

A7+

Most versatile quick cure adhesive solution for light, medium, and heavy duty concrete anchoring that meets code approval



A7P-10

A7P-28



A100

DESCRIPTION/SUGGESTED SPECIFICATIONS*

*Suggested Specifications see pages RH 13

Fast Dispensing, Fast Curing Hybrid Adhesive

This hybrid adhesive is dispensed from a dual cartridge through a static mixing nozzle, directly into the anchor hole. A7+ is a quick cure adhesive specifically designed for both structural and non-structural anchoring applications. It comes in both 10 oz and 28 oz.

ADVANTAGES

- All weather formula for for both hollow and solid base material
- Great performance in damp holes and underwater applications
- Applicable for both structural and non-structural anchoring
- Fast curing time, 45 minutes at 21°C
- No drip, no sag, easy clean up, low odor
- Rods are easier to insert into the hole with A7+ compared with other adhesives
- Hole only needs to be 1/16" larger than the stud (competition requires 1/8" larger)
- Approved for cracked, uncracked, seismic, masonry
- NFS 61 approved

Spacing and Edge Distance

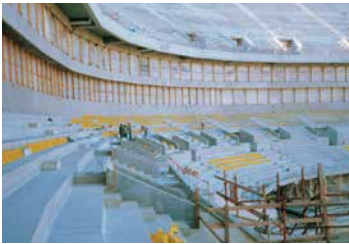
NOMINAL ANCHOR DIAMETER (IN.)	MINIMUM SPACING (IN.)	MINIMUM EDGE DISTANCE (IN.)
3/8	1	1
1/2	1-1/2	1-1/2
5/8	2-1/2	2-1/2
3/4	3	3
7/8	3-1/2	3-1/2
1	4	4
1-1/4	5	5

Curing Times

BASE MATERIAL (F°/C°)	WORKING TIME	FULL CURE TIME
110°/ 43°	1.5 minutes	45 minutes
90°/ 32°	2.5 minutes	45 minutes
70°/ 21°	5 minutes	45 minutes
50°/ 10°	16 minutes	90 minutes
32°/ 0°	35 minutes	4 hours
14°/ -10°	35 minutes	24 hours

*Adhesive must be a minimum temperature of 32°F (0°C) for proper installation

APPLICATIONS



Stadium Seating

The fast dispensing, fast curing properties of A7+ made it ideal for installing over 70,000 seats in this NFL football stadium and many others.



Roadway Doweling

A7+ dispenses so quickly and rebar inserts so easily that contractors find installed costs are lower than many other products including grout for doweling.



Water Treatment Facilities

The fast dispensing, fast curing properties of A7+ make it ideal for repetitive installation processes.

FEATURES



ANCHORAGE TO SOLID CONCRETE

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

A7+ 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

ASTM C881 Type I, II, IV & V; Grade 3, Class A, B, & C with the exception of gel time (Class C only)

ICC ESR-3903 for concrete and ICC ESR-3951 for masonry

MTO Approval

MTQ Approval

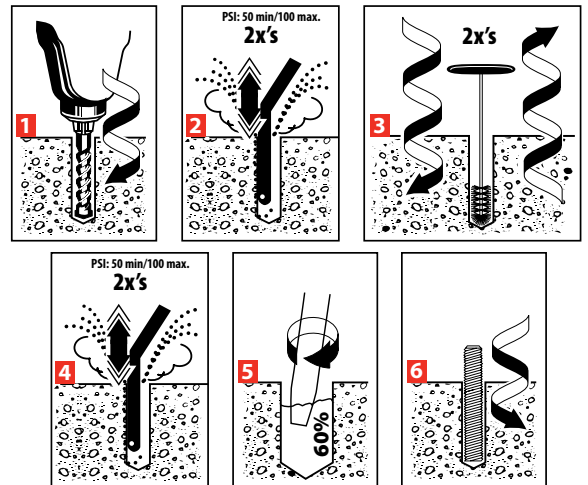
BC MoTI Approval

NSF 61 Compliant






Certified to ANSI/NSF 61




INSTALLATION STEPS



1. Use a rotary hammer drill or pneumatic air drill with a carbide drill bit complying with ANSI B212.15. Drill hole to the required embedment depth. For installation of 3/8" – 1-1/4" anchors, see www.itwredhead.com for a bit diameters and min/max embedment depths.
2. Starting at the bottom of the hole, move a clean air nozzle in and out of the hole, cleaning with compressed air. Repeat until free of debris.**
3. Select appropriately sized Red Head brush based on anchor diameter and depth of hole. See www.itwredhead.com for brush specifications, including minimum diameter. Check brush for wear before use. Insert the brush into the hole with a clockwise motion until the bottom of hole is reached. Pull brush out of hole and repeat at least one additional time. For faster cleaning, attach the brush to a drill/drive.
4. Repeat Step 2
5. Place the cartridge/nozzle assembly into the dispensing tool. Note: Do not modify or remove mixing elements in nozzle. Review the gel time/cure time chart, based on the temperature at time of installation, in order to determine tool, cartridge and nozzle requirements. Dispense mixed adhesive outside of hole until uniform color is achieved. Insert the nozzle to the bottom of the hole and dispense adhesive until hole is 2/3 full. If nozzle does not reach the bottom of the hole, use Red Head extension tubing positioned on the end of the nozzle. For holes that contain water, keep dispensing adhesive below water in order to displace the water upward.
6. Immediately insert the rod/rebar assembly to the required embedment depth using a slow rotating motion. The anchor rod/rebar must be marked with the required embedment depth. Ensure the adhesive fills all voids and uniformly covers rod/concrete. Do not disturb anchor or apply load/torque until adhesive is fully cured.

A7P-28 fl. oz. Ordering Information

PART NUMBER	DESCRIPTION	BOX QTY
 A7P-28	28 Fluid Ounce Cartridge A7+ with nozzle	4
 S55	Mixing Nozzle for A7P-28 Cartridge Nozzle diameter fits holes for 3/8" diameter & larger anchors (overall length of nozzle 10")	24
 S75	High Flow Mixing Nozzle for A7P-28 Cartridge Nozzle diameter fits holes for 5/8" diameter & larger anchors (overall length of nozzle 9-1/4")	24

PART NUMBER	DESCRIPTION	BOX QTY
 A102-V3	Largest hand dispensable cartridge— still easy to dispense Hand Dispenser for A7P-28 Cartridge	24
 A200	Pneumatic Dispenser for A7P-28	1
 A300	Cordless Battery Dispenser for A7P-28 and C6P-30 Cartridge. Includes one battery and charger. Works with all Milwaukee® M18™ batteries	1

Refer to page RH 34 for ordering information on wire brushes, brush extensions, and blow pump for deep holes.

ESTIMATING TABLE

A7+

28 Fluid Ounce Cartridge

Number of Anchoring Installations per Cartridge* Using Reinforcing Bar with A7+ 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	7/16	560.3	280.2	186.8	140.1	112.1	93.4	80.0	70.0	62.3	56.0	50.9	46.7	43.1	40.0	37.4
10M	9/16	339.0	169.5	113.0	84.7	67.8	56.5	48.4	42.4	37.7	33.9	30.8	28.2	26.1	24.2	22.6
#4	5/8	274.6	137.3	91.5	68.6	54.9	45.8	39.2	34.3	30.5	27.5	25.0	22.9	21.1	19.6	18.3
#5 or 15M	3/4	190.7	95.3	63.6	47.7	38.1	31.8	27.2	23.8	21.2	19.1	17.3	15.9	14.7	13.6	12.7
#6 or 20M	7/8	140.1	70.0	46.7	35.0	28.0	23.3	20.0	17.5	15.6	14.0	12.7	11.7	10.8	10.0	9.3
#7	1	107.2	53.6	35.7	26.8	21.4	17.9	15.3	13.4	11.9	10.7	9.7	8.9	8.2	7.7	7.1
#8 or 25M	1 1/8	84.7	42.4	28.2	21.2	16.9	14.1	12.1	10.6	9.4	8.5	7.7	7.1	6.5	6.1	5.6
#9	1 1/4	68.6	34.3	22.9	17.2	13.7	11.4	9.8	8.6	7.6	6.9	6.2	5.7	5.3	4.9	4.6
#10 or 30M	1 3/8	56.7	28.4	18.9	14.2	11.3	9.5	8.1	7.1	6.3	5.7	5.2	4.7	4.4	4.1	3.8
#11	1 3/4	35.0	17.5	11.7	8.8	7.0	5.8	5.0	4.4	3.9	3.5	3.2	2.9	2.7	2.5	2.3

* 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.

ESTIMATING TABLE

A7+




28 Fluid Ounce Cartridge

Number of Anchoring Installations per Cartridge* Using Threaded Rod with A7+ Adhesive in Solid Concrete

THREADED ROD	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	5/16	1098.2	549.1	366.1	274.6	219.6	183.0	156.9	137.3	122.0	109.8	99.8	91.5	84.5	78.4	73.2
3/8	7/16	560.3	280.2	186.8	140.1	112.1	93.4	80.0	70.0	62.3	56.0	50.9	46.7	43.1	40.0	37.4
1/2	9/16	339.0	169.5	113.0	84.7	67.8	56.5	48.4	42.4	37.7	33.9	30.8	28.2	26.1	24.2	22.6
5/8	11/16	226.9	113.5	75.6	56.7	45.4	37.8	32.4	28.4	25.2	22.7	20.6	18.9	17.5	16.2	15.1
	3/4	190.7	95.3	63.6	47.7	38.1	31.8	27.2	23.8	21.2	19.1	17.3	15.9	14.7	13.6	12.7
3/4	13/16	162.5	81.2	54.2	40.6	32.5	27.1	23.2	20.3	18.1	16.2	14.8	13.5	12.5	11.6	10.8
	7/8	140.1	70.0	46.7	35.0	28.0	23.3	20.0	17.5	15.6	14.0	12.7	11.7	10.8	10.0	9.3
7/8	15/16	122.0	61.0	40.7	30.5	24.4	20.3	17.4	15.3	13.6	12.2	11.1	10.2	9.4	8.7	8.1
	1	107.2	53.6	35.7	26.8	21.4	17.9	15.3	13.4	11.9	10.7	9.7	8.9	8.2	7.7	7.1
1	1-1/16	95.0	47.5	31.7	23.8	19.0	15.8	13.6	11.9	10.6	9.5	8.6	7.9	7.3	6.8	6.3
	1-1/8	84.7	42.4	28.2	21.2	16.9	14.1	12.1	10.6	9.4	8.5	7.7	7.1	6.5	6.1	5.6
1-1/4	1-1/3	62.3	31.1	20.8	15.6	12.5	10.4	8.9	7.8	6.9	6.2	5.7	5.2	4.8	4.4	4.2
	1-3/8	56.7	28.4	18.9	14.2	11.3	9.5	8.1	7.1	6.3	5.7	5.2	4.7	4.4	4.1	3.8

* 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.

A7P-10 fl. oz. Ordering Information

PART NUMBER	DESCRIPTION	BOX QTY
 A7P-10	9.5 Fluid Ounce Cartridge with nozzle	6
 A24S	Mixing Nozzle for A7P-10 Cartridge Nozzle diameter fits 3/8" to 5/8" holes (overall length of nozzle 6-3/8")	24
 A100	Hand Dispenser for A7P-10 Cartridge (26:1 Thrust Ratio)	1

Refer to page RH 34 for ordering information on wire brushes, brush extensions, and blow pump for deep holes.

PACKAGING

1. Disposable, self-contained cartridge system capable of dispensing both components in the proper mixing ratio
2. The two components are dispensed through a static mixing nozzle that thoroughly mixes the material and places the material 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

HYBRID ADHESIVE:

High Strength HYBRID ADHESIVE: ARRA Certified

1. Two component vinyl ester adhesive, non-sag paste, moisture insensitive when cured, dark gray in color, fast cure times.
2. Meets NSF Standard 61, certified for use in conjunction with drinking water systems.
3. Works in wet, damp, submerged holes.
4. Shelf life: Best if used within 18 months.
5. All weather, cure time (45 min. at 21°C).
6. Dispenses easier and faster.
7. Dispenses and cures faster in hot weather, but works in cold weather.
8. Pumpable at -10°C without preheating.
9. Formula for use in solid and hollow base materials.
10. Suitable for oversized and diamond cored holes with increased depths.
11. Quick insertion time = less labor cost.

ESTIMATING TABLES

A7+ 10 Fluid Ounce Cartridge

Number of Anchoring Installations per Cartridge* Using Reinforcing Bar and Threaded Rod with A7+ Adhesive in Solid Concrete

REBAR	DRILL HOLE DIA. INCHES	EMBEDMENT DEPTH IN INCHES (mm)			
		2 (50.8)	4 (101.6)	6 (152.4)	8 (203.2)
# 3	7/16	100.1	50.0	33.4	25.0
# 4	5/8	49.0	24.5	16.3	12.3
# 5	3/4	34.0	17.0	11.3	8.5
# 6	7/8	25.0	12.5	8.3	6.3
# 7	1	19.2	9.6	6.4	4.8
# 8	1-1/8	15.1	7.6	5.0	3.8

* 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.

Rod In. (mm)	DRILL HOLE DIA. INCHES	EMBEDMENT DEPTH IN INCHES (mm)			
		2 (50.8)	4 (101.6)	6 (152.4)	8 (203.2)
3/8 (9.5)	7/16	100.1	50.0	33.4	25.0
1/2 (12.7)	9/16	60.5	30.3	20.2	15.1
5/8 (15.9)	11/16	40.5	20.3	13.5	10.1
	3/4	34.0	17.0	11.3	8.5
3/4 (19.1)	13/16	29.0	14.5	9.7	7.3
	7/8	25.0	12.5	8.3	6.3
7/8 (22.2)	15/16	21.8	10.9	7.3	5.4
	1	19.2	9.6	6.4	4.8
1 (25.4)	1-1/16	17.0	8.5	5.7	4.2
	1-1/8	15.1	7.6	5.0	3.8