Power-Stud+™ HD5

Hot Dip Galvanized Wedge Expansion Anchor

- *Hot dip galvanized coating for superior performance in damp, exterior environment.*
- *Single piece clip design for consistent performance in low and high strength concrete.*

Powers®

FASTENING INNOVATIONS

Power-Stud™ HD5

Hot-Dip Galvanized Wedge Expansion Anchor

THREAD VERISON

UNC Threaded Stud

ANCHOR MATERIALS

Hot-dipped 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
Structural sand-lightweight concrete
Grouted concrete masonry

PRODUCT DESCRIPTION

The Power-Stud HD5 anchor is a fully threaded, torque-controlled, wedge expansion anchor. Suitable base materials include normal-weight concrete and structural sand-lightweight concrete. 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
- Support Ledgers
- Fencing
- Maintenance
- Material Handling
- Storage Facilities
- Repairs
- 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

Power-Stud™ HD5

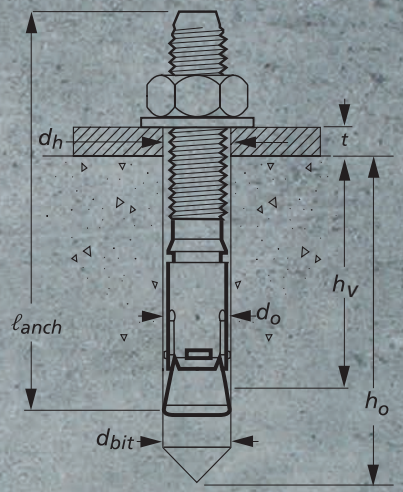
INSTALLATION SPECIFICATIONS

Installation Table for Power-Stud HD5

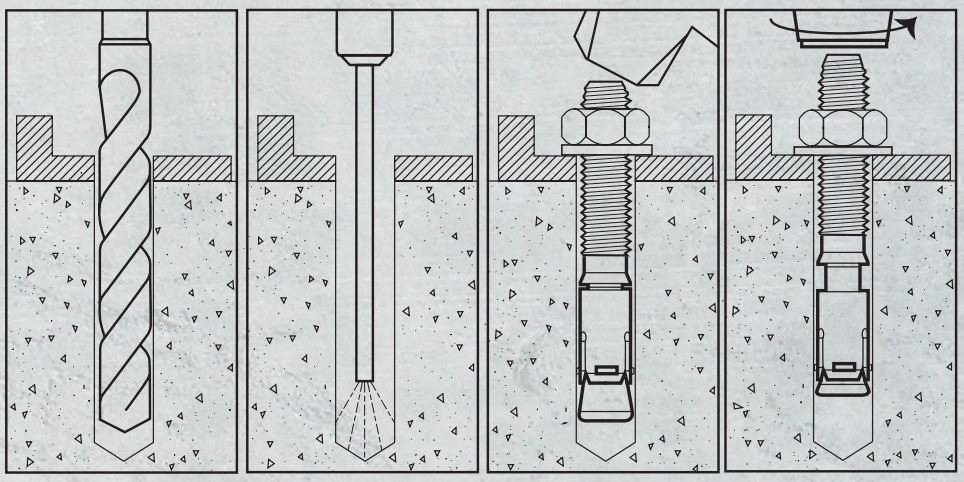
Anchor Property/ Setting Information	Notation	Units	Nominal Anchor Diameter (inch)									
			3/8		1/2			5/8			3/4	
Anchor outside diameter	d	in. (mm)	0.375 (9.525)		0.500 (12.7)			0.625 (15.9)			0.750 (19.05)	
Minimum diameter of hole clearance in fixture	d_h	in. (mm)	7/16 (11.1)		9/16 (14.3)			11/16 (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[1]	ℓ_{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_{ac}	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 SI: 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.



Installation Instructions



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.

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

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,

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

Length Identification

Mark	From	Up to but not including
C	2-1/2"	3"
D	3"	3-1/2"
E	3-1/2"	4"
F	4"	4-1/2"
G	4-1/2"	5"
H	5"	5-1/2"
I	5-1/2"	6"
J	6"	6-1/2"
K	6-1/2"	7"
L	7"	7-1/2"
M	7-1/2"	8"
N	8"	8-1/2"

Length identification mark indicates overall length of anchor.

Power-Stud™ HD5

ALLOWABLE STRESS DESIGN (ASD) PERFORMANCE DATA

Ultimate Load Capacities for Power-Stud HD5 in Normal-Weight Concrete[1,2]

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
3/8	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
1/2	2-1/2	4,140	4,195	4,540	4,195	5,240	4,195	6,415	4,195	7,410	4,195
1/2	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
5/8	3-3/8	7,305	6,815	8,000	6,815	9,240	6,815	11,315	6,815	13,065	6,815
5/8	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
3/4	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[1]

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
3/8	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
1/2	2-1/2	1,035	1,050	1,135	1,050	1,310	1,050	1,605	1,050	1,855	1,050
1/2	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
5/8	3-3/8	1,825	1,705	2,000	1,705	2,310	1,705	2,830	1,705	3,265	1,705
5/8	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
3/4	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.

ALLOWABLE STRESS DESIGN (ASD) DESIGN CRITERIA

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 Embedmend, 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

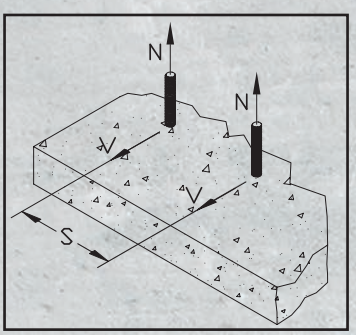
Edge Distance - Tension (F_{NC})											
Diameter, d (in)		3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	3/4	3/4
Minimum Embedmend, h_v (in)		1-3/4	2-3/8	2	2-1/2	3-3/4	2-3/8	3-3/8	4-5/8	3-3/8	5
Min. Slab Thickness, h_{min} (in)		3-1/4	4	4	5	6	5	6	7	6	10
Minimum Edge Distance, c_{min} (in)		3	2-1/4	4	5-1/4	4	4-1/4	5-1/2	4-1/4	5	4-1/2
Critical Edge Distance, c_{ac} (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

Power-Stud™ HD5

ALLOWABLE STRESS DESIGN (ASD) DESIGN CRITERIA

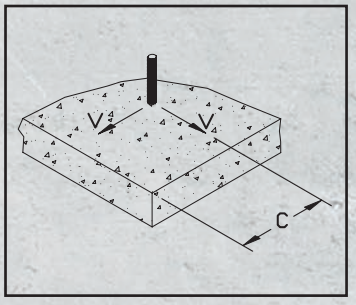
Spacing Distance Shear (Fvs) Adjustment Factors for Normal-Weight Concrete

Spacing Distance - Shear (Fvs)											
Diameter, d (in)		3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	3/4	3/4
Minimum Embedmend, 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	11	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	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



Edge Distance Shear (Fvc) Adjustment Factors for Normal-Weight Concrete

Edge Distance - Shear (Fvc)											
Diameter, d (in)		3/8	3/8	1/2	1/2	1/2	5/8	5/8	5/8	3/4	3/4
Minimum Embedmend, 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_{ac} (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	0.72	0.99	-
	10-1/2	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.76	1.00	-
	11	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.79	1.00	-
	11-1/4	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	-
	11-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	1.00	-
	12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00	0.80
	12-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	0.83
	13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	1.00	0.87
	13-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	0.90
	14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93
	14-1/2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
	15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

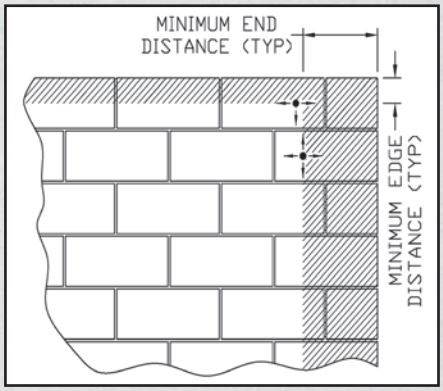


Power-Stud™ HD5

MASONRY PERFORMANCE DATA

Ultimate and Allowable Load Capacities for Power-Stud HD5 in Grout -Filled Concrete Masonry[1,2,3]

Anchor Diameter d in.	Minimum Embed. h_v in. (mm)	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)	4 (102)	4 (102)	1,185 (5.3)	1,340 (6.0)	235 (1.0)	270 (1.2)
1/2	2 (50.8)	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)	4 (102)	4 (102)	2,155 (9.6)		430 (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)	12 (305)	12 (305)	5,660 (25.2)	8,115 (36.1)	1,130 (5.0)	1,625 (7.2)
		20 (508)	20 (508)		9,360 (41.6)		1,870 (8.3)



1. Tabulated load values are for anchors installed in minimum 6-inch wide, Grade N, Type II, light weight 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 or overhead.
3. The tabulated values are for anchors installed at a minimum 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 diamter are limited to one anchor per cell.

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.)
7713HD5	3/8" x 3"	1-1/2"	50	300	10
7715HD5	3/8" x 3-3/4"	2-3/8"	50	300	13
7716HD5	3/8" x 5"	3-1/2"	50	300	15
7717HD5	3/8" x 7"	5-1/2"	50	200	21
7720HD5	1/2" x 2-3/4"	1"	50	200	21
7722HD5	1/2" x 3-3/4"	2"	50	200	19
7723HD5	1/2" x 4-1/2"	2-3/4"	50	200	23
7724HD5	1/2" x 5-1/2"	3-3/4"	50	200	27
7726HD5	1/2" x 7"	5-1/4"	50	150	30
7730HD5	5/8" x 3-1/2"	1-1/2"	25	100	44
7733HD5	5/8" x 5"	3"	25	100	43
7734HD5	5/8" x 6"	4"	25	100	47
7738HD5	5/8" x 8-1/2"	6-1/2"	25	75	60
7741HD5	3/4" x 4-3/4"	2-1/4"	20	60	68
7742HD5	3/4" x 5-1/2"	3"	20	60	76
7746HD5	3/4" x 7"	4-1/2"	20	60	92
7748HD5	3/4" x 8-1/2	6"	10	40	107

The published size includes the diameter and the overall length of the anchor.
All anchors are packaged with nuts and washers.

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

POWERS FASTENERS **BRANCH INFORMATION**

USA LOCATIONS

CITY	ADDRESS	CONTACT	PHONE	FAX
Alabama	5405 Buford Hwy Suite 410 Norcross, GA 30071-3984	Jeff Hatchett	205-520-6044	678-966-9242
Atlanta	5405 Buford Hwy Suite 410 Norcross, GA 30071-3984	Ryan Raica	678-966-0000	678-966-9242
Boston	2 Powers Lane, Brewster, NY 10509	Jack Armour	800-524-3244	914-576-6483
Charlotte	349 L West Tremont Avenue, Charlotte, NC 28203	Bob Aurisy	704-375-5012	704-376-5517
Chicago	2472 Wisconsin Avenue, Downers Grove, IL 60515	Dan Gilligan	630-960-3156	630-960-3912
Dallas	1300 IH 35 North, Suite #118, Carrollton TX 75006	Matt Henderson	972-506-9258	972-506-9290
Denver	2475 West Second Street #35, Denver, CO 80223	Jared Hemmert	303-922-9202	303-922-9228
Detroit	21600 Wyoming Avenue, Oak Park, MI 48237	Glen Gaskill	248-543-8600	248-543-8601
Florida	2412 Lynx Lane, Orlando, FL 32804	John Christy	813-626-4500	813-626-4545
Houston	13833 North Promenade, Suite 100, Stafford, TX 77477	Vaughn Eshelman	281-491-0351	281-491-0367
Indianapolis	15290 Stony Creek Way, Noblesville, IN 46060	Bill Trainor	317-773-1668	317-773-1690
Kansas City / St Louis	716 East 16th Avenue, North Kansas City, MO 64116	Don James, Jr.	816-472-5038	816-472-5040
Los Angeles	2761 Dow Avenue, Tustin, CA 92780	Trevor Gillespie	714-731-2500	714-731-2566
Maryland	3137-B Pennsy Drive, Landover, MD 20785	Chris Van Syckle	301-773-1722	301-341-5119
Milwaukee	12020 W. Feerick Street, Milwaukee, WI 53222	Donn Raduenz	414-466-2400	414-466-3993
Minneapolis	351 Wilson Street, NE Minneapolis, MN 55413	Josh Nelson	612-331-3770	612-331-3549
Nashville/Memphis	221 Blanton Avenue, Nashville, TN 37210	Jamie Utley	615-248-2667	615-248-2676
New Orleans	102 Sampson Street, Houston, TX 77003	Cal Zenor	713-228-1524	713-228-1528
New York	2 Powers Lane, Brewster, NY 10509	John Partridge	914-235-6300	914-576-6483
Philadelphia	2 Powers Lane, Brewster, NY 10509	Greg Stephenson	800-524-3244	914-576-6483
Phoenix	3602 E. Southern Ave, Suite 5 Phoenix, AZ 85040	Patrick Stysly	602-431-8024	602-431-8027
Pittsburgh	1360 Island Avenue, Mckees Rocks, PA 15136	Bill Dugan	412-771-3010	412-771-9858
Portland	18808 142nd Ave NE, Suite 4A, Woodinville, WA 98072	Jim Swink	360-608-6845	206-762-5817
Rochester	36 Van Auker Blvd., Rochester, NY 14608	Mark Harper	800-524-3244 / 585-529-4188	914-576-6483/ 585-529-5319
Salt Lake City	3120 W. California Ave, Suite E, Salt Lake City, UT 84104	Don Manning	801-466-9428	801-466-3083
San Francisco	28970 Hopkins Street, Suite B+C, Hayward, CA 94545	John O'Brien/Craig Hering	510-293-1500	510-293-1505
Seattle	18808 142nd Ave NE, Suite 4A, Woodinville, WA 98072	Darin Arnold/Jim Swink	206-762-5812	206-762-5817

INTERNATIONAL LOCATIONS

COUNTRY/REGION	ADDRESS	CONTACT	PHONE	FAX
Australia	Factory 3, 205 Abbotts Road, Dandenong, South Victoria 3175	Peter Pratis	+61 3 8787 5888	+61 3 8787 5899
Canada	6950 Edwards Blvd. Mississauga, Ontario L5T 2W2	Mark Russell	905-673-7295	905-673-6490
China	Metropolitan Business Centre, East Nandan Road, Lane 300, No. 9, Room 604 Xuhui District, Shanghai, China 200030	Jake Olsen	+86-21-3363-2880	+86-21-5080-5389
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Manitoba	1810 Dublin Avenue Man. Winnipeg, R3H 0H3	Distributor	204-633-0064	204-694-1261
New Zealand	PO Box 302 076 North Harbour Auckland	Clay Sesto	+64 9415 2425	+64 9415 2627
Quebec	721 Meloche Avenue, Dorval, Quebec H9P 2S5	Allan Hill	514-631-4216	514-631-2583

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Costa Rica	Electro Mechanics Supply, La Uruca Contiguo Banco Ntnl., De Costa Rica Condominio, Horizontal Bodega #9, San Jose, Costa Rica		(506) 2233-2595	
Dominican Republic	Calle Estancia Nueva #17 E Esquina Cul-De-Sac 9, San Geronimo, Santo Domingo	Rodfor Team	809-224-5615	809-472-8640
Ecuador	Acero Comercial Ecuatoriano S.A., Av. La Prensa N45-14 y Telégrafo 1 – Quito	infouio@acerocomercial.com	(593-2) 2454 333	(593-2) 2454 455
	Av. Juan Tanca Marengo Km. 1.7 – Guayaquil	infogye@acerocomercial.com	(593-4) 2683 060	(593-4) 2683 059
Guatemala	Tecnofijaciones, 6 Avenue 8-56 Zona 9, Zona 9, Guatemala	Oscar Lucas Penagos	502-233-4-3478	
Panama	Centro-Industrial, Via Cincuentenario, No. 7910, Ciudad Panama, Panama		(507) 302-8022	
Peru	Powers Peruana SAC, Av. Santa Catalina, 555 La Victoria, Lima 13, Peru (www.powersperuana.com)	Martin Vasquez	(011) 511 265 8500	(011) 511 330 0909
Venezuela	Calle Sucre/Qta. Maudora, #1721 Entre Cec Acosta Y San Ignacio Chacao, Caracas	Distributor	58 212 264 1313	58 212 263 0219
Trinidad - Tobago	Ft. Farfan, 3-5 Ibis Avenue, Ibis Acres, San Juan	Derek Cumming	(868) 674-7896	

Powers Fasteners 2 Powers Lane, Brewster, NY 10509 P: (914) 235-6300 F:(914) 576-6483
Powers Fasteners Canada Ltd. 6950 Edwards Boulevard Mississauga Ontario L5T-2W2 Canada
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