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HEX LARGE DIAMETER CONCRETE SCREW ANCHORS – STEEL ZINC, 410 STAINLESS STEEL, AND GALVANIZED

The following Specification Sheet applies to all Hex Large Diameter Concrete Screw Anchors – Steel Zinc, 410 Stainless Steel, and Galvanized (a/k/a EnvireX) in our LCS and LCSX series.



ANCHOR DIA. In. (mm)	DRILL BIT DIA. In. (mm)	EFFECTIVE LENGTH In. (mm)	MAX. THICKNESS OF MATERIAL TO BE FASTENED In. (mm)
3/8 (9.5)	5/16 (7.9)	1-3/4 (44.5)	1/4 (6.4)
3/8 (9.5)	5/16 (7.9)	2-1/2 (63.5)	1 (25.4)
3/8 (9.5)	5/16 (7.9)	3 (76.2)	1-1/2 (38.1)
3/8 (9.5)	5/16 (7.9)	4 (101.6)	2-1/2 (63.5)
3/8 (9.5)	5/16 (7.9)	5 (127.0)	3-1/2 (89.0)
1/2 (12.7)	7/16 (11.1)	3 (76.2)	1/2 (12.7)
1/2 (12.7)	7/16 (11.1)	4 (101.6)	1-1/2 (38.1)
1/2 (12.7)	7/16 (11.1)	5 (127.0)	2-1/2 (63.5)
1/2 (12.7)	7/16 (11.1)	6 (152.4)	4 (101.6)

Ultimate Tension and Shear Values (Lbs/kN) in Concrete

ANCHOR DIA. In. (mm)	EMBEDMENT DEPTH In. (mm)	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)
3/8 (9.5)	1-1/2 (38.1)	1,336 (5.9)	2,108 (9.4)	1,652 (7.3)	2,764 (12.3)	1,968 (8.8)	3,416 (15.2)
	2 (50.8)	1,492 (6.6)	3,036 (13.5)	2,024 (9.0)	3,228 (14.4)	2,552 (11.4)	3,420 (15.2)
	2-1/2 (63.5)	3,732 (16.6)	3,312 (14.7)	3,748 (16.7)	3,364 (15.0)	3,760 (16.7)	3,424 (15.2)
	3-1/2 (88.9)	5,396 (24.0)	3,312 (14.7)	6,624 (29.5)	3,368 (15.0)	7,852 (34.9)	3,428 (15.2)
1/2 (12.7)	2 (50.8)	3,580 (15.9)	5,644 (25.1)	3,908 (17.4)	6,512 (29.0)	4,236 (18.8)	7,380 (32.8)
	3-1/2 (88.9)	7,252 (32.3)	6,436 (28.6)	8,044 (35.8)	7,288 (32.4)	8,836 (39.3)	8,140 (36.2)
	4-1/2 (114.3)	10,176 (45.3)	7,384 (32.8)	10,332 (46.0)	7,968 (35.4)	10,488 (46.7)	8,552 (38.0)

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229 Cross Street
Bristol, CT 06010

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Phone: 860 589-4186 Toll Free: 800 243-8272

Fax: 860 584-1008 Toll Free Fax: 800 831-9358



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Allowable Tension and Shear Values (Lbs/kN) in Concrete Carbon and Stainless Steel

ANCHOR DIA. In. (mm)	EMBEDMENT DEPTH In. (mm)	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)
3/8 (9.5)	1-1/2 (38.1)	334 (1.5)	527 (2.3)	413 (1.8)	691 (3.1)	492 (2.1)	854 (3.8)
	2 (50.8)	373 (1.7)	759 (3.4)	506 (2.2)	807 (3.6)	638 (2.8)	855 (3.8)
	2-1/2 (63.5)	933 (4.2)	828 (3.7)	937 (4.2)	841 (3.7)	940 (4.2)	856 (3.8)
	3-1/2 (88.9)	1,349 (6.0)	828 (3.7)	1,656 (7.4)	842 (3.7)	1,963 (8.7)	857 (3.8)
1/2 (12.7)	2 (50.8)	895 (4.0)	1,411 (6.3)	977 (4.3)	1,628 (7.2)	1,059 (4.7)	1,845 (8.2)
	3-1/2 (88.9)	1,813 (8.0)	1,609 (7.2)	2,011 (8.9)	1,822 (8.1)	2,209 (9.8)	2,035 (9.0)
	4-1/2 (114.3)	2,544 (11.3)	1,846 (8.2)	2,583 (11.5)	1,992 (8.9)	2,622 (11.7)	2,138 (9.5)

Recommended Edge & Spacing Requirements for Tension Loads Carbon and Stainless Steel

ANCHOR DIA. In. (mm)	EMBEDMENT DEPTH In. (mm)	EDGE DISTANCE REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm)	AT MIN. EDGE DISTANCE 1-3/4 Inches (44mm)	SPACING DISTANCE REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm)	LOAD FACTOR APPLIED AT MIN. SPACING DISTANCE 3 Inches (76mm)
3/8 (9.5)	1-1/2 (38.1)	2 (50.8)	70%	6 (152.4)	44%
	2 (50.8)	2 (50.8)	70%	6 (152.4)	44%
	2-1/2 (63.5)	3 (76.2)	70%	6 (152.4)	44%
	3-1/2 (88.9)	4 (101.6)	70%	6 (152.4)	44%
1/2 (12.7)	2 (50.8)	2-1/4 (57.2)	65%	8 (203.2)	27%
	3-1/2 (88.9)	3 (76.2)	65%	8 (203.2)	27%
	4-1/2 (114.3)	4 (101.6)	65%	8 (203.2)	27%

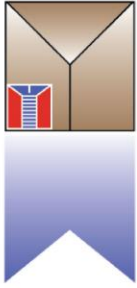
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Recommended Edge & Spacing Requirements for Shear Loads Carbon and Stainless Steel

ANCHOR DIA. In. (mm)	EMBEDMENT DEPTH In. (mm)	EDGE DISTANCE REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm)	AT MIN. EDGE DISTANCE 1-3/4 Inches (44mm)	SPACING DISTANCE REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm)	LOAD FACTOR APPLIED AT MIN. SPACING DISTANCE 3 Inches (76mm)
3/8 (9.5)	1-1/2 (38.1)	3 (76.2)	25%	6 (152.4)	57%
	2 (50.8)	4 (101.6)	25%	6 (152.4)	57%
	2-1/2 (63.5)	5 (127.0)	25%	6 (152.4)	57%
	3-1/2 (88.9)	5 (127.0)	25%	6 (152.4)	57%
1/2 (12.7)	2 (50.8)	5 (127.0)	25%	8 (203.2)	60%
	3-1/2 (88.9)	5 (127.0)	25%	8 (203.2)	60%
	4-1/2 (114.3)	5-1/2 (139.7)	25%	8 (203.2)	60%

Ultimate Tension Load (Lbs/kN) in Concrete Block (anchors should be installed by hand in hollow block)

ANCHOR DIA. In. (mm)	EMBEDMENT DEPTH In. (mm)	HOLLOW CONCRETE BLOCK		GROUT FILLED CONCRETE BLOCK	
		TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
3/8 (9.5)	1-1/2 (38.1)	916 (4.1)	3,176 (14.1)	1,592 (7.1)	3,900 (17.3)
1/2 (12.7)	2-1/2 (63.5)	N/A	N/A	5,924 (26.4)	6,680 (29.7)

Allowable Tension and Shear (Lbs/kN) in Concrete Block (anchors should be installed by hand in hollow block)

ANCHOR DIA. In. (mm)	EMBEDMENT DEPTH In. (mm)	HOLLOW CONCRETE BLOCK		GROUT FILLED CONCRETE BLOCK	
		TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
3/8 (9.5)	1-1/2 (38.1)	229 (1.0)	794 (3.5)	398 (1.8)	975 (4.3)
1/2 (12.7)	2-1/2 (63.5)	N/A	N/A	1,481 (6.6)	1,670 (7.4)

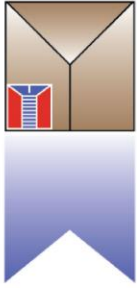
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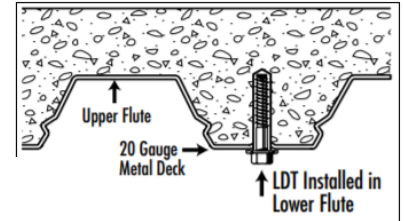
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Anchoring Overhead in 3000 PSI Lightweight Concrete On Metal Deck

ANCHOR	DRILL HOLE DIAMETER In. (mm)	EMBEDMENT In. (mm)	3000PSI (20.7 MPa) CONCRETE			
				ULTIMATE TENSION LOAD Lbs. (kN)	ALLOWABLE WORKING LOAD Lbs. (kN)	
3/8" LDT	5/16 (7.9)	1-1/2 (38.1)	Upper Flute	2,889 (12.9)	722 (3.2)	
			Lower Flute	1,862 (8.3)	465 (2.1)	

Description	A high performance, externally threaded, hardened screw anchor that cuts its own threads into concrete. The anchors have a finished hex washer head with anti-rotation serrations to prevent anchor back-out.
Applications/ Advantages	Cuts its own threads and when used in concrete, block or brick. When used in concrete, it can be removed and re-driven into the same hole. Special carbide bits are recommended for driving concrete screws into masonry.
Material	Anchor bodies can be made of either hardened, zinc-plated carbon steel, 410 stainless steel, or steel mechanically galvanized.

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