

New Formulation C6+

For the Most Demanding Jobs



DESCRIPTION

Suggested Specifications see page RH 24

Maximum strength epoxy for your most heavy-duty and specialty applications

Red Head C6+ is the highest strength adhesive in all of ITW's adhesive anchor products. Designed for use in the most demanding anchoring applications, the maximum strength of Red Head C6+ is backed by ICC-ES (AC308, AC58) approvals for both concrete and masonry. It is also the only adhesive approved for core-drilled holes in cracked concrete without the use of a roughening tool.

ADVANTAGES

- At least 25% stronger than the old C6+ formulation for threaded rod in cracked concrete with seismic conditions
- Fastest cure time in its class, curing in just 2.75 hours at 32°C and in only 2 hours at 43°C!
- ICC-ES approved for cracked concrete and seismic applications (ICC-ES ESR 4046)
- ICC-ES approved for masonry applications (ICC-ES ESR 4109)
- ICC-ES Approved for use in core-drill holes, even in cracked concrete
- At least 10 minutes of nozzle life at 43°C
- Can be used down to 4°C and up to 43°C
- Can be used in oversized holes
- Rugged cartridges resist breakage due to rough handling or cold temperatures
- The industry's first adhesive to be approved for use in core-drilled holes in cracked concrete without the need for a roughening tool
- Install Red Head C6+ and apply the load in the same work shift! (in 21°C and above)
- ICC-ES approved for all wet conditions, including underwater
- More safe and durable on job sites than sausage packs
- Can use in both concrete and masonry substrates, including hollow and solid base materials
- 24-month shelf life
- Store between 13°C and 35°C in a cool, dry place.

Curing Times

BASE MATERIAL (F°/C°)	GEL/WORKING TIME ²	FULL CURE TIME
110°/ 43°	10 minutes	2 hours
90°/ 32°	14 minutes	2.75 hours
70°/ 21°	16 minutes	6.5 hours
50°/ 10°	30 minutes	24 hours
40°/ 4°	46 minutes	48 hours

¹ For concrete temperatures between 4°C - 10°C adhesive must be maintained at a minimum of 13°C during installation.

² Gel time is max time from the end of mixing to when the insertion of the threaded rod or rebar into the adhesive shall be completed

Spacing and Edge Distance

NOMINAL ANCHOR DIAMETER (IN.)	MINIMUM SPACING (IN.)	MINIMUM EDGE DISTANCE (IN.)
3/8	1-1/2	1-1/2
1/2	1-1/2	1-1/2
5/8	1-3/4	1-3/4
3/4	1-7/8	1-7/8
7/8	2	2
1	2	2
1-1/4	2-1/2	2-1/2

APPLICATIONS



Gene Leahy Mall Renovation

Anchors were installed with no concerns with the environment using ITW Epcon C6+.



Boston, San Diego, Evanston

Contractors enjoy the easy pump, easy storage and superior performance for rebar dowling and brick tie application.



Anchoring a concrete traffic barrier wall to concrete bridge deck.



Dowling rebar into bridge deck and forming to pour new barrier wall using ITW Epcon C6+.



Dowling rebar into concrete foundation wall prior to building concrete block wall using ITW Epcon C6+.

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-ES ESR 4046 (Concrete Report)

ICC-ES ESR 4109 (Masonry Report)

2015, 2012, 2009, 2006 International Building Code (IBC) Compliant

Florida Building Code (FBC)

City of Los Angeles (COLA)

Department of Transportation (DOT) Listings

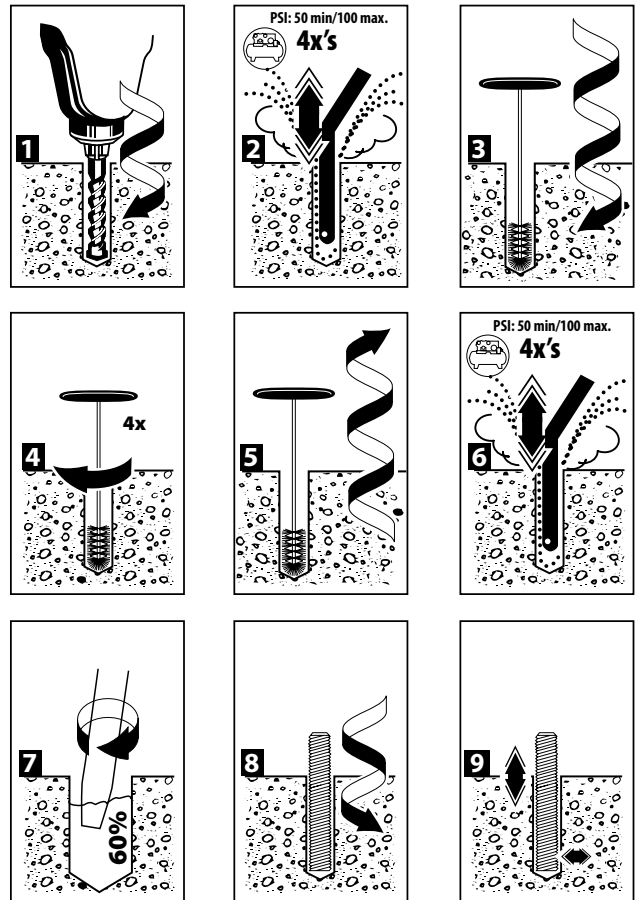
NSF/ANSI 61 Approval for use in Drinking Water System Components

ASTM C881, Types I, II, IV, and V, Grade 3, Classes B & C











Certified to
ANSI/NSF 61

INSTALLATION STEPS



C6P - 30.4 fl. oz. Ordering Information

PART NUMBER	DESCRIPTION	BOX QTY	PART NUMBER	DESCRIPTION	BOX QTY
 C6P-30	30.4 Fluid Ounce Red Head C6+ Cartridge with S55 nozzle	4	 D202	Pneumatic Dispenser for C6P-30 cartridges	1
 D102	Heavy-Duty 34:1 thrust ratio hand dispenser for C6P-30 cartridges	24	 A300	Cordless Battery Dispenser for A7P-28 and C6P-30 Cartridge. Includes one battery and charger. Works with all Milwaukee® M18™ batteries	1
 S55	Standard Mixing Nozzle, fits holes for 3/8" diameter anchors and larger. 3-1/2" inch usable length for 3/8" and 1/2" anchors, 8-1/4" usable length for 5/8" anchors and above	24	 S75	High Flow Mixing Nozzle, fits holes for 3/4" diameter anchors and larger. 7-3/8" usable length	24
 E55*	Long Mixing Nozzle, fits holes for 3/8" diameter anchors and larger. 5-3/4" inch usable length for 3/8" and 1/2" anchors, 12-5/8" usable length for 5/8" anchors and above	24	 S75EXT	Extension for High Flow Mixing Nozzle for 3/4" diameter anchors and larger. 15-5/8" usable length when attached to S75	24

* E55 is only recommended with pneumatic or battery dispensers. For manual dispensing and deep embedment holes, use S55 with extension tubing on page RH34 Refer to page RH 34 for ordering information on wire brushes, brush extensions, and blow pump for deep holes.

ESTIMATING TABLES

REBAR		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	7/16	608.4	304.2	202.8	152.1	121.7	101.4	86.9	76.0	67.6	60.8	55.3	50.7	46.8	43.5	40.6
10M	9/16	368.0	184.0	122.7	92.0	73.6	61.3	52.6	46.0	40.9	36.8	33.5	30.7	28.3	26.3	24.5
#4	5/8	298.1	149.0	99.4	74.5	59.6	49.7	42.6	37.3	33.1	29.8	27.1	24.8	22.9	21.3	19.9
#5 or 15M	3/4	207.0	103.5	69.0	51.8	41.4	34.5	29.6	25.9	23.0	20.7	18.8	17.3	15.9	14.8	13.8
#6 or 20M	7/8	152.1	76.0	50.7	38.0	30.4	25.3	21.7	19.0	16.9	15.2	13.8	12.7	11.7	10.9	10.1
#7	1	116.4	58.2	38.8	29.1	23.3	19.4	16.6	14.6	12.9	11.6	10.6	9.7	9.0	8.3	7.8
#8 or 25M	1 1/8	92.0	46.0	30.7	23.0	18.4	15.3	13.1	11.5	10.2	9.2	8.4	7.7	7.1	6.6	6.1
#9	1 1/4	74.5	37.3	24.8	18.6	14.9	12.4	10.6	9.3	8.3	7.5	6.8	6.2	5.7	5.3	5.0
#10 or 30M	1 3/8	61.6	30.8	20.5	15.4	12.3	10.3	8.8	7.7	6.8	6.2	5.6	5.1	4.7	4.4	4.1
#11	1 3/4	38.0	19.0	12.7	9.5	7.6	6.3	5.4	4.8	4.2	3.8	3.5	3.2	2.9	2.7	2.5

* 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.

THREADED ROD		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	5/16	1192.4	596.2	397.5	298.1	238.5	198.7	170.3	149.0	132.5	119.2	108.4	99.4	91.7	85.2	79.5
3/8	7/16	608.4	304.2	202.8	152.1	121.7	101.4	86.9	76.0	67.6	60.8	55.3	50.7	46.8	43.5	40.6
1/2	9/16	368.0	184.0	122.7	92.0	73.6	61.3	52.6	46.0	40.9	36.8	33.5	30.7	28.3	26.3	24.5
5/8	11/16	246.4	123.2	82.1	61.6	49.3	41.1	35.2	30.8	27.4	24.6	22.4	20.5	19.0	17.6	16.4
	3/4	207.0	103.5	69.0	51.8	41.4	34.5	29.6	25.9	23.0	20.7	18.8	17.3	15.9	14.8	13.8
3/4	13/16	176.4	88.2	58.8	44.1	35.3	29.4	25.2	22.0	19.6	17.6	16.0	14.7	13.6	12.6	11.8
	7/8	152.1	76.0	50.7	38.0	30.4	25.3	21.7	19.0	16.9	15.2	13.8	12.7	11.7	10.9	10.1
7/8	15/16	132.5	66.2	44.2	33.1	26.5	22.1	18.9	16.6	14.7	13.2	12.0	11.0	10.2	9.5	8.8
	1	116.4	58.2	38.8	29.1	23.3	19.4	16.6	14.6	12.9	11.6	10.6	9.7	9.0	8.3	7.8
1	1-1/16	103.1	51.6	34.4	25.8	20.6	17.2	14.7	12.9	11.5	10.3	9.4	8.6	7.9	7.4	6.9
	1-1/8	92.0	46.0	30.7	23.0	18.4	15.3	13.1	11.5	10.2	9.2	8.4	7.7	7.1	6.6	6.1
1-1/4	1-1/3	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
	1-3/8	61.6	30.8	20.5	15.4	12.3	10.3	8.8	7.7	6.8	6.2	5.6	5.1	4.7	4.4	4.1

* 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.

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

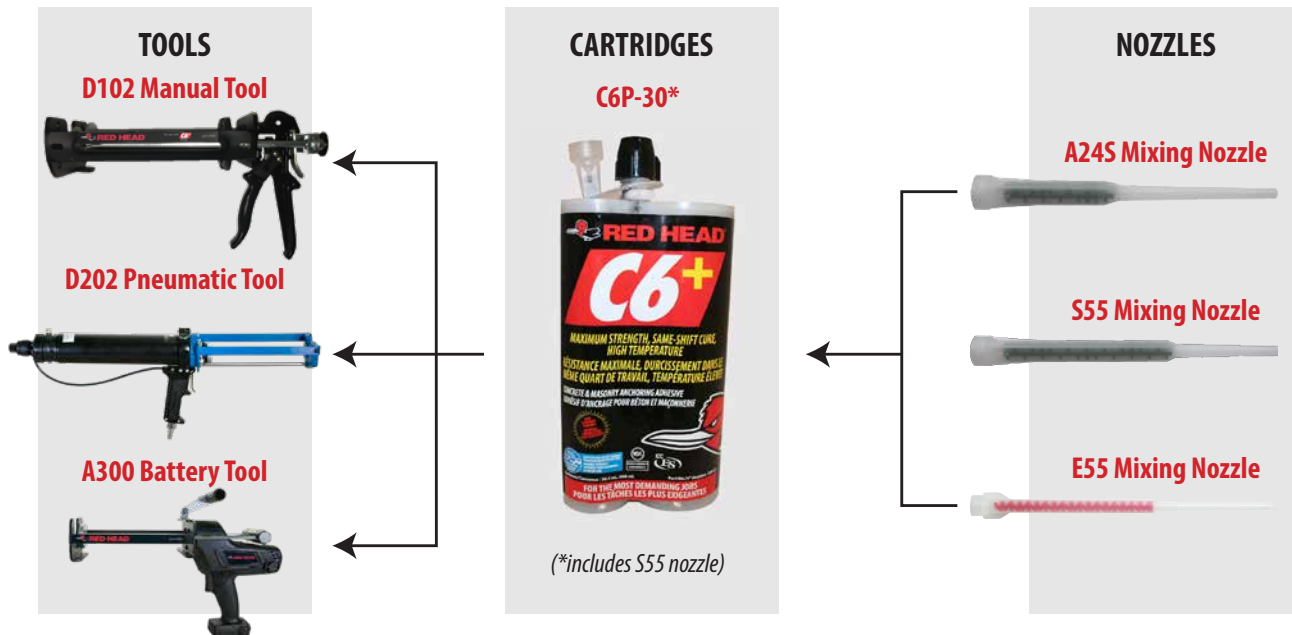
SUGGESTED SPECIFICATIONS

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, submerged holes.
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: 60°C 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.

Selection Guide



* E55 is only recommended with pneumatic or battery dispensers. For manual dispensing and deep embedment holes, use S55 with extension tubing on page RH34

PERFORMANCE TABLES

C6+ Epoxy Adhesive Factored Steel Strength for Threaded Rod, kN (lbf)

Nominal anchor Dia. In (mm)	Tension kN (lb), Nsar			Shear kN (lb) Vsar			Seismic Shear kN (lb), Vsar, seismic		
	Carbon Steel A36	Carbon Steel A193 B7	Stainless F593	Carbon Steel A36	Carbon Steel A193 B7	Stainless F593	Carbon Steel A36	Carbon Steel A193 B7	Stainless F593
3/8 (9.5)	13.6 (3,060)	29.3 (6,589)	19.5 (4,382)	7.7 (1,721)	16.5 (3,704)	9.0 (2,033)	5.4 (1,205)	11.5 (2,593)	6.3 (1,423)
1/2 (12.7)	24.9 (5,596)	53.7 (12,063)	35.7 (8,021)	14.0 (3,149)	30.2 (6,783)	16.6 (3,724)	9.8 (2,204)	21.1 (4,748)	11.6 (2,607)
5/8 (15.9)	39.7 (8,915)	85.5 (19,210)	56.8 (12,775)	22.3 (5,017)	48.1 (10,806)	26.4 (5,931)	15.6 (3,512)	33.6 (7,564)	18.5 (4,152)
3/4 (19.1)	58.7 (13,192)	126.5 (28,431)	67.2 (15,104)	33.0 (7,421)	71.1 (15,995)	31.2 (7,011)	23.1 (5,194)	49.8 (11,196)	21.8 (4,908)
7/8 (22.2)	81.0 (18,210)	174.6 (39,243)	92.9 (20,891)	45.6 (10,245)	98.2 (22,077)	43.1 (9,699)	31.9 (7,171)	58.7 (15,454)	30.2 (6,789)
1 (25.4)	106.3 (23,889)	229.0 (51,483)	121.9 (27,403)	59.8 (13,439)	128.8 (28,962)	56.6 (12,724)	41.8 (9,407)	90.2 (20,273)	39.6 (8,907)
1-1/4 (31.8)	170.0 (38,223)	366.4 (82,376)	194.9 (43,819)	95.6 (21,503)	206.1 (46,334)	90.5 (20,343)	67.0 (15,052)	144.3 (32,433)	63.3 (14,240)

1 Values correspond to a ductile steel element

3 Tension values calculated according to Cl. D6.1.2 in CSA A23.3-14 Annex D

5 Seismic shear was calculated according to Vsar*aV,seis

2 Values correspond to a brittle steel element

4 Shear values calculated according to Cl. D7.1.2 in CSA A23.3-14 Annex D