Inject-TITE™ AW™
All-Weather

Product Description

Inject-TITE AW is a two-component styrene free, acrylic system used for anchoring and doweling applications in uncracked concrete using threaded rod and rebar. May be used in temperatures between 15°F and 95°F (-9°C to 35°C).

General Uses & Applications

- Adhering dowel bars and tie bars for full depth concrete repairs
- Short-term tensile anchoring and shear loading conditions in accordance with allowable stress design (ASD)
- Wide service temperature range between -40°F to 176°F (-40°C to 80°C)
- Moisture insensitive allowing installation and curing in damp water-saturated environments
- Bonding agent for fresh concrete to hardened concrete and hardened to hardened concrete

Advantages & Features

- Ultra-fast 30 minute full cure time at 77°F (25°C) in dry concrete
- High bond strength with fast cure times
- Easily dispenses even at low temperatures
- Styrene free
- Non-sag

Availability: Wej-It products are available through select distributors providing you with all your construction needs. Please contact Wej-It for a distributor near you.

Standards & Approvals

ASTM C881-14*
Type II Grade 3 Class A & B

AASHTO M235

*With exception of linear shrinkage and get time

Color & Ratio: Part A (Resin) Beige: Part B (Hardener) Black, Mixed Ratio: 10:1 by volume, Mixed Color - Light Gray

Storage & Shelf Life: 18 months when stored in unopened containers in dry conditions. Store between 41°F (5°C) and 77 °F (25°C).

Installation & Estimation: See Manufacturer's Printed Installation Instructions (MPII) available within this Technical Data Sheet (TDS). Due to occasional updates and revisions, always verify that you are using the most current version of the MPII. In order to achieve maximum results, proper installation is imperative. An estimating guide for product usage can be can be found at www.wejit.com.

Clean Up: Always wear appropriate protective equipment such as safety glasses and gloves. Clean uncured materials from tools and equipment with mild solvent. Cured material can only be removed mechanically.

Limitations & Warnings:

- Do not thin with solvents, as this may affect cure
- For anchoring applications, concrete should be a minimum of 21 days old prior to anchor installation
- Not recommended for any application where there may be a sustained tensile load, including overhead applications

Safety: Please refer to the Safety Data Sheet (SDS) for Inject-TITE AW. Call Wej-It High Performance Anchors for more information at 1-203-857-2200.

Specification: Anchoring and doweling adhesive shall be a two component, 10:1 mix ratio styrene free acrylic system supplied in pre-measured containers. At 7 days and temperature of 50°F (10°C), the adhesive shall have a compressive yield strength of 5,630 psi (38.8 MPa) and a compressive modulus of 273,000 psi (1,882 MPa) per ASTM D695. Adhesive shall be Inject-TITE AW from Wej-It, Norwalk, Connecticut. Anchors shall be installed per the Manufacturer's Installation Instructions (MPII) for Inject-TITE AW anchoring and dowling system.

ORDERING INFORMATION

TABLE 1: Inject-TITE AW Adhesive, Dispensing Tools and Mixing Nozzles

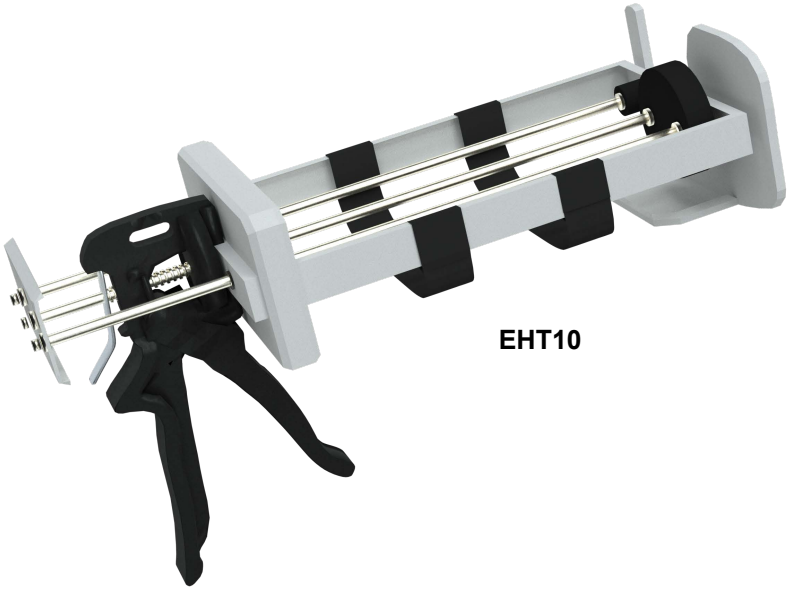
Package Size	10.1 fl.oz. (300 ml) Cartridge	28 fl.oz. (828 ml) Cartridge
Part #	EAW10	EAW28
Manual Dispensing Tool	EHT10	EHT28
Case Qty.	12	8
Recommended Mixing Nozzle	ECTNZ12	ECTNZ12

* Each adhesive tube is supplied with one mixing nozzle

10.1 fl.oz
EAW10

EHT10

28 fl.oz
EAW28



EHT10

MATERIAL SPECIFICATION

TABLE 3: Inject-TITE AW performance to **ASTM C881-14**[1,2,3]

Property	Cure Time	ASTM Standard	Units	Sample Conditioning Temperature		
				Class A	Class B	Class C
				15 °F (-10) °C	50 °F (10) °C	95 °F (35) °C
Gel Time - 60 Gram Mass[4]	----	C881	min	50	10	4
Compressive Yield Strength	7 day	D695	psi (MPa)	5,930 (40.9)	5,630 (38.8)	3,450 (23.8)
Compressive Modulus			psi (MPa)	357,300 (2,464)	273,000 (1,882)	274,200 (1,891)
Bond Strength Hardened to Hardened Concrete	2 day	C882	psi (MPa)	3,050 (21.0)	3,020 (20.8)	2,480 (17.1)
	14 day		psi (MPa)	3,210 (22.1)	3,040 (21.0)	3,090 (21.3)
Bond Strength Fresh Concrete to Hardened Concrete			psi (MPa)	2,120 (14.6)		
Consistency or Viscosity	----	C881	----	Non-sag		
Heat Deflection Temperature	7 day	D648	°F (°C)	145 (62.8)		
Water Absorption	14 day	D570	%	0.42		
Linear Coefficient of Shrinkage	48 hr	D2566	%	0.014		

1. Results based on testing conducted on a representative lot(s) of product. Average results will vary according to the tolerances of the given property.
2. Full cure time is listed above to obtain the given properties for each product characteristic.
3. Results may vary due to environmental factors such as temperature, moisture and type of substrate.
4. Gel time may be lower than the minimum required for ASTM C881.

TABLE 4: Inject-TITE AW **CURE SCHEDULE**[1,2,3]

Base Material Temperature Range °F (°C)	Working Time	Full Cure Time Dry Concrete	Full Cure Time Damp Concrete
15 (-9)	50 min	4 hr	8 hr
23 (-5)	40 min	3 hr	6 hr
41 (5)	20 min	90 min	3 hr
59 (15)	9 min	60 min	2 hr
77 (25)	5 min	30 min	60 min
95 (35)	3 min	20 min	40 min

1. Working and full cure times are approximate, may be linearly interpolated between listed temperatures and are based on cartridge/nozzle system performance.
2. Application Temperature: Substrate temperature should be from 15 - 95 °F (-9 - 35 °C).
3. When ambient or base material temperature falls below 23 °F (-5 °C), condition the adhesive above 68 °F (20 °C) prior to use.

INSTALLATION INSTRUCTIONS (MPII)

Drilling and Cleaning

Using a rotary hammer drill, and a bit which conforms to ANSI B212.15 and is the appropriate size for the anchor diameter to be installed, drill the hole to the specified embedment depth. **CAUTION:** Always wear appropriate personal protection equipment (PPE) for eyes, ears & skin and avoid inhalation of dust during the drilling and cleaning process. Refer to the Safety Data Sheet (SDS) for details prior to proceeding.

NOTE: Remove any standing water from hole prior to beginning the cleaning process. If removal of standing water is not possible, please contact Wej-It for application specific installation instructions. Using oil free compressed air with a minimum pressure of 80 psi (5.5 bar), insert the air wand to the bottom of the drilled hole and blow out the debris with an up/down motion for a minimum of 4 seconds each cycle (4X).

Select the correct wire brush size for the drilled hole diameter (see Table 2), making sure that the brush is long enough to reach the bottom of the drilled hole. Reaching the bottom of the hole, brush in an up/down and twisting motion for 4 cycles (4X). **CAUTION:** The brush should contact the walls of the hole. If it does not, the brush is either too worn or small and should be replaced with a new brush of the correct diameter.

Blow the hole out once more to remove brush debris using oil free compressed air with a minimum pressure of 80 psi (5.5 bar). Insert the air wand to the bottom of the drilled hole and blow out the debris with an up/down motion for a minimum of 4 seconds/cycles (4X). Visually inspect the hole to confirm it is clean.

NOTE: If installation will be delayed for any reason, cover cleaned holes to prevent contamination.

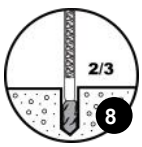
Cartridge Preparation

CAUTION: Check the expiration date on the cartridge to ensure it is not expired. **Do not use expired product!** Remove the protective cap from the adhesive cartridge and insert the cartridge into the recommended dispensing tool. Before attaching mixing nozzle, balance the cartridge by dispensing a small amount of material until both components are flowing evenly. For a cleaner environment, hand mix the two components and let cure prior to disposal in accordance with local regulations.

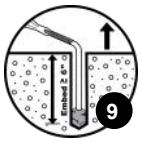
Only after the cartridge has been balanced, screw on the proper Wej-It mixing nozzle to the cartridge (see Table 1). Do not modify mixing nozzle and confirm that internal mixing element is in place prior to dispensing adhesive. Take note of the air and base material temperatures and review the working/full cure time chart (see Table 4) prior to starting the injection process.

Dispense 10 to 12 inches of material from the mixing nozzle into a disposable container according to local regulations and prior to initial injection into the drill hole. The product should be a uniform gray color with no streaks. NOTE: The adhesive must be properly mixed in order to perform as published. **CAUTION:** When changing cartridges, never re-use nozzles. A new nozzle should be used with each new cartridge and steps 5 - 7 should be repeated accordingly.

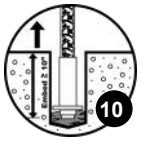
Installation and Curing (Vertical Down and Horizontal)



NOTE: The engineering drawings must be followed. For any applications not covered by this document, or if there are any installation questions, please contact Wej-It. Insert the mixing nozzle to the bottom of the hole and fill from the bottom to the top approximately two-thirds full, being careful not to withdraw the nozzle too quickly as this may trap air in the adhesive. **NOTE:** When using a pneumatic dispensing tool, ensure that pressure is set at 90 psi (6.2 bar) maximum.



Prior to inserting the threaded rod or rebar into the hole, make sure it is clean and free of oil and dirt and that the necessary embedment depth is marked on the anchor element. Insert the anchor element into the hole while turning 1 - 2 rotations prior to the anchor reaching the bottom of the hole. Excess adhesive should be visible on all sides of the fully installed anchor. For horizontal installations, wedges should be used to center and support the anchor while the adhesive is curing. **CAUTION:** Use extra care with deep embedment or high temperature installations to ensure that the working time has not elapsed prior to the anchor being fully installed.



Do not disturb, torque or apply any load to the installed anchor until the specified full cure time has passed. The amount of time needed to reach full cure is base material temperature and moisture dependent - refer to Table 4 for appropriate full cure time.

TECHNICAL DATA

TABLE 5: Inject-TITE AW ultimate and allowable **TENSION & SHEAR** loads for **THREADED ROD** in normal-weight concrete[1,2]

Threaded Rod Diameter in.	Nominal Drill Bit Diameter in.	Embedment Depth in. (mm)	Tension Load Based on Bond Strength/ Concrete Capacity		Allowable Loads Based on Steel Strength[3]					
			$f'_c \geq 4{,}000$ psi (27.5 MPa)		Tension			Shear		
			Ultimate lbs. (kN)	Allowable lbs. (kN)	ASTM F1554 Grade 36 lbs. (kN)	ASTM A193 Grade B7 lbs. (kN)	ASTM F593 304/316 SS lbs. (kN)	ASTM F1554 Grade 36 lbs. (kN)	ASTM A193 Grade B7 lbs. (kN)	ASTM F593 304/316 SS lbs. (kN)
3/8	7/16	3 3/8 (86)	7,127 (31.7)	1,782 (7.9)	2,114 (9.4)	4,556 (20.3)	3,645 (16.2)	1,089 (4.8)	2,347 (10.4)	1,878 (8.4)
1/2	9/16	4 1/2 (114)	13,273 (59.0)	3,318 (14.8)	3,758 (16.7)	8,099 (36.0)	6,480 (28.8)	1,936 (8.6)	4,172 (18.6)	3,338 (14.8)
5/8	3/4	5 5/8 (143)	16,800 (74.7)	4,200 (18.7)	5,872 (26.1)	12,655 (56.3)	10,124 (45.0)	3,025 (13.5)	6,519 (29.0)	5,216 (23.2)
3/4	7/8	6 3/4 (171)	22,231 (98.9)	5,558 (24.7)	8,456 (37.6)	18,224 (81.1)	12,392 (55.1)	4,356 (19.4)	9,388 (41.8)	6,384 (28.4)
7/8[4]	1	7 7/8 (200)	32,174 (143.1)	8,043 (35.8)	11,509 (51.2)	24,804 (110.3)	16,867 (75.0)	5,929 (26.4)	12,778 (56.8)	8,689 (38.7)
1	1 1/8	9 (229)	41,474 (184.5)	10,369 (46.1)	15,033 (66.9)	32,398 (144.1)	22,030 (98.0)	7,744 (34.4)	16,690 (74.2)	11,349 (50.5)

1. Allowable bond strength/concrete capacity calculated using a safety factor of 4.0.
2. The lower value of either the allowable bond strength/concrete capacity or steel strength should be used as the allowable tension value for design.
3. Allowable steel strengths calculated in accordance with AISC Manual of Steel Construction: Tensile = $0.33*F_u*A_{nom}$., Shear = $0.17*F_u*A_{nom}$
4. Values for bond strength of 7/8 in. threaded rod were linearly interpolated from 3/4 in. & 1 in. data.

TABLE 6: Inject-TITE AW ultimate and allowable **TENSION & SHEAR** loads for **REBAR** in normal-weight concrete[1,2]

Rebar Size	Nominal Drill Bit Diameter in.	Embedment Depth in. (mm)	Tension Load Based on Bond Strength/ Concrete Capacity		Allowable Loads Based on Steel Strength[3]			
			$f'_c \geq 4{,}000$ psi (27.5 MPa)		Tension		Shear	
			Ultimate lbs. (kN)	Allowable lbs. (kN)	ASTM A615 Grade 60 lbs. (kN)	ASTM A615 Grade 75 lbs. (kN)	ASTM A615 Grade 60 lbs. (kN)	ASTM A615 Grade 75 lbs. (kN)
#3	7/16	3 3/8 (86)	9,723 (43.3)	2,431 (10.8)	2640 (11.7)	3300 (14.7)	1683 (7.5)	1870 (8.3)
#4	9/16	4 1/2 (114)	14,830 (66.0)	3,708 (16.5)	4,800 (21.4)	6,000 (26.7)	3,060 (13.6)	3,400 (15.1)
#5	3/4	5 5/8 (143)	19,838 (88.2)	4,960 (22.1)	7,440 (33.1)	9,300 (41.4)	4,743 (21.1)	5,270 (23.4)
#6	7/8	6 3/4 (171)	28,762 (127.9)	7,191 (32.0)	10,560 (47.0)	13,200 (58.7)	6,732 (29.9)	7,480 (33.3)
#7[4]	1	7 7/8 (200)	33,598 (149.5)	8,400 (37.4)	14,400 (64.1)	18,000 (80.1)	9,180 (40.8)	10,200 (45.4)
#8	1 1/8	9 (229)	39,623 (176.3)	9,906 (44.1)	18,960 (84.3)	23,700 (105.4)	12,087 (53.8)	13,430 (59.7)

1. Allowable bond strength/concrete capacity was calculated using a safety factor of 4.0.
2. The lower value of either the adjusted allowable bond strength/concrete capacity or steel strength should be used as the allowable tension or shear value for design.
3. Allowable steel strengths calculated in accordance with AISC Manual of Steel Construction: Tensile = $(F_y*A_{nom})/2.5$, Shear = $0.17*F_u*A_{nom}$
4. Values for bond strength of #7 rebar were linearly interpolated from #6 & #8 data.

TECHNICAL DATA

TABLE 7: Inject-TITE AW reduction factors for **EDGE DISTANCE** in **TENSION**[1,2]

Diameter	in.	3/8	1/2	5/8	3/4	7/8	1
Embedment Depth	in. (mm)	3 3/8 (86)	4 1/2 (114)	5 5/8 (143)	6 3/4 (171)	7 7/8 (200)	9 (229)
Critical Edge Distance	in. (mm)	4 1/2 (114)	5 7/8 (149)	7 3/8 (187)	8 7/8 (225)	10 1/4 (260)	11 3/4 (298)
Min. Edge Distance	in. (mm)	2 1/4 (57)	2 7/8 (73)	3 5/8 (92)	4 1/4 (108)	5 (127)	5 7/8 (149)
Edge Distance		Allowable Load Capacity Reduction Factor					
in.	(mm)						
2 1/4	(57.2)	0.63					
2 7/8	(73.0)	0.73	0.63				
3 5/8	(92.1)	0.86	0.72	0.63			
4	(101.6)	0.92	0.77	0.67			
4 1/4	(108.0)	0.96	0.80	0.69	0.63		
4 1/2	(114.3)	1.00	0.83	0.72	0.65		
5	(127.0)		0.89	0.77	0.69	0.63	
5 7/8	(149.2)		1.00	0.85	0.76	0.69	0.63
6 1/2	(165.1)			0.91	0.81	0.74	0.67
7 3/8	(187.3)			1.00	0.88	0.80	0.72
7 3/4	(196.9)				0.91	0.82	0.75
8 1/4	(209.6)				0.95	0.86	0.78
8 7/8	(225.4)				1.00	0.90	0.82
9 1/4	(235.0)					0.93	0.84
9 3/4	(247.7)					0.96	0.87
10 1/4	(260.4)					1.00	0.91
10 3/4	(273.1)						0.94
11 1/4	(285.8)						0.97
11 3/4	(298.5)						1.00

1. Minimum slab thickness equals 1.5 x embedment depth.
2. Linear interpolation may be used for intermediate edge distances.

TABLE 8: Inject-TITE AW reduction factors for **EDGE DISTANCE** in **SHEAR**[1,2]

Diameter	in.	3/8	1/2	5/8	3/4	7/8	1
Embedment Depth	in. (mm)	3 3/8 (86)	4 1/2 (114)	5 5/8 (143)	6 3/4 (171)	7 7/8 (200)	9 (229)
Critical Edge Distance	in. (mm)	3 3/4 (95)	5 (127)	6 1/4 (159)	7 1/2 (191)	8 3/4 (222)	10 (254)
Min. Edge Distance	in. (mm)	2 (51)	2 1/2 (64)	3 1/4 (83)	3 3/4 (95)	4 3/8 (111)	5 (127)
Edge Distance		Allowable Load Capacity Reduction Factor					
in.	(mm)						
2	(50.8)	0.25					
2 1/2	(63.5)	0.46	0.25				
2 3/4	(69.9)	0.57	0.33				
3 1/4	(82.6)	0.79	0.48	0.25			
3 1/2	(88.9)	0.89	0.55	0.31			
3 3/4	(95.3)	1.00	0.63	0.38	0.25		
4	(101.6)		0.70	0.44	0.30		
4 3/8	(111.1)		0.81	0.53	0.38	0.25	
4 3/4	(120.7)		0.93	0.63	0.45	0.31	
5	(127.0)		1.00	0.69	0.50	0.36	0.25
5 1/2	(139.7)			0.81	0.60	0.44	0.33
6	(152.4)			0.94	0.70	0.53	0.40
6 1/4	(158.8)			1.00	0.75	0.57	0.44
7	(177.8)				0.90	0.70	0.55
7 1/2	(190.5)				1.00	0.79	0.63
8	(203.2)					0.87	0.70
8 3/4	(222.3)					1.00	0.81
9 1/4	(235.0)						0.89
10	(254.0)						1.00

1. Minimum slab thickness equals 1.5 x embedment depth.
2. Linear interpolation may be used for intermediate edge distances.

TECHNICAL DATA

TABLE 9: Inject-TITE AW reduction factors for **SPACING** in **TENSION**[1,2]

Diameter	in.	3/8	1/2	5/8	3/4	7/8	1
Embedment Depth	in. (mm)	3 3/8 (86)	4 1/2 (114)	5 5/8 (143)	6 3/4 (171)	7 7/8 (200)	9 (229)
Critical Spacing Distance	in. (mm)	8 7/8 (225)	11 3/4 (298)	14 5/8 (371)	17 5/8 (448)	20 1/2 (521)	23 1/2 (597)
Min. Spacing Distance	in. (mm)	2 1/4 (57)	3 (76)	3 5/8 (92)	4 3/8 (111)	5 1/8 (130)	5 3/4 (146)
Spacing Distance		Allowable Load Capacity Reduction Factor					
in.	(mm)						
2 1/4	(57.2)	0.63					
3	(76.2)	0.67	0.63				
3 1/4	(82.6)	0.69	0.64				
3 5/8	(92.1)	0.71	0.66	0.63			
4	(101.6)	0.73	0.67	0.64			
4 3/8	(111.1)	0.75	0.69	0.66	0.63		
5 1/8	(130.2)	0.79	0.72	0.68	0.65	0.63	
5 3/4	(146.1)	0.83	0.75	0.70	0.67	0.65	0.63
6 3/4	(171.5)	0.88	0.79	0.74	0.70	0.67	0.65
7 3/4	(196.9)	0.94	0.83	0.77	0.72	0.69	0.67
8 7/8	(225.4)	1.00	0.88	0.81	0.76	0.72	0.70
10 1/4	(260.4)		0.94	0.85	0.79	0.75	0.72
11 3/4	(298.5)		1.00	0.90	0.84	0.79	0.76
13	(330.2)			0.95	0.87	0.82	0.78
14 5/8	(371.5)			1.00	0.92	0.86	0.82
16 1/4	(412.8)				0.96	0.90	0.85
17 5/8	(447.7)				1.00	0.93	0.88
19	(482.6)					0.96	0.91
20 1/2	(520.7)					1.00	0.94
22	(558.8)						0.97
23 1/2	(596.9)						1.00

1. Minimum slab thickness equals 1.5 x embedment depth.
2. Linear interpolation may be used for intermediate spacing distances.

For more information , please contact:

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