

Dynabolt® Sleeve Anchor

**Versatile,
Medium-Duty
Sleeve Anchor**



DESCRIPTION / SUGGESTED SPECIFICATIONS

Sleeve Type Anchors—

SPECIFIED FOR ANCHORAGE INTO CONCRETE, GROUT-FILLED CONCRETE BLOCK, HOLLOW CONCRETE BLOCK AND BRICK



Sleeve type anchors feature a split expansion sleeve over a threaded stud bolt body and integral expander, nut and washer.

Anchors are made of Plated Carbon Steel, or Type 18-8 Stainless Steel.

Anchors should be installed with carbide tipped hammer drill bits made in accordance to ANSI B212.15-1994.

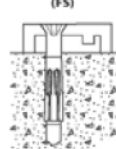
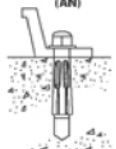
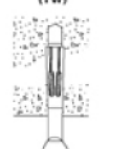
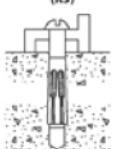
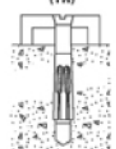
Anchors are tested to ASTM E488 criteria.

ADVANTAGES

- Anchor diameter equals hole diameter
- Available in hex head and six other head styles
- Available 1/4 - 3/4" diameter up to 6-1/4" length
- Zinc plated carbon steel and 304 stainless steel
- Provides full 360° hole contact over large area and reduces concrete stress
- Heavy-loading capacity
- Preassembled for faster, easier installations
- Dynabolt can be installed through object to be fastened
- Sleeve design improves holding power
- No pre-spotting of holes necessary

Available Head Styles

Full range of head style, corrosion protection, and sizes makes the Dynabolt Sleeve the right product for almost any application.

Phillips Flat Head (FS) 	Hex Nut (HN) 	Acorn Nut (AN) 
Tie Wire (TW) 	Round Head (RS) 	Threshold Flat Head (TH) 

SUGGESTED SPECIFICATIONS

Medium-Duty Sleeve Type Anchors—

SPECIFIED FOR ANCHORAGE INTO CONCRETE, MASONRY, GROUT-FILLED BLOCK AND HOLLOW BLOCK

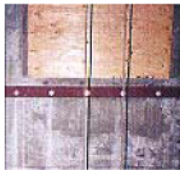
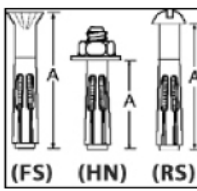
Sleeve type anchors feature a split expansion sleeve over a threaded stud bolt body and integral expander, nut and washer.

Anchors are made of Plated Carbon Steel, or Type 18-8 Stainless Steel.

Anchors should be installed with carbide tipped hammer drill bits made in accordance to ANSI B212.15-1994.

Anchors are tested to ASTM E488 criteria.

SELECTION CHART

Dynabolt Carbon Steel with Zinc Plating									
 Typical Applications Shelf ledgers, electrical boxes, conduit Environment Interior (non-corrosive) Level of Corrosion Low *Effective Anchor Length  (FS) (HN) (RS)	HEAD STYLE	PART NUMBER	ANCHOR DIA. & DRILL BIT SIZE	EFFECTIVE ANCHOR LENGTH * In. (mm)	BOLT DIA./ THREADS PER INCH	MIN. EMBEDMENT In. (mm)	MAX. THICKNESS OF MATERIAL TO BE FASTENED In. (mm)	QTY/WT PER BOX lbs.	QTY/WT PER MASTER CARTON lbs.
	ACRON NUT	AN-1405 AN-1413 AN-1422	1/4"	5/8 (15.9) 1-3/8 (34.9) 2-1/4 (57.2)	3/16"/24 3/16"/24 3/16"/24	1/2 (12.7) 1-1/8 (28.6) 1-1/8 (28.6)	1/8 (3.2) 1/4 (6.4) 1-1/8 (28.6)	100/1.9 100/2.6 100/3.7	1000/20 1000/27 1000/38
	HEX NUT	HN-1413 HN-1422	1/4"	1-3/8 (34.9) 2-1/4 (57.2)	3/16"/24 3/16"/24	1-1/8 (28.6) 1-1/8 (28.6)	1/4 (6.4) 1-1/8 (28.6)	100/2.3 100/3.4	1000/24 1000/35
	HEX NUT	HN-1614 HN-1624	5/16"	1-1/2 (38.1) 2-1/2 (63.5)	1/4"/20 1/4"/20	1-1/4 (31.8) 1-1/4 (31.8)	1/4 (6.4) 1-1/4 (31.8)	100/4.0 100/5.9	1000/41 800/47
	HEX NUT	HN-3817 HN-3830	3/8"	1-7/8 (47.6) 3 (76.2)	5/16"/18 5/16"/18	1-1/2 (38.1) 1-1/2 (38.1)	3/8 (9.5) 1-1/2 (38.1)	50/3.5 50/4.9	500/36 400/40
	HEX NUT	HN-1222 HN-1230 HN-1240	1/2"	2-1/4 (57.2) 3 (76.2) 4 (101.6)	3/8"/16 3/8"/16 3/8"/16	1-7/8 (47.6) 1-7/8 (47.6) 1-7/8 (47.6)	3/8 (9.5) 1-1/8 (28.6) 2-1/8 (54.0)	25/3.3 25/4.0 25/5.3	250/34 200/33 200/44
	HEX NUT	HN-5822 HN-5830 HN-5842 HN-5860	5/8"	2-1/4 (57.2) 3 (76.2) 4-1/4 (108.0) 6 (152.4)	1/2"/13 1/2"/13 1/2"/13 1/2"/13	2 (50.8) 2 (50.8) 2 (50.8) 2 (50.8)	1/4 (6.4) 1 (25.4) 2-1/4 (57.2) 4 (101.6)	25/6.3 25/7.0 10/3.9 10/4.9	150/38 150/46 100/41 50/25
	HEX NUT	HN-3424 HN-3440 HN-3462	3/4"	2-1/2 (63.5) 4 (101.6) 6-1/4 (158.8)	5/8"/11 5/8"/11 5/8"/11	2-1/4 (57.2) 2-1/4 (57.2) 2-1/4 (57.2)	1/4 (6.4) 1-3/4 (44.5) 4 (101.6)	10/4.7 5/3.2 5/4.3	50/25 50/33 50/44
	PHILLIPS FLAT HEAD *	FS-1411 FS-1420 FS-1430 FS-1440	1/4" (head dia. .477)	1-1/2 (38.1) 2-1/4 (57.2) 3-1/8 (79.4) 4 (101.6)	3/16"/24 3/16"/24 3/16"/24 3/16"/24	1-1/8 (28.6) 1-1/8 (28.6) 1-1/8 (28.6) 1-1/8 (28.6)	3/8 (9.5) 1-1/8 (28.6) 2 (50.8) 2-7/8 (73.0)	100/1.9 100/2.7 100/3.8 100/4.7	1000/21 1000/28 1000/38 1000/48
	PHILLIPS FLAT HEAD *	FS-3826 FS-3840 FS-3850 FS-3860	3/8" (head dia. .722)	2-7/8 (73.0) 4 (101.6) 5 (127.0) 6 (152.4)	5/16"/18 5/16"/18 5/16"/18 5/16"/18	1-1/2 (38.1) 1-1/2 (38.1) 1-1/2 (38.1) 1-1/2 (38.1)	1-3/8 (34.9) 2-1/2 (63.5) 3-1/2 (88.9) 4-1/2 (114.3)	50/3.8 50/5.3 50/5.6 50/8.0	500/40 400/44 300/40 300/48
	THRESHOLD FLAT HEAD	TH-1420	1/4" (head dia. .385)	2-1/4 (57.2)	3/16"/24	1-1/8 (28.6)	1-1/8 (28.6)	100/2.5	1000/25
	ROUND HEAD	RS-1426	1/4"	2-7/8 (73.0)	3/16"/24	1-1/8 (28.6)	1-3/4 (44.5)	100/3.7	1000/38
	TIE WIRE	TW-1614	5/16"	1-1/2 (38.1)	1/4"/20	1-1/2 (38.1)	9/32 hole (7.1)	100/4.9	1000/50

*Phillips flat head uses a standard 80°- 82° counter sink.

SELECTION CHART

Dynabolt Type 304 Stainless Steel									
 Typical Applications Cladding and Brick Ties Environment Slight to moderate degree of pollution Level of Corrosion Medium	HEAD STYLE	PART NUMBER	ANCHOR DIA. & DRILL BIT SIZE	EFFECTIVE ANCHOR LENGTH In. (mm)	BOLT DIA./ THREADS PER INCH	MIN. EMBEDMENT In. (mm)	MAX. THICKNESS OF MATERIAL TO BE FASTENED In. (mm)	QTY/WT PER BOX lbs.	QTY/WT PER MASTER CARTON lbs.
	HEX NUT	SHN-1413	1/4"	1-3/8 (34.9)	3/16" /24	1-1/8 (28.6)	1/4 (6.4)	100/2.3	1000/24
		SHN-3817 SHN-3830	3/8"	1-7/8 (47.6) 3 (76.2)	5/16" /18 5/16" /18	1-1/2 (38.1) 1-1/2 (38.1)	3/8 (9.5) 1-1/2 (38.1)	50/3.5 50/4.9	500/36 400/40
		SHN-1220 SHN-1230 SHN-1240	1/2"	2-1/4 (57.2) 3 (76.2) 4 (101.6)	3/8" /16 3/8" /16 3/8" /16	1-7/8 (47.6) 1-7/8 (47.6) 1-7/8 (47.6)	3/8 (9.5) 1-1/8 (28.6) 2-1/8 (54.0)	25/3.3 25/4.0 25/5.3	250/34 200/33 200/44
		SHN-5842	5/8"	4-1/4 (108.0)	1/2" /13	2 (50.8)	2-1/4 (57.2)	10/3.9	100/41
	PHILLIPS FLAT HEAD*	SFS-1420 SFS-1430	1/4"	2-1/4 (57.2) 3-1/8 (79.4)	3/16" /24 3/16" /24	1-1/8 (28.6) 1-1/8 (28.6)	1-1/8 (28.6) 3 (76.2)	100/2.7 100/3.8	1000/28 1000/38
		SFS-3826 SFS-3840	3/8"	2-7/8 (73.0) 4 (101.6)	5/16" /18 5/16" /18	1-1/2 (38.1) 1-1/2 (38.1)	1-3/8 (34.9) 2-1/2 (63.5)	50/3.8 50/5.3	500/40 400/44
	ROUND HEAD	SRS-1420	1/4"	2 (50.8)	3/16" /24	1-1/8 (28.6)	7/8 (22.2)	100/2.7	1000/28

* Flat head uses a standard 80°- 82° counter sink. For continuous extreme low temperature applications, use stainless steel.

PERFORMANCE TABLE

Dynabolt Sleeve Anchors			Ultimate Tension and Shear Values in Concrete and (Lbs/kN)*							
ANCHOR DIA. In. (mm)	INSTALLATION TORQUE Ft. Lbs. (Nm)	BOLT DIA. In. (mm)	MINIMUM EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE (STEEL)	f _c = 2000 PSI (13.8 MPa)		f _c = 3000 PSI (20.7 MPa)		f _c = 4000 PSI (27.6 MPa)	
					TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
1/4 (6.4)	3.5 (4.7)	3/16 (4.8)	1-1/8 (28.6)	Carbon or Stainless	1,200 (5.3)	1,620 (7.2)	1,600 (7.1)	1,620 (7.2)	2,100 (9.3)	1,620 (7.2)
5/16 (7.9)	8 (10.8)	1/4 (6.4)	1-1/4 (31.8)		1,400 (6.2)	2,040 (9.1)	1,920 (8.5)	2,220 (9.9)	2,600 (11.6)	2,400 (10.7)
3/8 (9.5)	14 (19.0)	5/16 (7.9)	1-1/2 (38.1)		1,620 (7.2)	2,560 (11.4)	2,240 (10.0)	2,800 (12.5)	3,100 (13.8)	3,040 (13.5)
1/2 (12.7)	20 (27.1)	3/8 (9.5)	1-7/8 (47.6)		2,220 (9.9)	4,000 (17.8)	3,140 (14.0)	4,500 (20.0)	4,400 (19.6)	5,000 (22.2)
5/8 (15.9)	48 (65.1)	1/2 (12.7)	2 (50.8)		3,080 (13.7)	6,440 (28.6)	4,400 (19.6)	7,240 (32.2)	6,120 (27.2)	8,080 (35.9)
3/4 (19.1)	90 (122.0)	5/8 (15.9)	2-1/4 (57.2)		4,200 (18.7)	10,200 (45.4)	6,060 (27.0)	11,600 (51.6)	8,900 (39.6)	13,100 (58.3)

PERFORMANCE TABLE

Dynabolt Sleeve Anchors			Ultimate Tension and Shear Values in Lightweight Concrete (Lbs/kN)*							
ANCHOR DIA. In. (mm)	INSTALLATION TORQUE Ft. Lbs. (Nm)	BOLT DIA. In. (mm)	MINIMUM EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE (STEEL)	f _c = 4000 PSI (27.6 MPa)		f _c = 6000 PSI (41.4 MPa)		TENSION Lbs. (kN)	SHEAR Lbs. (kN)
					TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)		
1/4 (6.4)	3.5 (4.7)	3/16 (4.8)	1-1/8 (28.6)	Carbon or Stainless	1,080 (4.8)	1,160 (5.2)	1,220 (5.4)	1,940 (8.6)	1,080 (4.8)	1,160 (5.2)
5/16 (7.9)	8 (10.8)	1/4 (6.4)	1-1/4 (31.8)		1,260 (5.6)	1,680 (7.5)	1,440 (6.4)	2,220 (9.9)	1,260 (5.6)	1,680 (7.5)
3/8 (9.5)	14 (19.0)	5/16 (7.9)	1-1/2 (38.1)		1,620 (7.2)	2,300 (10.2)	2,240 (10.0)	2,800 (12.5)	1,620 (7.2)	2,300 (10.2)
1/2 (12.7)	25 (33.9)	3/8 (9.5)	1-7/8 (47.6)		2,600 (11.6)	3,920 (17.4)	3,160 (14.1)	4,840 (21.5)	2,600 (11.6)	3,920 (17.4)
5/8 (15.9)	48 (65.1)	1/2 (12.7)	2 (50.8)		3,240 (14.4)	5,600 (24.9)	4,300 (19.1)	7,840 (34.9)	3,240 (14.4)	5,600 (24.9)
3/4 (19.1)	90 (122.0)	5/8 (15.9)	2-1/4 (57.2)		3,640 (16.2)	8,640 (38.4)	5,800 (25.8)	12,480 (55.5)	3,640 (16.2)	8,640 (38.4)

PERFORMANCE TABLE

Dynabolt Sleeve Anchors			Ultimate Tension and Shear Values in Concrete Masonry Units (Lbs/kN)*									
ANCHOR DIA. In. (mm)	INSTALLATION TORQUE Ft. Lbs. (Nm)	BOLT DIA. In. (mm)	MINIMUM EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE (STEEL)	LIGHTWEIGHT				MEDIUM WEIGHT			
					HOLLOW CORE		GROUT FILLED		HOLLOW CORE		GROUT FILLED	
					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 (6.4)	3.5 (4.7)	3/16 (4.8)	1-1/8 (28.6)	Carbon	1,120 (5.0)	1,360 (5.0)	1,120 (5.0)	1,360 (5.0)	1,120 (5.0)	1,620 (7.2)	1,120 (5.0)	1,360 (6.0)
				Stainless	640 (2.8)	1,620 (7.2)	640 (2.8)	1,620 (7.2)	640 (2.8)	1,620 (7.2)	640 (2.8)	1,160 (5.2)
3/8 (9.5)	15 (20.3)	5/16 (7.9)	1-1/2 (38.1)	Carbon	1,360 (6.0)	2,560 (11.4)	1,360 (6.0)	2,560 (11.4)	1,360 (6.0)	2,560 (11.4)	1,360 (6.0)	2,560 (11.4)
				Stainless	1,160 (5.2)	2,560 (11.4)	1,160 (5.2)	2,560 (11.4)	1,160 (5.2)	2,560 (11.4)	1,160 (5.2)	2,560 (11.4)
1/2 (12.7)	25 (33.9)	3/8 (9.5)	1-7/8 (47.6)	Carbon	--	--	2,220 (9.9)	4,000 (17.8)	--	--	2,220 (9.9)	4,000 (17.8)
				Stainless	--	--	2,100 (9.3)	4,000 (17.8)	--	--	2,100 (9.3)	4,000 (17.8)
5/8 (15.9)	55 (74.6)	1/2 (12.7)	2 (50.8)	Carbon	--	--	3,080 (13.7)	6,440 (28.6)	--	--	3,080 (13.7)	6,440 (28.6)
				Stainless	--	--	3,080 (13.7)	6,440 (28.6)	--	--	2,280 (12.5)	6,440 (28.6)
3/4 (19.1)	90 (122.0)	5/8 (15.9)	2-1/2 (63.5)	Carbon	--	--	4,200 (18.7)	10,200 (45.4)	--	--	4,200 (18.7)	10,200 (45.4)

* Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values. The tabulated values are for anchors installed in a minimum of 12 diameters on center and a minimum edge distance of 6 diameters for 100 percent anchor efficiency. Spacing and edge distance may be reduced to 6 diameter spacing and 3 diameter edge distance, provided the values are reduced 50 percent. Linear interpolation may be used for intermediate spacings and edge distances.

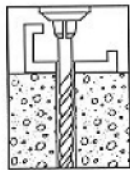
Combined Tension and Shear Loading —for Dynabolt Anchors

Allowable loads for anchors subjected to combined shear and tension forces are determined by the following equation:

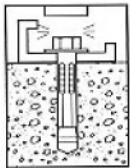
$$(P_s/P_t) + (V_s/V_t) \leq 1$$

P_s = Applied tension load V_s = Applied shear load P_t = Allowable tension load V_t = Allowable shear load

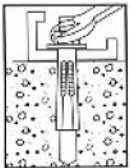
INSTALLATION STEPS



1. Use a bit with a diameter equal to the anchor. See selection chart to determine proper size bit for anchor used. Drill hole to any depth exceeding minimum embedment. Clean hole.

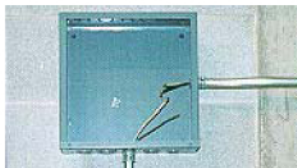


2. Insert assembled anchor into hole, so that washer or head is flush with materials to be fastened.



3. Expand anchor by tightening nut or head 2 to 3 turns.

APPLICATIONS



Electrical junction boxes are common applications for the Dynabolt Sleeve anchor because it works well in solid concrete, concrete block, and brick. It is also available in several finished head styles.

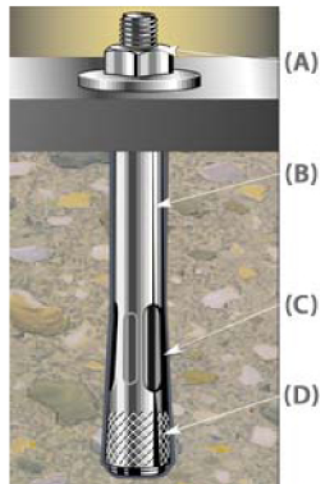


The Dynabolt Sleeve anchor works well in hollow materials like brick and block. It is available in zinc-plated carbon steel and 304 stainless steel.



Door and window frames are commonly attached to the structure with Dynabolt Sleeve anchors because of their finished and threshold head styles and performance in block and brick.

FEATURES



(A) Multiple Head Styles—for many application

(B) Range of Fixture Thickness—no weakened shear area because of all-steel spacer sleeve (no plastic)

(C) Sleeve Design—for better holding

(D) 360° Hole Contact—gives better pullout resistance

APPROVALS / LISTINGS

Meets or exceeds U.S. Government G.S.A. Specification A-A-1922A
 (Formerly GSA: FF-S-325 Group II, Type 3, Class 3)

Factory Mutual

California State Fire Marshal