-	0.59	0.59	-
	6-1/2	1.00	0.91	1.00	-	-	-	0.64	0.64	-
	7	1.00	0.98	1.00	-	-	-	0.69	0.69	-
	7-1/2	1.00	1.00	1.00	-	-	1.00	0.74	0.74	-
	8	1.00	1.00	1.00	-	0.71	1.00	0.79	0.79	-
	8-1/2	1.00	1.00	1.00	1.00	0.76	1.00	0.84	0.84	-
	9	1.00	1.00	1.00	1.00	0.80	1.00	0.89	0.89	-
	9-1/2	1.00	1.00	1.00	1.00	0.84	1.00	0.94	0.94	-
	10	1.00	1.00	1.00	1.00	0.89	1.00	0.99	0.99	0.72
	10-1/2	1.00	1.00	1.00	1.00	0.93	1.00	1.00	1.00	0.76
	11	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	0.79
	11-1/4	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81
	11-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83
	12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86
	12-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90
13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	
13-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	
14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
14-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

**MECHANICAL ANCHORS**

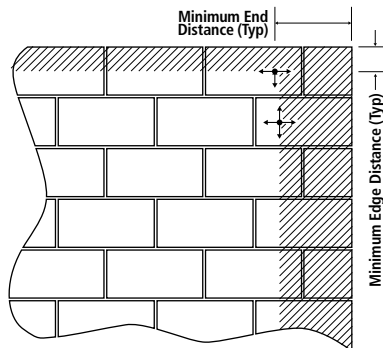
**POWER-STUD® HD5**  
Hot-Dip Galvanized Wedge Expansion Anchor

**MASONRY PERFORMANCE DATA**

**Ultimate and Allowable Load Capacities for Power-Stud HD5 in Grout -Filled Concrete Masonry<sup>1,2,3</sup>**

Anchor Diameter d in.	Minimum Embed. h <sub>v</sub> in. (mm)	Nominal Drill Bit Diameter in.	Minimum Edge Distance in. (mm)	Minimum End Distance in. (mm)	Ultimate Loads		Allowable Loads	
					Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
3/8	1-1/2 (38.1)	3/8" ANSI	4 (102)	4 (102)	1,185 (5.3)	1,340 (6.0)	235 (1.0)	270 (1.2)
1/2	2 (50.8)	1/2" ANSI	4 (102)	4 (102)	1,670 (7.4)	2,110 (9.4)	335 (1.5)	420 (1.9)
			12 (305)	12 (305)	1,860 (8.3)	2,560 (11.4)	370 (1.6)	510 (2.3)
5/8	2-3/8 (60.3)	5/8" ANSI	4 (102)	4 (102)	2,155 (9.6)	2,110 (9.4)	430 (1.9)	420 (1.9)
			12 (305)	12 (305)	2,850 (12.7)	5,225 (23.2)	570 (2.5)	1,045 (4.6)
3/4	3-3/8 (85.7)	3/4" ANSI	12 (305)	12 (305)	5,660 (25.2)	8,115 (36.1)	1,130 (5.0)	1,625 (7.2)
			20 (508)	20 (508)	5,660 (25.2)	9,360 (41.6)	1,130 (5.0)	1,870 (8.3)

1. Tabulated load values are for anchors installed in minimum 6-inch wide, Grade N, Type II, lightweight concrete masonry units conforming to ASTM C 90 that have reached the minimum designated ultimate compressive strength at the time of installation ( $f'_m \geq 1,500$  psi).
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 on the application, such as life safety.
3. The tabulated values are for anchors installed at a minimum spacing of 16 anchor diameters on center for 100 percent capacity. Spacing distances may be reduced to 8 anchor diameters on center provided the capacities are reduced by 50 percent. Linear interpolation may be used for intermediate spacing. Anchors with 3/4-inch diameter are limited to one anchor per cell.



**MECHANICAL ANCHORS**

**POWER-STUD® HD5**

Hot-Dip Galvanized Wedge Expansion Anchor

**ORDERING INFORMATION**

**Power-Stud HD5 (Carbon Steel Body and Stainless Steel Expansion Clip)**

Cat. No.	Anchor Size	Thread Length	Box Qty.	Carton Qty.	Wt/ 100 (lbs.)	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
7713HD5	3/8" x 3"	1-1/2"	50	300	10	00727	00333	-	-	01401
7715HD5	3/8" x 3-3/4"	2-3/8"	50	300	13	00727	00333	-	-	01402
7716HD5	3/8" x 5"	3-1/2"	50	300	15	00729	00334	-	-	01402
7717HD5	3/8" x 7"	5-1/2"	50	200	21	00729	00334	-	-	01403
7720HD5	1/2" x 2-3/4"	1"	50	200	21	00739	00346	08801	-	01407
7722HD5	1/2" x 3-3/4"	2"	50	200	19	00739	00346	08801	-	01407
7723HD5	1/2" x 4-1/2"	2-3/4"	50	200	23	00741	00348	08801	-	01407
7724HD5	1/2" x 5-1/2"	3-3/4"	50	150	27	00741	00348	08801	-	01408
7726HD5	1/2" x 7"	5-1/4"	25	100	30	00741	00348	08801	-	01408
7730HD5	5/8" x 3-1/2"	1-1/2"	25	100	44	-	00359	08809	07017	-
7733HD5	5/8" x 5"	3"	25	100	43	-	00359	08809	07017	-
7734HD5	5/8" x 6"	4"	25	75	47	-	00359	08809	07020	-
7738HD5	5/8" x 8-1/2"	6-1/2"	25	50	60	-	00361	08810	07020	-
7741HD5	3/4" x 4-3/4"	2-1/4"	20	60	68	-	00368	08817	07031	-
7742HD5	3/4" x 5-1/2"	3"	20	60	76	-	00368	08817	07031	-
7746HD5	3/4" x 7"	4-1/2"	20	60	92	-	00370	08817	07033	-
7748HD5	3/4" x 8-1/2"	6"	10	40	107	-	00370	08818	07033	-

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



**MECHANICAL ANCHORS**

**POWER-STUD® HD5**  
Hot-Dip Galvanized Wedge Expansion Anchor