

## 1. Product Name

**Ultrabond 3** Epoxy Anchoring Gel

## 2. Manufacturer

Adhesives Technology Corp.  
450 East Copans Road  
Pompano Beach, FL 33064  
(800) 892-1880  
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## 3. Product Description

### GENERAL DESCRIPTION

**Ultrabond 3** Epoxy Anchoring Gel is a two component (1:1 ratio), 100% solids, high modulus, structural, epoxy gel. It is a solvent free, no odor, high strength, moisture insensitive, non-sag epoxy system. **Ultrabond 3** has exceptional strength, maximum field reliability, along with a high heat deflection temperature of 138 degree's Fahrenheit. The **Ultrabond 3** can be applied at temperatures ranging from 25° F. to 95° F. which provides engineers and contractors with a choice for specifying and setting adhesive anchors in low temperature environments. In addition, the **Ultrabond 3** can be loaded in as little as 1 hour (at 75° F.) which is ideal for applications that require minimum down times.

Quick Selection Guide	
Tension Load (1/2")	13,384 lbs. *
Working Time (75°)	5 min
Cure Time (75°)	1 hour
Temperature Range	25°F – 95°F

1/2" threaded rod at \*9D in 3,000 psi concrete.

\*9D is the embedment depth of the anchor (9 x 1/2"); in this example, a 1/2" threaded rod embedded 4-1/2" in 3,000 psi concrete.

### BASIC USE

Acceptable uses for the **Ultrabond 3** include rebar dowel and anchor installations where dynamic, vibratory or intermittent loads exist. **Ultrabond 3** has not been tested and is not for use in overhead applications. Typical applications include:

- Grouting dowel bars and tie bars for full-depth concrete pavement repairs
- Pick proof sealant – windows, doors, locks, etc. (e.g. correctional facilities)
- Capping paste for crack-injection

### COLOR

"A" Component (Resin): White  
"B" Component (Hardener): Black  
Mixed: Concrete Gray

SHELF LIFE: 24 Months

### SIZE/PACKAGING

Cartridge Sizes: **Ultrabond 3** is available in:

- 22 oz. cartridges; part number A22-3

The resin and hardener are uniformly dispensed from a dual cartridge system and mixed simultaneously through a mixing nozzle, providing contractors with a self mix delivery system.

Bulk Sizes: **Ultrabond 3** is NOT available in bulk sizes.

## 4. Technical Data

Miami-Dade County Product Control Approved: NOA 06-0111.05  
APPLICABLE STANDARDS  
American Society for Testing Materials (ASTM)  
Meets ASTM C881, Type I, II, IV, & V, Grade 3, Class A, B & C

Independent ASTM C881-99 Technical Data			
Properties	ASTM	35°	65°
Compressive Yield Strength – psi (7 day)	D695	10,028	10,110
Compressive Modulus – psi (7 day)	D695	199,388	200,987
Tensile Strength – psi (7 day)	D638	7,840	7,840
Elongation - % (7 day)	D638	1.4	1.6
Bond Strength – psi	C882	1,350 (2 day)	
Bond Strength – psi	C882	1,960 (14 day)	
Consistency	C881	Non-Sag Gel	
Heat Deflection Temperature - °F.	D648	138 (7 day)	
Water Absorption - %	D570	0.36 (24 hr.)	
Linear Coefficient of Shrinkage	D2566	0.002	

*Manufactured In The U.S.A. by Adhesives Technology Corp.*

### TENSION LOADS FOR THREADED RODS

Threaded Rod Diameter (in.)	Hole Diameter (in.)	Minimum Embedment Depth (in.)	f'c = 3000 psi		f'c = 5000 psi		f'c = 7000 psi	
			Ultimate Tension Load (lbs)	Allowable Tension Load (lbs)	Ultimate Tension Load (lbs)	Allowable Tension Load (lbs)	Ultimate Tension Load (lbs)	Allowable Tension Load (lbs)
3/8	1/2	3-3/8	10,900	2,725	10,900	2,725	10,740	2,685
1/2	5/8	4-1/2	13,384	3,346	14,332	3,583	18,680	4,670
5/8	3/4	5-5/8	21,692	5,423	23,364	5,841	31,192	7,798
3/4	7/8	6-3/4	30,000	7,500	32,396	8,099	40,356	10,089
7/8	1	7-7/8	39,940	9,985	42,972	10,473	46,192	11,548
1	1-1/8	9	49,880	12,470	53,544	13,386	58,096	14,524

Safety Factor "Allowable" equals 25% of Ultimate Load, 32% for steel

### SHEAR LOADS FOR THREADED RODS

Threaded Rod Diameter (in.)	Hole Diameter (in.)	Minimum Embedment Depth (in.)	f'c = 3000 psi		f'c = 5000 psi		f'c = 7000 psi	
			Ultimate Tension Load (lbs)	Allowable Tension Load (lbs)	Ultimate Tension Load (lbs)	Allowable Tension Load (lbs)	Ultimate Tension Load (lbs)	Allowable Tension Load (lbs)
3/8	1/2	3-3/8	7,312	1,828	7,144	1,786	7,144	1,786
1/2	5/8	4-1/2	8,316	2,079	13,452	3,363	13,452	3,363
5/8	3/4	5-5/8	16,344	4,086	16,936	4,234	19,764	4,941
3/4	7/8	6-3/4	24,376	6,094	23,468	5,867	28,096	7,024
7/8	1	7-7/8	32,344	8,086	31,820	7,955	36,428	9,107
1	1-1/8	9	40,312	10,078	40,316	10,079	45,236	11,309

Safety Factor "Allowable" equals 25% of Ultimate Load, 32% for steel

**22 oz Cartridge System**

**1:1 Ratio**



### ULTRABOND 3 Cure Schedule

Temperature		Working Time	Cure Time
°C	°F		
-3.9° C.	25° F.	> 15 minutes	24 hours
7.2° C.	45° F.	> 9 minutes	16 hours
18.3° C.	65° F.	6 minutes	6 hours
23.9° C.	75° F.	5 minutes	1 hour
26.7° C.	80° F.	4 minutes	1 hour
32.2° C.	90° F.	2 minutes	1 hour

### ESTIMATING / USAGE GUIDES

Rod Dia (in.)	Hole Dia (in.)	ULTRABOND 3 Usage Estimate Guide – 22 oz. Cartridge System – Threaded Rod Embedment Depth (in.)															
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
3/8	7/16	211.3	140.9	105.6	84.5	70.4	60.4	52.8	47.0	42.3	38.4	35.2	32.5	30.2	28.2	26.4	24.9
1/2	9/16	159.8	106.5	79.9	63.9	52.5	45.6	39.9	35.5	32.0	29.0	26.6	24.6	22.8	21.3	20.0	18.8
5/8	3/4	89.9	59.9	44.9	35.9	30.0	25.7	22.5	20.0	18.0	16.3	15.0	13.8	12.8	12.0	11.2	10.6
3/4	7/8	66.0	44.0	33.0	26.4	22.0	18.9	16.5	14.7	13.2	12.0	11.0	10.2	9.4	8.8	8.3	7.8
7/8	1	56.2	37.4	28.1	22.5	18.7	16.0	14.0	12.5	11.2	10.2	8.6	8.3	8.0	7.5	7.0	6.6
1	1-1/8	53.3	35.5	26.6	21.3	17.8	15.2	13.3	11.8	10.7	9.7	8.2	7.9	7.6	7.1	7.0	6.3
1-1/8	1-1/4	43.1	28.8	21.6	17.3	14.4	12.3	10.8	9.6	8.6	7.8	6.6	6.4	6.2	5.8	5.4	5.1
1-1/4	1-3/8	35.7	23.8	17.8	14.3	11.9	10.2	8.9	7.9	7.1	6.5	5.5	5.3	5.1	4.8	4.5	4.2

Rod Dia (in.)	Hole Dia (in.)	ULTRABOND 3 Usage Estimate Guide – 22 oz. Cartridge System – Deformed Bar Embedment Depth (in.)															
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
#3	7/16	264.1	176.1	132.1	105.6	88.0	75.5	66.0	58.7	52.8	48.0	44.0	40.6	37.7	35.2	33.0	31.1
#4	5/8	172.5	115.0	86.3	69.0	57.5	49.3	43.1	38.3	34.5	31.4	28.8	26.5	24.6	23.0	21.6	20.3
#5	3/4	119.8	79.9	59.9	47.9	39.9	34.2	30.0	26.6	24.0	21.8	20.0	18.4	17.1	16.0	15.0	14.1
#6	7/8	94.3	62.9	47.2	37.7	31.4	26.9	23.6	21.0	18.9	17.1	15.7	14.5	13.5	12.6	11.8	11.1
#7	1	84.3	56.2	42.1	33.7	28.1	24.1	21.1	18.7	16.9	15.3	14.0	13.0	12.0	11.2	10.5	9.9
#8	1-1/8	66.6	44.4	33.3	26.6	22.2	19.0	16.6	14.8	13.3	12.1	11.1	10.2	9.5	8.9	8.3	7.8
#9	1-1/4	53.9	35.9	27.0	21.6	18.0	15.4	13.5	12.0	10.8	9.8	9.0	8.3	7.7	7.2	6.7	6.3
#10	1-1/2	37.4	25.0	18.7	15.0	12.5	10.7	9.4	8.3	7.5	6.8	6.2	5.8	5.3	5.0	4.7	4.4
#11	1-5/8	31.9	21.3	16.0	12.8	10.6	9.1	8.0	7.1	6.4	5.8	5.3	4.9	4.6	4.3	4.0	3.8

Manufactured In The U.S.A. by Adhesives Technology Corp.

**Sample Specification** – Anchoring adhesive shall be a two component, 1:1 ratio, 100% solids epoxy system supplied in a two component side by side cartridge and dispensed through a static mixing nozzle supplied by the manufacturer. Epoxy must meet the requirements of ASTM C881 specification for Type I, II, IV, and V, Grade 3, Class A, B, & C. Epoxy must have a minimum heat deflection temperature of 138°F (59°C), per ASTM D648. Adhesive shall have a minimum ultimate tension load value of 13,384 lbs. when tested using 1/2" diameter threaded rod in a 5/8" diameter hole at a minimum embedment depth of 4-1/2" in 3000 psi normal weight concrete. Testing must be in accordance with ASTM E488. Adhesive shall be **Ultrabond 3** manufactured by Adhesives Technology Corp., Pompano Beach, FL.

## 5. Installation

Job site preparation and work flow – to achieve the desired results, carefully follow these procedures!

- Always be sure the holes are prepared in advance before starting a new cartridge. If at all possible, schedule dispensing to consume an entire cartridge at one time with no interruption of epoxy flow.

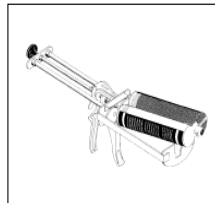
To achieve maximum flow and reduce fatigue, break off the nozzle to the largest diameter that will fit into the hole or screen. If the hole is 5/8" diameter or larger, snap off the smaller diameter section before using.



Most nozzles snap off to accommodate varying hole diameters and depths.

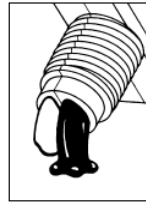
### Dual Cartridge Anchoring & Doweling – Hole Preparation and Cartridge Set up

**I.** Drill hole to proper diameter and depth. Blow out dust from the bottom of the hole. Brush the hole with a nylon brush. Blow out dust again. The hole should be clean of dust and debris.

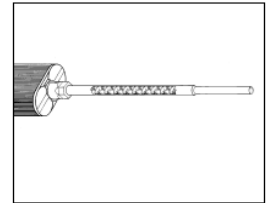


**II.** Insert cartridge into dispenser making sure it is properly positioned with shoulder of cartridge flush with top bracket of the dispenser.

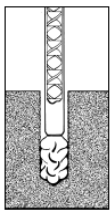
**III.** Remove plastic cap from the tip of the cartridge. Dispense a small amount of epoxy into a disposable container until you get an even flow of black and white material.



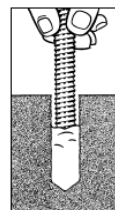
**IV.** Place nozzle onto cartridge and slide nut over nozzle and thread nut onto cartridge. No nut is necessary on mixers with built in nut. Make sure that the nozzle, nut and cartridge assembly is secure. Dispense enough epoxy into a disposable container until the color becomes a consistent gray with no streaks.



### Anchoring Into Concrete



**V.** Dispense the material from the bottom of the hole. Fill approximately 1/2 – 5/8 of the hole depth while slowly withdrawing the nozzle. Fill completely full for holes totally submerged in water.

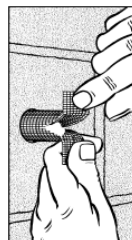


**VI.** Insert the threaded rod or rebar to the bottom of the hole while turning clockwise. The threaded rod or rebar should be free of dirt, grease, oil, or other foreign materials. Do not disturb or bolt-up until minimum bolt-up time has passed.

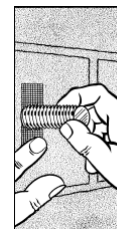
### Anchoring Into Hollow Block or Unreinforced Masonry (Repeat steps I through IV as shown above).



**V.** Insert the mixing nozzle into the bottom of the screen and completely fill while withdrawing the nozzle. Fill the screen completely all the way to the end to insure that the epoxy completely fills the screen from top to bottom when threaded rod is inserted.



**VI.** Insert the epoxy-filled screen into the hole.



**VII.** Insert the threaded rod or dowel to the bottom of the screen while turning clockwise. The threaded rod or rebar should be free of dirt, grease, oil or other foreign material. Do not disturb or bolt-up until minimum bolt-up time has passed.

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## BUILDING CODES

Installation of **Ultrabond 3** must comply with applicable local, state and national code requirements.

## SITE CONDITIONS

Material shall be delivered in original unopened containers and stored in a dry environment at a temperature between 40° and 95°F.

## PRECAUTIONS

- Wear safety glasses
- Avoid prolonged contact with skin.
- Keep out of reach of children
- Do not take internally
- If Ingested and conscious, give large quantities of water or milk. Do not induce vomiting. Call a physician
- Eye contact. Flush with water for at least 15 minutes. Call a physician

## 6. Availability and Cost

### AVAILABILITY

**Ultrabond 3** is available through select distributors who can provide you with all of your construction needs. Please contact Adhesives Technology Corp. at (800) 892-1880 for a distributor near you.

### COST

Cost information is available from you local distributor.

## 7. Warranty

All warranties of the product listed herein, in the corresponding ATC catalog, and in any other current literature, expressed or implied, including warranties of merchantability and fitness for a particular purpose are specifically and expressly excluded, with the following exception: At its sole discretion, ATC will repair or replace any product which it considers to be defective in material or workmanship, excepting normal wear and tear within sixty (60) days from the date of purchase from ATC. ATC shall not be liable for any injury, loss or damage, direct, indirect, incidental or consequential or arising out of use of, misuse of, negligence, accident or inability to use any ATC product.

## 8. Technical Services

For technical support contact Adhesives Technology Corp. at (800) 892-1880.

## 9. Maintenance

None required.

## 10. Filing System

Additional product information and specifications are available either on line at [www.atc.ws](http://www.atc.ws) or contact Adhesives Technology at (800) 892-1880 to get copies mailed to you.

Actual user performance and data may differ due to variations of base material, installation procedures and personnel, weather conditions and other factors. Adhesives Technology Corp. reserves the right to change specifications or information printed in this Tech Data Sheet without notice or liability for these changes. Adhesives Technology Corp. will not be liable for any claim based on the use of data or other information printed in this Tech Data Sheet.

# DISPENSING TIPS

### Always Balance your Cartridge

*This applies to all two part adhesives*



When dispensing epoxy, always balance the cartridge first. To balance the cartridge, dispense equal amounts of both the black and white material until you get an even flow. This is extremely important and must be done before attaching the mixing nozzle.

Balancing the cartridge helps assure that a uniform grey color with no streaks will be attained by the time the product reaches the tip of the nozzle.



Always dispense a small amount of epoxy off to the side before dispensing into the hole to examine the epoxy color. Do not dispense epoxy into the hole until a uniform color, free from streaks, is achieved.



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