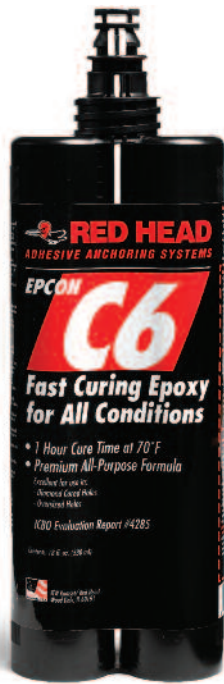


C6

**Reliable
Performance—
Even Under the
Most Severe
Installation
Conditions**



C6-18

NEW!

Base Material Temperature -9°C

(cartridge temperature must be ≥ 21°C)

DESCRIPTION/SUGGESTED SPECIFICATIONS*

*Suggested Specifications see page RH 20

Fast Curing Epoxy for All Conditions

The hardener and resin are completely mixed as they are dispensed from the dual cartridge through a static mixing nozzle. The pre-mixed adhesive is injected directly into the anchor hole. C6 can be used with threaded rod or rebar (for fastening to hollow base materials, see pages RH 31 and RH 34).

ADVANTAGES

- 1 hour cure time (see below)
- Works in damp holes and underwater applications
- Minimum shrinkage—can be used in oversized holes and diamond cored holes
- High heat deflection temperature: 60°C (ASTM D648)
- One formula for both solid and hollow base materials
- NSF standard 61 certified for drinking water systems
- Extensively tested—earthquake, underwater, creep, freeze-thaw, radiation, fire, fatigue, electrical isolation, ozone and many more test programs have been conducted on C6
- Extensive use—C6 has been used on projects all over the world for almost 20 years

Easy to open,
snap-off tip, no
cutting required



Curing Times



BASE MATERIAL ¹ (F°/C°)	WORKING TIME ²	FULL CURE TIME
120°/ 49°	4 minutes	1 hour
110°/ 43°	4 minutes	1 hour
90°/ 32°	5 minutes	1 hour
80°/ 26°	6 minutes	1 hour
70°/ 21°	7 minutes	1 hour
60°/ 16°	7 minutes	2 hours
50°/ 10°	7 minutes	2 hours
40°/ 4°	7 minutes	24 hours
15°/ -9°	6 minutes	24 hours

¹ Cartridge must be ≥ 21°C.

² Working time is max time from the end of mixing to when the insertion of the anchor into the adhesive shall be completed.

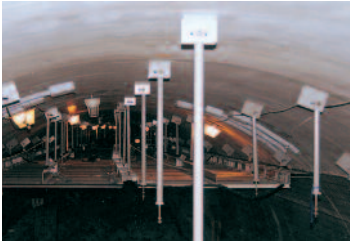
Gel Time per ASTM D2471 = 10 minutes at 22°C



EPCON DRIVE

RH7030 Cordless, battery
powered dispensing tool
for the C6-18 cartridge

APPLICATIONS



Tunnel Construction

Over 40,000 anchors were installed overhead in damp holes with water seeping through using C6 and our "dosage control" screens.



Water Treatment Plant

Skimmers and brackets with chain plates fastened with C6, which is NSF approved for potable drinking water systems.



Underwater Installations

C6 was used to install four 1-1/4" eye bolts underwater to lift this 37 ton block of concrete out of the ocean.

FEATURES



ANCHORAGE TO SOLID CONCRETE

Threaded Rod (Carbon or Stainless Steel) or Rebar supplied by contractor; rod does not need to be chisel pointed

C6 adhesive completely fills area between rod and hole creating a stress-free, high load anchorage

Pre-drilled hole in concrete; see performance tables for suggested hole sizes

APPROVALS/LISTINGS

ICC Evaluation Service, Inc. – #ER4285

City of Los Angeles – RR#24975

City of Los Angeles – RR#24927



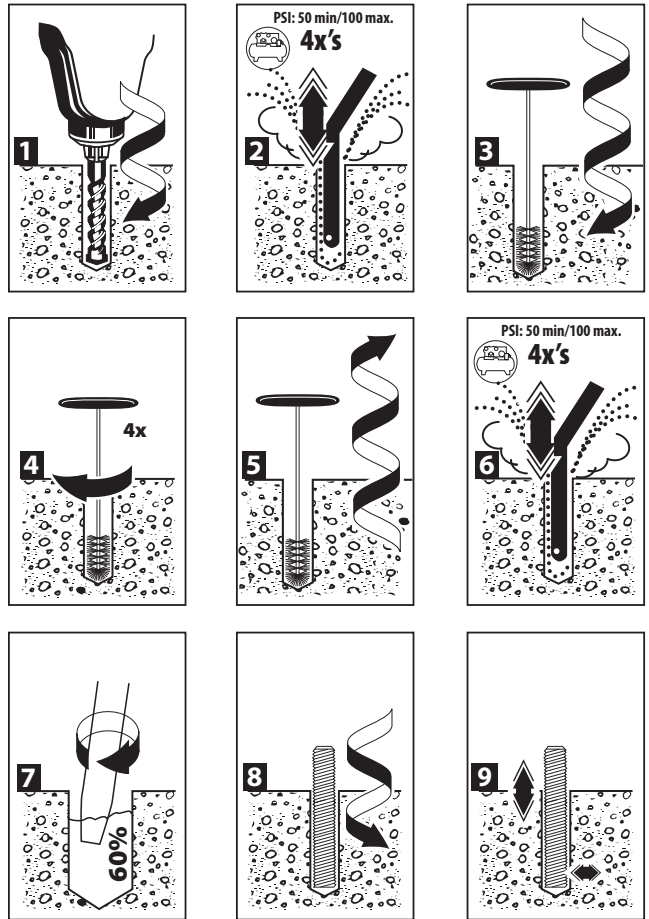
Certified to ANS/NSF 61

NSF Standard 61 Certified for Drinking Water Components

Conforms to ASTM C881-02; Type I & IV; Grade 3; Class A, B, and C; with exceptions




DOT Approvals



INSTALLATION STEPS



E200 Dispenser

C6-18 fl. oz. Ordering Information

PART NUMBER	DESCRIPTION	CTN QTY
 C6-18	C6 Adhesive, 18 Fl. Oz. Cartridge	6
 E24XL	Mixing Nozzle for C6-18 Cartridge Nozzle diameter fits 9/16" holes (overall length of nozzle 10-3/8")	24
 E102	Hand Dispenser for C6-18 Cartridges Dispenses both 18 oz. and 22 oz. Cartridges	1

PART NUMBER	DESCRIPTION	CTN QTY
 RH7030	EPCON DRIVE Cordless, battery powered dispensing tool for the C6-18 Cartridge	1
 E200	Pneumatic Dispenser for C6-18 Cartridge	1

Refer to page R 37 for ordering information on brushes, hole plugs, and blow-pump.

ESTIMATING TABLE

C6 Number of Anchoring Installations Per Cartridge* 18 Fluid Ounce Cartridge Using Reinforcing Bar with C6 Adhesive in Solid Concrete

REBAR	DRILL HOLE DIA. INCHES	EMBEDMENT DEPTH IN INCHES (mm)														
		1 (25.4)	2 (50.8)	3 (76.2)	4 (101.6)	5 (127.0)	6 (152.4)	7 (177.8)	8 (203.2)	9 (228.6)	10 (254.0)	11 (279.4)	12 (304.8)	13 (330.2)	14 (355.6)	15 (381.0)
# 3	1/2	316.7	158.4	105.6	79.2	63.3	52.8	45.2	39.6	35.2	31.7	28.8	26.4	24.4	22.6	21.1
# 4	5/8	239.3	119.6	79.8	59.8	47.9	39.9	34.2	29.9	26.6	23.9	21.8	19.9	18.4	17.1	16.0
# 5	3/4	183.5	91.8	61.2	45.9	36.7	30.6	26.2	22.9	20.4	18.4	16.7	15.3	14.1	13.1	12.2
# 6	7/8	148.2	74.1	49.4	37.0	29.6	24.7	21.2	18.5	16.5	14.8	13.5	12.3	11.4	10.6	9.9
# 7	1-1/8	71.0	35.5	23.7	17.7	14.2	11.8	10.1	8.9	7.9	7.1	6.5	5.9	5.5	5.1	4.7
# 8	1-1/4	63.2	31.6	21.1	15.8	12.6	10.5	9.0	7.9	7.0	6.3	5.7	5.3	4.9	4.5	4.2
# 9	1-3/8	65.9	33.0	22.0	16.5	13.2	11.0	9.4	8.2	7.3	6.6	6.0	5.5	5.1	4.7	4.4
# 10	1-1/2	53.9	27.0	18.0	13.5	10.8	9.0	7.7	6.7	6.0	5.4	4.9	4.5	4.1	3.9	3.6
# 11	1-3/4	33.0	16.5	11.0	8.2	6.6	5.5	4.7	4.1	3.7	3.3	3.0	2.7	2.5	2.4	2.2

* The number of anchoring installations is based upon calculations of hole volumes using ANSI tolerance carbide tipped drill bits, the nominal areas of the reinforcing bars and the stress areas of the threaded rods. These estimates do not account for waste.
* Oversized holes acceptable but volume of adhesive will increase.

ESTIMATING TABLE

CLAMPING FORCE PROVIDED ON PAGE RH 20

C6 Number of Anchoring Installations Per Cartridge* 18 Fluid Ounce Cartridge Using Threaded Rod with C6 Adhesive in Solid Concrete

ROD In. (mm)	DRILL HOLE DIA. INCHES	EMBEDMENT DEPTH IN INCHES (mm)														
		1 (25.4)	2 (50.8)	3 (76.2)	4 (101.6)	5 (127.0)	6 (152.4)	7 (177.8)	8 (203.2)	9 (228.6)	10 (254.0)	11 (279.4)	12 (304.8)	13 (330.2)	14 (355.6)	15 (381.0)
1/4 (6.4)	5/16	587.3	293.7	195.8	146.8	117.5	97.9	83.9	73.4	65.3	58.7	53.4	48.9	45.2	42.0	39.2
3/8 (9.5)	7/16	340.0	170.0	113.3	85.0	68.0	56.7	48.6	42.5	37.8	34.0	30.9	28.3	26.2	24.3	22.7
1/2 (12.7)	9/16	244.7	122.4	81.6	61.2	48.9	40.8	35.0	30.6	27.2	24.5	22.2	20.4	18.8	17.5	16.3
5/8 (15.9)	3/4	125.2	62.6	41.7	31.3	25.0	20.9	17.9	15.7	13.9	12.5	11.4	10.4	9.6	8.9	8.3
3/4 (19.1)	7/8	99.1	49.5	33.0	24.8	19.8	16.5	14.2	12.4	11.0	9.9	9.0	8.3	7.6	7.1	6.6
7/8 (22.2)	1	82.0	41.0	27.4	20.5	16.4	13.7	11.7	10.3	9.1	8.2	7.5	6.8	6.3	5.9	5.5
1 (25.4)	1-1/8	67.6	33.8	22.5	16.9	13.5	11.3	9.7	8.4	7.5	6.8	6.1	5.6	5.2	4.8	4.5
1-1/4 (31.8)	1-3/8	51.2	25.6	17.0	12.8	10.2	8.5	7.3	6.4	5.7	5.1	4.6	4.3	3.9	3.7	3.4

* The number of anchoring installations is based upon calculations of hole volumes using ANSI tolerance carbide tipped drill bits, the nominal areas of the reinforcing bars and the stress areas of the threaded rods. These estimates do not account for waste.
* Oversized holes acceptable but volume of adhesive will increase.

PACKAGING

1. Disposable, self-contained cartridge system capable of dispensing both epoxy components in the proper mixing ratio
2. Epoxy components dispensed through a static mixing nozzle that thoroughly mixes the material, and places the epoxy at the base of the pre-drilled hole
3. Cartridge markings: Include manufacturer's name, batch number and best-used-by date, mix ratio by volume, ANSI hazard classification, and appropriate ANSI handling precautions

SUGGESTED SPECIFICATIONS

EPOXY ADHESIVE:

High Strength EPOXY ADHESIVE: USA Made, ARRA Certified

1. Two component resin and hardener, 100% solids (containing no solvents or VOC's), non-sag paste, insensitive to moisture, grey in color, early working time and gel time appropriate for sever installation conditions, suitable for extreme temperature ranges, for all conditions or substrate materials.
2. Meets NSF Standard 61, certified for use in conjunction with drinking water systems.
3. Works in wet, damp, and submerged hole.
4. Conforms to ASTM C881-02; Type I & IV; Grade 3; Class A, B, and C; with exceptions.
5. Compressive strength, ASTM D695-02: 12,090 psi minimum.
6. Heat deflection temperature: 139°F minimum.
7. Extended Shelf life: Best if used within 2 years.
8. Reliable performance in solid or hollow base materials.
9. Oversized and/or diamond cored holes permitted.
10. Suitable for Cold Base material installation using warmed cartridge.

PERFORMANCE TABLE

DRILL HOLE DIAMETERS
PROVIDED ON PAGE RH 19

C6 Epoxy Adhesive **Average Ultimate Tension and Shear Loads^{1,2,3} for Threaded Rod Installed in Solid Concrete**

THREADED ROD DIA. In. (mm)	MAX. CLAMPING FORCE AFTER PROPER CURE Ft.-Lbs. (Nm)	EMBEDMENT IN CONCRETE In. (mm)	2000 PSI (13.8 MPa) CONCRETE		4000 PSI (27.6 MPa) CONCRETE		6000 PSI (41.4 MPa) CONCRETE	
			ULTIMATE TENSION Lbs. (kN)	ULTIMATE SHEAR Lbs. (kN)	ULTIMATE TENSION Lbs. (kN)	ULTIMATE SHEAR Lbs. (kN)	ULTIMATE TENSION Lbs. (kN)	ULTIMATE SHEAR Lbs. (kN)
3/8 (9.5)	13 - 18 (17.6-24.4)	3-3/8 (85.7)	7,195 (32.0)	5,209 (23.2)	8,445 (37.6)	5,869 (26.1)	10,621 (47.2)	5,941 (26.4)
		4-1/2 (114.3)	8,317 (37.0)	5,209 (23.2)	10,021 (44.6)	5,869 (26.1)	10,603 (47.2)	5,941 (26.4)
1/2 (12.7)	22 - 25 (29.8-33.9)	4-1/2 (114.3)	13,271 (59.0)	11,427 (50.8)	17,684 (78.7)	12,585 (56.0)	17,684 (78.7)	12,585 (56.0)
		6 (152.4)	19,127 (85.1)	11,427 (50.8)	19,608 (87.2)	12,585 (56.0)	19,608 (87.2)	12,585 (56.0)
5/8 (15.9)	55 - 80 (74.6-108.5)	5-5/8 (142.9)	17,704 (78.8)	18,294 (81.4)	24,526 (109.1)	19,802 (88.1)	24,526 (109.1)	19,802 (88.1)
		7-1/2 (190.5)	22,642 (100.7)	18,294 (81.4)	28,766 (128.0)	19,802 (88.1)	29,456 (131.0)	19,802 (88.1)
3/4 (19.1)	106-160 (143.7-216.9)	6-3/4 (171.5)	28,779 (128.0)	25,723 (114.4)	31,521 (140.2)	25,723 (114.4)	33,759 (150.2)	25,723 (114.4)
		9 (228.6)	31,758 (141.3)	25,723 (114.4)	41,384 (184.0)	25,723 (114.4)	41,384 (184.0)	25,723 (114.4)
7/8 (22.2)	185-250 (250.8-338.9)	7-7/8 (200.0)	35,257 (156.8)	---	37,714 (167.8)	30,295 (134.8)	41,023 (182.5)	32,573 (144.9)
		10-1/2 (266.7)	---	---	51,211 (227.8)	30,295 (134.8)	51,211 (227.8)	32,573 (144.9)
1 (25.4)	276-330 (374.2-447.4)	9 (228.6)	40,334 (179.4)	38,519 (171.3)	47,886 (213.0)	40,341 (179.5)	47,886 (213.0)	46,416 (206.5)
		12 (304.8)	48,719 (216.7)	38,519 (171.3)	62,194 (276.7)	40,341 (179.5)	63,053 (280.5)	46,416 (206.5)
1-1/4 (31.8)	370-660 (501.6-894.8)	11-1/4 (285.8)	55,654 (247.6)	65,085 (289.5)	56,981 (253.5)	65,085 (289.5)	---	65,085 (289.5)
		15 (381.0)	65,728 (289.5)	65,085 (289.5)	79,726 (354.7)	65,085 (289.5)	---	65,085 (289.5)

1 Allowable working loads for the single installations under static loading should not exceed 25% capacity or the allowable load of the anchor rod.

2 Ultimate load values in 2000, 4000, and 6000 psi stone aggregate concrete. Ultimate loads are indicated for the embedment shown in the Embedment in Concrete column. Performance values are based on the use of high strength threaded rod (ASTM A193 Gr. B7). The use of lower strength rods will result in lower ultimate tension and shear loads.

3 Linear interpolation may be used for intermediate spacing and edge distances (see page RH 21).

PERFORMANCE TABLE

C6 Epoxy Adhesive **Average Ultimate Tension Loads^{1,2,3} for Threaded Rod Installed in Solid Concrete, Shallow Embedment**

ANCHOR DIAMETER In. (mm)	DRILL HOLE DIAMETER In. (mm)	EMBEDMENT IN CONCRETE In. (mm)	3500 PSI (24.2 MPa) ULTIMATE TENSION Lbs. (kN)
1/4 (6.4)	5/16 (7.9)	1 (25.4)	1,653 (7.4)
		2-1/4 (57.2)	2,818 (12.5)
		3 (76.2)	3,599 (16.0)
3/8 (9.5)	7/16 (11.1)	1-1/2 (38.1)	3,426 (15.2)
1/2 (12.7)	9/16 (14.3)	2 (50.8)	6,100 (27.1)
5/8 (15.9)	3/4 (19.1)	2-1/2 (63.5)	8,775 (39.0)
3/4 (19.1)	7/8 (22.2)	3 (76.2)	12,625 (56.2)
7/8 (22.2)	1 (25.4)	3-1/2 (88.9)	18,650 (83.0)
1 (25.4)	1-1/8 (28.6)	4 (101.6)	25,034 (111.4)
1-1/4 (31.8)	1-3/8 (34.9)	5 (127.0)	37,100 (165.0)

1 Allowable working loads for the single installations under static loading should not exceed 25% capacity or the allowable load of the anchor rod.

2 Ultimate load values in 2000, 4000, and 6000 psi stone aggregate concrete. Ultimate loads are indicated for the embedment shown in the Embedment in Concrete column. Performance values are based on the use of high strength threaded rod (ASTM A193 Gr. B7). The use of lower strength rods will result in lower ultimate tension and shear loads.

3 Linear interpolation may be used for intermediate spacing and edge distances (see page RH 21).

PERFORMANCE TABLE

C6 Epoxy Adhesive

Average Ultimate Tension and Shear Loads^{1,2,3} for Threaded Rod Installed in Grout Filled Concrete Block

THREADED ROD DIA. In. (mm)	DRILL HOLE DIAMETER In. (mm)	EMBEDMENT DEPTH In. (mm)	ANCHOR LOCATION	ULTIMATE TENSION Lbs. (kN)	ULTIMATE SHEAR Lbs. (kN)
3/8 (9.5)	7/16 (11.1)	3 (76.2)	ROUTED CELL	4,862 (21.6)	— —
1/2 (12.7)	5/8 (15.9)	3 (76.2)	ROUTED CELL	4,953 (22.0)	— —
1/2 (12.7)	5/8 (15.9)	6 (152.4)	ROUTED CELL	8,214 (36.5)	— —
5/8 (15.9)	3/4 (19.1)	5 (127.0)	ROUTED CELL	7,355 (32.7)	— —
3/4 (19.1)	7/8 (22.2)	6 (152.4)	Note 1	17,404 (77.4)	19,588 (87.1)
3/4 (19.1)	7/8 (22.2)	6 (152.4)	Note 2	17,404 (77.4)	8,668 (38.6)

1 Anchor can be located in grouted cell, "T" joint, or bed joint.

2 Anchor can be located in first grouted cell from edge.

3 Allowable working loads for the single installations under static loading should not exceed 25% (an industry standard) capacity or the allowable load of the anchor rod. Loads based upon testing with ASTM A193, Grade B7 rods.

PERFORMANCE TABLE

DRILL HOLE DIAMETERS
PROVIDED ON PAGE RH 19

C6 Epoxy Adhesive

Allowable Tension Loads^{1,2,3} for Threaded Rod Installed in Solid Concrete

THREADED ROD DIA. In. (mm)	EMBEDMENT DEPTH In. (mm)	ALLOWABLE TENSION LOAD BASED ON ADHESIVE BOND STRENGTH			ALLOWABLE TENSION LOAD BASED ON STEEL STRENGTH		
		2000 PSI (13.8 MPa) CONCRETE Lbs. (kN)	4000 PSI (27.6 MPa) CONCRETE Lbs. (kN)	6000 PSI (41.4 MPa) IN CONCRETE Lbs. (kN)	ASTM A307 (SAE 1018) Lbs. (kN)	ASTM A193 GR. B7 (SAE 4140) Lbs. (kN)	ASTM F593 AISI 304 SS Lbs. (kN)
3/8 (9.5)	3-3/8 (85.7)	1,800 (8.0)	2,110 (9.4)	2,655 (11.8)	2,080 (9.3)	4,340 (19.3)	3,995 (17.8)
	4-1/2 (114.3)	2,080 (9.2)	2,505 (11.1)	2,655 (11.8)	2,080 (9.3)	4,340 (19.3)	3,995 (17.8)
1/2 (12.7)	4-1/2 (114.3)	3,315 (14.8)	4,420 (19.7)	4,420 (19.7)	3,730 (16.6)	7,780 (34.6)	7,155 (31.8)
	6 (152.4)	4,780 (21.3)	4,900 (21.8)	4,900 (21.8)	3,730 (16.6)	7,780 (34.6)	7,155 (31.8)
5/8 (15.9)	5-5/8 (142.9)	4,425 (19.7)	6,130 (27.3)	6,130 (27.3)	5,870 (26.1)	12,230 (54.4)	11,250 (50.0)
	7-1/2 (190.5)	5,660 (25.2)	7,190 (32.0)	7,364 (32.8)	5,870 (26.1)	12,230 (54.4)	11,250 (50.0)
3/4 (19.1)	6-3/4 (171.5)	7,195 (32.0)	7,885 (35.1)	8,440 (37.5)	8,490 (37.8)	17,690 (78.7)	14,860 (66.1)
	9 (228.6)	7,940 (35.3)	10,345 (46.0)	10,345 (46.0)	8,490 (37.8)	17,690 (78.7)	14,860 (66.1)
7/8 (22.2)	7-7/8 (200.0)	8,810 (39.2)	9,430 (41.9)	10,260 (45.6)	11,600 (51.6)	25,510 (113.5)	20,835 (92.7)
	10-1/2 (266.7)	— —	12,080 (57.0)	12,805 (57.0)	11,600 (51.6)	25,510 (113.5)	20,835 (92.7)
1 (25.4)	9 (228.6)	10,085 (44.9)	11,970 (53.3)	11,970 (53.0)	15,180 (67.5)	31,620 (140.7)	26,560 (118.1)
	12 (304.8)	12,180 (54.2)	15,545 (69.2)	15,760 (70.1)	15,180 (67.5)	31,620 (140.7)	26,560 (118.1)
1-1/4 (31.8)	11-1/4 (285.8)	13,915 (61.9)	14,245 (63.4)	14,245 (63.4)	23,800 (105.9)	49,580 (220.6)	34,670 (154.2)
	15 (381.0)	16,340 (72.7)	19,930 (88.7)	19,930 (88.7)	23,800 (105.9)	49,580 (220.6)	34,670 (154.2)

1 Use lower value of either bond or steel strength for allowable tensile load.

2 Allowable loads taken from ICC Evaluation Report #4285 (formerly ICBO).

3 Linear interpolation may be used for intermediate spacing and edge distances (see below).

C6 Adhesive Anchoring System Edge/Spacing Distance Load Factor Summary^{1,2}

LOAD FACTOR	DISTANCE FROM EDGE OF CONCRETE
Critical Edge Distance—Tension	
100% Tension Load	→ 1.25 x Anchor Embedment (or greater)
Minimum Edge Distance—Tension	
70% Tension Load	→ 0.50 x Anchor Embedment
Critical Edge Distance—Shear	
100% Shear Load	→ 1.25 x Anchor Embedment (or greater)
Minimum Edge Distance—Shear	
30% Shear Load	→ 0.30 x Anchor Embedment
LOAD FACTOR	DISTANCE FROM ANOTHER ANCHOR
Critical Spacing—Tension	
100% Tension Load	→ 1.50 x Anchor Embedment (or greater)
Minimum Spacing—Tension	
75% Tension Load	→ 0.75 x Anchor Embedment
Critical Spacing—Shear	
100% Shear Load	→ 1.50 x Anchor Embedment (or greater)
Minimum Spacing—Shear	
30% Shear Load	→ 0.50 x Anchor Embedment

1 Use linear interpolation for load factors at edge distances or spacing distances between critical and minimum.

2 Anchors are affected by multiple combination of spacing and/or edge distance loading and direction of the loading. Use the product of tension and shear loading factors in design.

PERFORMANCE TABLE

DRILL HOLE DIAMETERS
PROVIDED ON PAGE RH 19

C6 Epoxy Adhesive **Allowable Shear Loads^{1,2,3} for Threaded Rod Installed in Solid Concrete**

THREADED ROD DIA. In. (mm)	MINIMUM EMBEDMENT DEPTH In. (mm)	ALLOWABLE SHEAR LOAD BASED ON CONCRETE STRENGTH			ALLOWABLE SHEAR LOAD BASED ON STEEL STRENGTH		
		2000 PSI (13.8 MPa) CONCRETE Lbs. (kN)	4000 PSI (27.6 MPa) CONCRETE Lbs. (kN)	6000 PSI (41.4 MPa) CONCRETE Lbs. (kN)	ASTM A307 (SAE 1018) Lbs. (kN)	ASTM A193 GR. B7 (SAE 4140) Lbs. (kN)	ASTM F593 AISI 304 SS Lbs. (kN)
3/8 (9.5)	3-3/8 (85.7)	1,300 (5.8)	1,465 (6.5)	1,500 (6.7)	1,040 (4.6)	2,170 (9.7)	1,995 (8.9)
1/2 (12.7)	4-1/2 (114.3)	2,855 (12.7)	3,145 (14.0)	3,145 (14.0)	1,870 (8.3)	3,895 (17.3)	3,585 (15.9)
5/8 (15.9)	5-5/8 (142.9)	4,575 (20.3)	4,950 (22.0)	4,950 (22.0)	2,940 (13.1)	6,125 (27.2)	5,635 (25.1)
3/4 (19.1)	6-3/4 (171.5)	6,430 (28.6)	6,430 (28.6)	6,430 (28.6)	4,250 (18.9)	8,855 (39.4)	7,440 (33.1)
7/8 (22.2)	7-7/8 (200.0)	---	7,575 (33.7)	8,140 (36.2)	5,800 (25.8)	12,760 (56.8)	10,730 (47.7)
1 (25.4)	9 (228.6)	9,630 (42.8)	10,085 (44.9)	11,600 (51.6)	7,590 (33.8)	15,810 (70.3)	13,285 (59.1)
1-1/4 (31.8)	11-1/4 (285.8)	16,270 (72.4)	16,270 (72.4)	16,270 (72.4)	11,900 (52.9)	24,790 (110.3)	18,840 (83.8)

- 1 Use lower value of either concrete or steel strength for allowable shear load.
- 2 Allowable loads taken from ICC Evaluation Report #4285 (formerly ICB0).
- 3 Linear interpolation may be used for intermediate spacing and edge distances (see page RH 21).

PERFORMANCE TABLE

DRILL HOLE DIAMETERS
PROVIDED ON PAGE RH 19

C6 Epoxy Adhesive **Average Ultimate Tension Loads^{1,2,3} for Reinforcing Bar Installed in Solid Concrete**

REINFORCING BAR In. (mm)	EMBEDMENT IN CONCRETE In. (mm)	2000 PSI (13.8 MPa) CONCRETE ULTIMATE TENSION Lbs. (kN)	4000 PSI (27.6 MPa) CONCRETE ULTIMATE TENSION Lbs. (kN)	ULTIMATE TENSILE AND YIELD STRENGTH GRADE 60 REBAR	
				MINIMUM YIELD STRENGTH Lbs. (kN)	MINIMUM ULTIMATE TENSILE STRENGTH Lbs. (kN)
# 3 (9.5)	3-3/8 (85.7)	7,020 (31.2)	9,200 (40.9)	6,600 (29.4)	9,900 (44.0)
	4-1/2 (114.3)	9,000 (40.1)	11,540 (51.3)	6,600 (29.4)	9,900 (44.0)
# 4 (12.7)	4-1/2 (114.3)	11,940 (53.1)	15,140 (67.3)	12,000 (53.4)	18,000 (80.1)
	6 (152.4)	16,703 (74.3)	18,880 (84.0)	12,000 (53.4)	18,000 (80.1)
# 5 (15.9)	5-5/8 (142.9)	14,120 (62.8)	27,740 (123.4)	18,600 (82.7)	27,900 (124.1)
	7-1/2 (190.5)	20,040 (89.1)	30,727 (136.7)	18,600 (82.7)	27,900 (124.1)
# 6 (19.1)	6-3/4 (171.5)	17,940 (79.8)	29,200 (129.9)	26,400 (117.4)	39,600 (176.2)
	9 (228.6)	25,520 (113.5)	41,640 (185.2)	26,400 (117.4)	39,600 (176.2)
	10 (254.0)	---	45,000 (200.2)	26,400 (117.4)	39,600 (176.2)
# 7 (22.2)	7-7/8 (200.0)	---	45,850 (204.0)	36,000 (160.1)	54,000 (240.2)
	10-1/2 (266.7)	---	60,375 (268.6)	36,000 (160.1)	54,000 (240.2)
	13 (330.2)	---	65,300 (290.5)	36,000 (160.1)	54,000 (240.2)
# 8 (25.4)	9 (228.6)	30,960 (137.7)	54,180 (241.1)	47,400 (210.9)	71,100 (316.3)
	12 (304.8)	30,960 (137.7)	65,420 (291.0)	47,400 (210.9)	71,100 (316.3)
	16 (406.4)	---	86,700 (385.7)	47,400 (210.9)	71,100 (316.3)
# 9 (28.6)	10-1/8 (257.2)	---	61,530 (273.7)	60,000 (266.9)	90,000 (400.4)
	13-1/2 (342.9)	---	81,240 (361.4)	60,000 (266.9)	90,000 (400.4)
	19 (482.6)	---	108,000 (480.4)	60,000 (266.9)	90,000 (400.4)
# 10 (31.8)	11-1/4 (285.8)	44,600 (198.4)	76,500 (340.3)	76,200 (339.0)	114,300 (508.5)
	15 (381.0)	49,220 (218.9)	82,320 (366.2)	76,200 (339.0)	114,300 (508.5)
	19 (482.6)	---	120,000 (533.8)	76,200 (339.0)	114,300 (508.5)

- 1 Allowable working loads for the single installations under static loading should not exceed 25% ultimate capacity or the allowable load of the anchor rod.
- 2 Ultimate load values in 2000 and 4000 psi stone aggregate concrete. Ultimate loads are indicated for the embedment shown in the Embedment in Concrete column. Performance values are based on minimum Grade 60 reinforcing bar. The use of lower strength rods will result in lower ultimate tension and shear loads.
- 3 SHEAR DATA: Provided the distance from the rebar to the edge of the concrete member exceeds 1.25 times the embedment depth of the rebar, calculate the ultimate shear load for the rebar anchorage as 60% of the ultimate tensile strength of the rebar.

Combined Tension and Shear Loading—for Adhesive Anchors

Allowable loads for anchors under tension and shear loading at the same time (combined loading) will be lower than the allowable loads for anchors subjected to 100% tension or 100% shear. Use the following equation to evaluate anchors in combined loading conditions:

$$\left(\frac{Na}{Ns}\right)^{5/3} + \left(\frac{Va}{Vs}\right)^{5/3} \leq 1$$

Na = Applied Service Tension Load
Ns = Allowable Tension Load

Va = Applied Service Shear Load
Vs = Allowable Shear Load