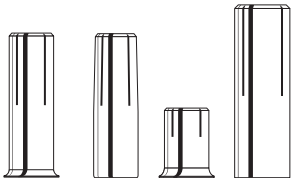


## Multi-Set II



### SPECIFIED FOR ANCHORAGE INTO CONCRETE

Drop-In, shell-type anchors feature an internally threaded, all-steel shell with expansion cone insert and flush

embedment lip. Anchors are manufactured from zinc-plated carbon steel, 18-8 stainless steel and 316 stainless steel.

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

Anchors should be tested to ASTM E488 criteria and listed by ICC (formerly ICBO). Anchors should also be listed by the following agencies as required by the local building code: UL, FM, City of Los Angeles, California State Fire Marshal and Cal Trans.

### APPROVALS/LISTINGS

Meets or exceeds U.S. Government G.S.A. Specification A-A-55614 Type 1 (Formerly GSA: FF-S-325 Group VIII)

Underwriters Laboratories

Factory Mutual

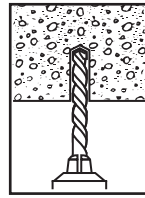
ICC Evaluation Service, Inc. – #ER-1372 (formerly ICBO)

City of Los Angeles – #RR2748

California State Fire Marshal

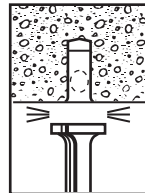
Cal Trans

## INSTALLATION STEPS

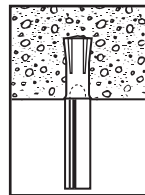


**To set anchor flush with surface.**

1. Drill hole the same diameter as outside diameter of anchor being used to any depth exceeding minimum embedment. Clean hole.



2. Drive anchor flush with surface of concrete.



3. Expand anchor with setting tool provided. Anchor is properly expanded when shoulder of setting tool is flush with top of anchor.

**To set anchor below surface:**

Drill hole deeper than anchor length. Thread bolt into anchor. Hammer anchor into hole until bolt head is at desired depth. Remove bolt and set anchor with setting tool.

## Multi-Set II Drop-In Anchors

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

BOLT DIA. In. (mm)	ANCHOR DIA. In. (mm)	MIN. EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE	TENSION Lbs. (kN)			SHEAR Lbs. (kN)
				f'c = 2000 PSI (13.8 MPa)	f'c = 4000 PSI (27.6 MPa)	f'c = 6000 PSI (41.4 MPa)	f'c ≥ 2000 PSI (13.8 MPa)
1/4 (6.4)	3/8 (9.5)	1 (25.4)	RM, RL or CL-Carbon or SRM-18-8 S.S. or SSRM-316 S.S.	1,680 (7.5)	2,360 (10.5)	2,980 (13.3)	1,080 (4.8)
3/8 (9.5)	1/2 (12.7)	1-5/8 (41.3)		2,980 (13.3)	3,800 (16.9)	6,240 (27.8)	3,160 (14.1)
1/2 (12.7)	5/8 (15.9)	2 (50.8)		3,300 (14.7)	5,840 (26.0)	8,300 (36.9)	4,580 (20.4)
5/8 (15.9)	7/8 (22.2)	2-1/2 (63.5)		5,500 (24.5)	8,640 (38.4)	11,020 (49.0)	7,440 (33.1)
3/4 (19.1)	1 (25.4)	3-3/16 (81.0)		8,280 (36.8)	9,480 (42.2)	12,260 (54.5)	10,480 (46.6)

\* Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

\* For continuous extreme low temperature applications, use stainless steel.

## Multi-Set II Drop-In Anchors Ultimate Shear and Tension Values (Lbs/kN) in Lightweight Concrete\*

BOLT DIA. In. (mm)	ANCHOR DIA. In. (mm)	MINIMUM EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE	LIGHTWEIGHT CONCRETE f'c = 3000 PSI (20.7 MPa)		LOWER FLUTE OF STEEL DECK WITH LIGHTWEIGHT CONCRETE FILL f'c = 3000 PSI (20.7 MPa)	
				TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
3/8 (9.5)	1/2 (12.7)	1-5/8 (39.7)	RM, RL or	3,860 (17.2)	4,420 (19.6)	3,340 (14.9)	4,420 (19.6)
1/2 (12.7)	5/8 (15.9)	2 (50.8)	CL-Carbon or	4,080 (18.1)	5,640 (25.1)	3,200 (14.2)	4,940 (22.0)
5/8 (15.9)	7/8 (22.2)	2-1/2 (63.5)	SRM-18-8 S.S. or	6,280 (27.9)	10,440 (46.4)	5,960 (26.5)	5,840 (26.0)
3/4 (19.1)	1 (25.4)	3-3/16 (81.0)	SSRM-316 S.S.	11,000 (48.9)	15,780 (70.2)	8,180 (36.4)	9,120 (40.6)

\* Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

## Multi-Set II Drop-In Anchors Recommended Spacing and Edge Distance Requirements\*

BOLT DIA. In. (mm)	ANCHOR DIA. In. (mm)	EMBEDMENT DEPTH In. (mm)	ANCHOR TYPE	EDGE DISTANCE REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm)	MIN. EDGE DISTANCE AT WHICH LOAD FACTOR APPLIED = .80 FOR TENSION =.70 FOR SHEAR In. (mm)	SPACING REQUIRED TO OBTAIN MAX. WORKING LOAD In. (mm)	MIN. ALLOWABLE SPACING BETWEEN ANCHORS LOAD FACTOR APPLIED =.80 FOR TENSION =.55 FOR SHEAR In. (mm)
1/4 (6.4)	3/8 (9.5)	1 (25.4)	RM, RL or	1-3/4 (44.5)	7/8 (22.2)	3-1/2 (88.9)	1-3/4 (44.5)
3/8 (9.5)	1/2 (12.7)	1-5/8 (41.3)	CL-Carbon	2-7/8 (73.0)	1-7/16 (36.5)	5-11/16 (144.5)	2-7/8 (73.0)
1/2 (12.7)	5/8 (15.9)	2 (50.8)	or	3-1/2 (88.9)	1-3/4 (44.5)	7 (177.8)	3-1/2 (88.9)
5/8 (15.9)	7/8 (22.2)	2-1/2 (63.5)	SRM-18-8 S.S. or	4-3/8 (111.1)	2-3/16 (55.6)	8-3/4 (222.3)	4-3/8 (111.1)
3/4 (19.1)	1 (25.4)	3-3/16 (81.0)	SSRM-316 S.S.	5-5/8 (142.9)	2-13/16 (71.4)	11-3/16 (284.2)	5-5/8 (142.9)

\* Spacing and edge distances shall be divided by 0.75 when anchors are placed in structural lightweight concrete. Linear interpolation may be used for intermediate spacing and edge distances.

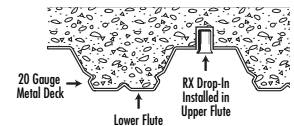
## Multi-Set II Drop-In Anchors Ultimate Shear and Tension Values (Lbs/kN) for RX-38 (3/4" Embedment)\*

SIZE In. (mm)	ANCHOR DIA. In. (mm)	EMBEDMENT In. (mm)	4000PSI (27.6 MPa) CONCRETE		HOLLOW CORE	
			TENSION Lbs. (kN)	SHEAR Lbs. (kN)	TENSION Lbs. (kN)	SHEAR Lbs. (kN)
3/8 (9.5)	1/2 (12.7)	3/4 (19.1)	1,987 (8.8)	2,903 (12.9)	1,908 (8.5)	2,525 (11.2)

\* The tabulated values are for RX-38 anchors installed at a minimum of 12 diameters on center and minimum edge distance of 6 diameters for 100 percent anchor efficiency. Spacing and edge distance may be reduced to 6 diameters spacing and 3 diameter edge distance provided the values are reduced 50 percent. Linear Interpolation may be used for intermediate spacings and edge margins.

\* Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

## Multi-Set II Drop-In Anchors 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)	
RX-38 Drop-In	1/2 (12.7)	3/4 (19.1)	Upper Flute	1,410 (6.3)	353 (1.6)	
			Lower Flute	1,206 (5.4)	301 (1.3)	

\* Allowable values are based upon a 4 to 1 safety factor. Divide by 4 for allowable load values.

### Combined Shear and Tension Loading—for Multi-Set Anchors

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

$$\left(\frac{Ps}{Pt}\right)^{5/3} + \left(\frac{Vs}{Vt}\right)^{5/3} \leq 1$$

Ps = Applied tension load

Vs = Applied shear load

Pt = Allowable tension load

Vt = Allowable shear load