



# FASTENAL®

FIRST IN FASTENERS

## FASTENAL®/UNITEX® PRO-POXY 300 FAST

FAST SETTING • NON-SAG INJECTABLE GEL • EPOXY ADHESIVE BINDER

300 ML X 300 ML CARTRIDGES

I.C.B.O. E.S. REPORT 5000 • CITY OF L.A. RR-25220 • VOC COMPLIANT

**DESCRIPTION**

- EXTREMELY FAST SETTING
- Multipurpose, 2 Component Parts
- 100% Solids, Solvent Free
- Moisture Insensitive Structural Epoxy Adhesive Resin

**USES**

- Grouts bolts, dowels, pins, vertical and overhead, where extremely rapid setting, fast turn around times are needed.
- Structural bonding of concrete, masonry, metals, wood, etc. to a recommended glue line of 1/8 inch.
- Seals cracks and around injection ports prior to pressure-injection grouting.
- Interior, exterior, vertical, and overhead repair of concrete as a super fast setting epoxy mortar binder.

**ADVANTAGES**

- Extremely fast setting and high early strength developing adhesive.
- Insensitive to moisture before, during, and after cure.
- High-modulus, high-strength, structural gel adhesive.
- Excellent adhesion to concrete, masonry, metals, wood, and most structural materials.
- Gel consistency ideal for vertical and overhead applications.
- Can be used at low temperature (will cure down to 40°F.)
- Easy to mix 1:1 ratio between components.

**COVERAGE**

1 standard cartridge yields 37 cubic inches of epoxy gel adhesive.  
 1 gal yields 231 cu. in. of epoxy gel adhesive.  
 1 gal of adhesive, when mixed with 1 gal by loose volume of oven-dried aggregate, yields 365 cu. in. of epoxy mortar.

SHELF LIFE: ..... One Year  
 CONSISTENCY: ..... Non-sag gel, approximately 700,000 cps.  
 POT LIFE (60 grams at 72°F.): ..... Approximately 5 to 10 minutes  
 APPEARANCE: ..... Compound A-White. . . . Compound B-Gray  
 STORAGE CONDITIONS: ..... Store at 40°-95°F.  
 Condition material to 60°-80°F. before using

**FASTENAL  
PART  
NUMBERS**

51960 Unitex 22 oz. Pro-Poxy 300 Fast  
 51961 Unitex Hand Tool

51962 Unitex Pneumatic Tool  
 51963 Unitex Static Mixers  
 51964 Unitex Retaining Nut



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**FASTENAL®/UNITEX® PRO-POXY 300 FAST**

**FAST SETTING • NON-SAG INJECTABLE GEL • EPOXY ADHESIVE BINDER**

**300 ML X 300 ML CARTRIDGES**

I.C.B.O. E.S. REPORT #5000 • CITY OF L.A. RR-25220 • VOC COMPLIANT • USDA

LABORATORY TESTS		RESULTS	SPECIFICATIONS	
C-881	Consistency	0 (no flow)	0 (no flow)	
C-881	Gel Time	7 Minutes	5 Minutes <sup>1, 4</sup>	Minimum
C-882	Bond Strength (2 day cure)	2,934 PSI	1,000 PSI <sup>1, 4</sup>	Minimum
C-882	Bond Strength (14 day cure)	3,050 PSI	1,500 PSI <sup>4</sup>	Minimum
D-570	Absorption	0.84%	1.0% <sup>1, 4</sup>	Maximum
D-648	Heat Deflection Temperature	126.3°F	120°F <sup>4</sup>	Minimum
D-2566	Linear Coefficient of Shrinkage	0.0009	0.005 <sup>1, 4</sup>	Maximum
D-695	Compressive Strength	10,880 PSI	8,000 PSI <sup>1</sup> 10,000 PSI <sup>4</sup>	Minimum
D-695	Compressive Modulus	530,130 PSI	150,000 PSI <sup>1</sup> 200,000 PSI <sup>4</sup>	Minimum
D-638	% Elongation at Break	1.0%	1.0% <sup>1, 4</sup>	Minimum

<sup>1</sup> — ASTM C-881 Type I

<sup>4</sup> — ASTM C-881 Type IV

## DIRECTIONS FOR PRO-POXY 300 FAST CARTRIDGE USE

1. Read and understand all literature and safety warnings.
2. For use between 40°F. and 100°F. Slowly precondition material to approximately 70°F. for easier gunning in cold weather and proper consistency in warmer weather.
3. Remove end plugs from cartridge. Save plugs if entire cartridge is not to be used.
4. Slide retaining nut over static mixer. Secure static mixer to cartridge by screwing retaining nut onto cartridge. Static mixer tip may be cut off to third notch for easier gunning.
5. Place assembled cartridge into approved pneumatic or hand gun for use.
6. Extrude material until a uniform color is achieved.
7. Dispense under a constant uniform pressure. If dispensing is altered, establish a uniform color prior to continuing.
8. When using a manual dispensing gun, release pressure from gun by pressing thumb button at every pause in dispensing, otherwise reestablish uniform color prior to continuing.
9. Unused epoxy may be saved for next job by removing static mixer and reinserting plugs. Epoxy in static mixer will harden; a new static mixer will then be required.
10. If plugs get lost and the cartridge is not empty, the static mixer can be left in place until the next use. Before reusing, be sure to replace the static mixer. You may use the same retaining nut.

## FASTENAL PART NUMBERS

51960 Unitex 22 oz. Pro-Poxy 300 Fast  
51961 Unitex Hand Tool

51962 Unitex Pneumatic Tool  
51963 Unitex Static Mixers

51964 Unitex Retaining Nut



# GARCO TESTING LABORATORIES

532 West 3560 South  
Salt Lake City, Utah 84115  
Phone 266-4498

5826 South 1900 West  
Roy, Utah 84067  
Phone 776-5355

5071 So Arville  
Las Vegas, Nevada 89115  
Phone (702) 364-8031

April 22, 1992

APR 27 1992

John Grissinger Jr  
Unitex  
3101 Gardner Ave  
Kansas City Mo 64120

Re: Pull-Out Test performed on your Fast Set, High Viscosity  
Epoxy labeled MO D.O.T. - A&B Pro-poxy 300 Fast

Sample I.D.: D-92-1Q-A & D-92-1Q-B  
Lab #45711

Dear John,

Garco Testing performed a pull-out test in accordance with the test method MHTD T-49-2-90 on the material you submitted April 14, 1992. The date of manufacture is 4-10-92. The performance data is listed below.

	<u>Sample #1</u>	<u>Sample #2</u>	<u>Average</u>
Total Load at Failure	19488	23500	21494
Specification Total Load			6000
Effective Load per Linear Inch	2165	2611	2388 lb/in
	lb/in	lb/in	
Cure Time	2 hrs	2 hrs	2 hrs
Concrete Strength			6000 +

Reinforcing Steel: #8 grade 60 Epoxy Coated.  
Ratio of Components: 1 - 1

Test Specimen Preparation: Hydrowash with 24 hours air dry.

- #1 Failure occurred within concrete cylinder.
- #2 Failure occurred at the epoxy/concrete interface.

If you have any questions please do not hesitate to call.

Sincerely,  
*Doug Watson*  
Doug Watson  
General Manager

GARCO TESTING LABORATORIES

Garco Lab Reports #66163, #66162 & #50154

**PRO-POXY 300 FAST**  
**ASTM C-881**  
**TYPES I, GRADE 3**  
**CLASSES B & C**

LABORATORY TESTS	RESULTS	SPECIFICATIONS	
D-695 Modulus of Elasticity	530,130 PSI	150,000 PSI	Minimum
D-695 Compressive Strength	10,880 PSI	8,000 PSI	Minimum
C-882 Bond Strength (2 day cure)	2,934 PSI	1,000 PSI	Minimum
D-638 % Elongation at Break	1.0%	1.0%	Minimum
D-570 Absorption	0.84%	1.0%	Maximum
C-881 Gel Time	7 Minutes		
C-881 Consistency	0 (no flow)		
D-2566 Linear Coefficient of Shrinkage	.0009	.005	Maximum

05/18/04

## MATERIAL SAFETY DATA SHEET

Complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200

**IDENTITY** As Used on Label and List:**FASTENAL PRO-POXY 300 FAST****SECTION I**

Manufacturer's Name:	UNITEX 3101 Gardner Kansas City, MO 64120	Emergency Telephone No.:	800-424-9300
		Telephone No.:	816-231-7700
		Date Prepared:	01-28-94

**Section II-Hazardous Ingredients/Identity Information:**

PRODUCT CLASS:	Epoxy		
FORMULATION IDENTIFICATION:	Adhesive		
OSHA PEL:	Not Established	ACGIH TLV:	Not Established

**COMPONENT A:** Contains hazardous material as defined by OSHA (1910.1200).  
Identity withheld as trade secret. Material is a sensitizer. Does not contain reportable quantities of any substance listed under SARA Title III Section 313.

**COMPONENT B:** Contains amines which are hazardous materials as defined by OSHA (1910.1200).  
Identity withheld as a trade secret. Material is corrosive. Can cause severe burns if used improperly, can cause allergic reactions. Does not contain reportable quantities of any substance listed under SARA Title III Section 313.

**TRANSPORTATION INFORMATION: DOT classification:** ALKYLAMINES, n.o.s., (aminopropyldiethanolamine)  
CORROSIVE LIQUID  
IDENTIFICATION # UN 2735  
HAZARD CLASS 8  
PACKAGING GROUP III  
PLACARDS REQUIRED WHEN SHIPPING 1,000 POUNDS OR MORE

**SECTION III - Physical/Chemical Characteristics:**

Bolling Point:	A: N/E	Specific Gravity:	A: 1.18
	B: N/E		B: 1.845
Vapor Pressure (mm Hg):	N/E	Melting Point:	A: N/E
			B: N/E
Vapor Density (Air = 1):	A: > 1	Evaporation Rate (ETHER = 1)	A: > 1
	B: > 1		B: > 1
Solubility in Water:	Insoluble		
Appearance and Odor:	A: White gel, mild odor.	B: Gray gel, strong odor.	

**SECTION IV - Fire and Explosion Hazard Data:**

Flash Point (Method Used):	A: > 200°F.		
	B: > 200°F.		
Flammable Limits:	LEL: N/A	UEL: N/A	
Extinguishing Media:	Foam, CO2, Water Fog		
Special Fire Fighting Procedures:	None		
Unusual Fire and Explosion Hazards:	None. Avoid breathing Smoke.		

**SECTION V - Reactivity Data:**

Stability:	Stable	Conditions to Avoid:	None
Incompatibility (Materials to Avoid):	Strong Oxidizers, Strong Bases		
Hazardous Decomposition or Byproducts:	CO, CO2, NOX		
Hazardous Polymerization:	None	Conditions to Avoid:	Fires when curing.



# ICBO Evaluation Service, Inc.

5360 WORKMAN MILL ROAD • WHITTIER, CALIFORNIA 90601-2299

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## EVALUATION REPORT

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Report No. 500K  
Issued February 1, 1991

Filing Category: FASTENERS—Concrete and Masonry Anchors (086)

### PRO-POXY 300 FAST EPOXY ADHESIVE ANCHORS

UNITEX  
3101 GARDNER  
KANSAS CITY, MISSOURI 64120

#### I. Subject: Pro-Poxy 300 Fast Epoxy Adhesive Anchors.

ii. Description: A. General: Pro-Poxy 300 Fast Adhesive is an epoxy adhesive for anchoring threaded steel rod in normal-weight concrete. The adhesive is a two-component adhesive supplied in dual, side-by-side cartridges separating the resin from the hardener which are combined in a 1:1 ratio when dispensed through a static mixing nozzle. The anchors are used to resist wind and seismic loads only. Allowable tension and shear values are tabulated for various threaded rod sizes in Tables 1 and 2.

B. Materials: 1. Adhesive: Pro-Poxy 300 Fast Adhesive has a shelf life of two years in original unopened containers and is to be stored at temperatures between 40°F. and 85°F.

2. Anchor Bolt: All threaded rods are manufactured from steel conforming to ASTM A 307, ASTM A 193, Grade B7 or SS 304.

3. Concrete: Normal-weight concrete having the minimum compressive strengths as noted in Tables 1 and 2.

C. Installation: A hole is drilled into the concrete with a drill bit complying with ANSI Standard B94. 12-1977. The hole is cleaned of dust and debris using a nylon brush and compressed air. The hole diameter, depth, spacing and concrete edge distance must comply with Tables 1 and 2. Before inserting into the hole, the adhesive is dispensed from the static mixing nozzle until a uniform grey material is achieved. Holes are filled approximately one-half with the mixed adhesive. The threaded rod which is free of oil, rust and scale is inserted into the hole and turned slightly to ensure complete coverage of the rod surface while pushing the anchor to the bottom of the hole. The installed rod is left undisturbed for the minimum curing time period shown in Table 4.

D. Restrictions: 1. Anchor Limitations: Adhesive anchor performance is temperature sensitive and allowable loads must be reduced by the percentages shown in Figure 1. Additionally, anchors cannot be used to resist

pullout forces in overhead and wall installations unless proper consideration is given to fire.

2. Special Inspection: Adhesive anchor installations require special inspection in accordance with Section 1701 of the code. The special inspector records hole diameter, cleanliness of the hole and dowel, adhesive application, adhesive expiration date, rod diameter, steel grade, rod embedment and cure period.

E. Identification: The adhesive packaging bears the product name, and name and address of UNITEX.

III. Evidence Submitted: Reports of tensile and shear load tests and descriptive information.

### Findings

IV. Findings: That the Pro-Poxy 300 Fast Epoxy Adhesive Anchors comply with the 1994 *Uniform Building Code*, subject to the following conditions:

1. The anchors are used to resist wind and seismic loads only. Maximum allowable tension and shear loads comply with Tables 1 and 2.
2. Carbide-tipped masonry drill bits that are within the range of maximum and minimum drill tip dimensions of ANSI Standard B94.12-1977 are used to drill the holes in concrete substrates.
3. The ratio of actual shear to allowable shear plus the ratio of actual tension to allowable tension is less than or equal to one for anchors subject to combined shear and tension forces.
4. Anchor installation is done under special inspection in accordance with Section II D 2 of this report and Section 1701 of the code.
5. Anchors are not used to support fire-resistive construction or to resist pullout forces in ceiling or wall installations.
6. Anchors are not subjected to vibratory or shock loads such as supports for reciprocating engines or crane rails.

This report is subject to re-examination in one year.

Evaluation reports of ICBO Evaluation Service, Inc., are issued solely to provide information to Class A members of ICBO, utilizing the code upon which the report is based. Evaluation reports are not to be construed as representing aesthetics or any other attributes not specifically addressed nor as an endorsement or recommendation for use of the subject report.

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**TABLE 1—ALLOWABLE TENSION LOADS BASED ON BOND STRENGTH FOR THREADED ROD INSTALLED IN NORMAL-WEIGHT CONCRETE USING UNITEX PRO-POXY 300 FAST (pounds)<sup>1,2,3,4</sup>**

STUD DIAMETER (inches)	DRILL BIT DIAMETER (inches)	MINIMUM EMBEDMENT DEPTH (inches)	MINIMUM SPACING (inches)	MINIMUM EDGE DISTANCE (inches)	CONCRETE COMPRESSIVE STRENGTH (psi)				
					3,000	4,000	4,500	5,000	5,500
1/4	1/2	3 3/4	5 1/4	3 1/2	1,815	1,810	1,810	1,805	1,805
3/8	1/2	5 1/4	7 1/2	5	5,635	5,660	5,680	5,700	5,725
1	1 1/4	10 1/4	15	10	10,980	11,075	11,170	11,260	11,355

The allowable load shall be the lesser of the anchor bond strength from this table and steel strength from Table 3.  
 The anchors experience a reduction in tensile capacity with increased concrete temperatures. The load factors in Figure 1 must be applied to the values noted in this table when anchors are installed in locations having concrete temperatures that may exceed 72°F.  
 The tabulated values are for anchors installed in normal-weight concrete having the designated compressive strength at the time of anchor installation.  
 The tabulated values are for anchors installed at the specified spacing and edge distances. Spacing and edge distance may be reduced to 50 percent provided the allowable load value is reduced 50 percent. Linear interpolation may be used for intermediate spacings.

**TABLE 2—ALLOWABLE SHEAR LOADS FOR THREADED ROD INSTALLED IN NORMAL-WEIGHT CONCRETE USING UNITEX PRO-POXY 300 FAST (pounds)<sup>1,2,3,4</sup>**

STUD DIAMETER (inches)	DRILL BIT DIAMETER (inches)	MINIMUM EMBEDMENT DEPTH (inches)	MINIMUM SPACING (inches)	MINIMUM EDGE DISTANCE (inches)	CONCRETE COMPRESSIVE STRENGTH (psi)				
					3,000	4,000	4,500	5,000	5,500
1/4	1/2	3 1/2	5 1/4	3 1/2	1,300	1,320	1,345	1,370	1,390
3/8	1/2	5 1/4	7 1/2	5	3,375	3,410	3,440	3,470	3,505
1	1 1/4	10 1/4	15	10	6,670	6,745	6,815	6,890	6,960

The allowable load shall be the lesser of the anchor bond strength from this table and steel strength from Table 3.  
 The anchors experience a reduction in shear capacity with increased concrete temperatures. The load factors in Figure 1 must be applied to the values noted in this table when anchors are installed in locations having concrete temperatures that may exceed 72°F.  
 The tabulated values are for anchors installed in normal-weight concrete having the designated compressive strength at the time of anchor installation.  
 The tabulated values are for anchors installed at the specified spacing and edge distances. Spacing and edge distance may be reduced to 50 percent provided the allowable load value is reduced 50 percent. Linear interpolation may be used for intermediate spacings.

**TABLE 3—THREADED STEEL ROD ALLOWABLE LOADS BASED ON STEEL STRENGTH (pounds)<sup>1</sup>**

ROD DIAMETER (inches)	TENSION			SHEAR		
	ASTM A 307	ASTM A 193 Grade B7	A5304	ASTM A 307	ASTM A 193 Grade B7	A5304
1/4	1,550	3,410	1,240	775	1,705	775
3/8	4,520	9,945	3,615	2,260	4,970	2,260
1	12,115	26,665	9,690	6,060	13,325	6,060

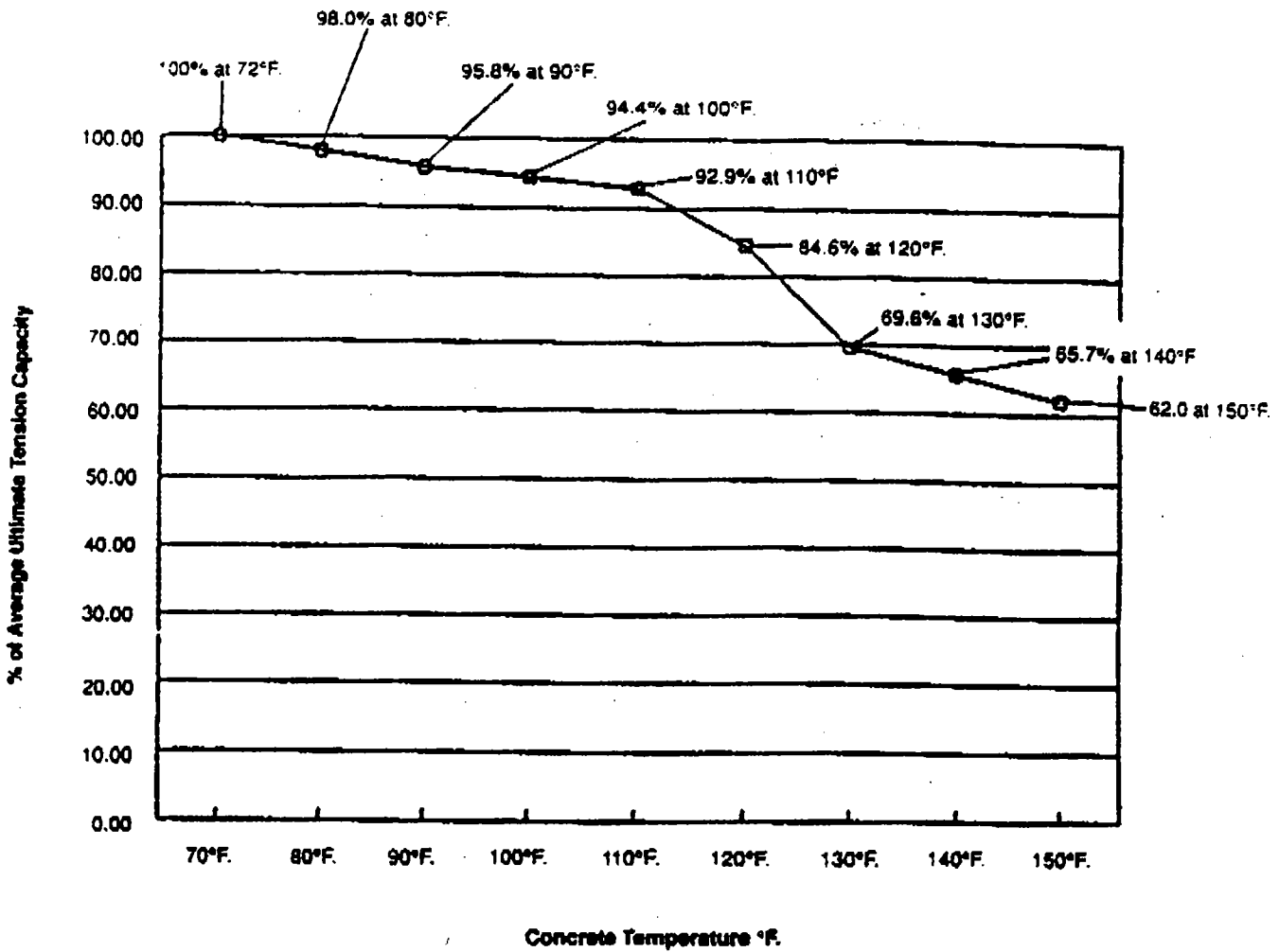
Allowable load must be the lesser of the bond or steel strength.

**TABLE 4—CURE TIMES FOR PRO-POXY 300 FAST ADHESIVE ANCHORS<sup>1</sup>**

SUBSTRATE TEMPERATURE (°F)	CURE TIME (hours)	MINIMUM CURE TIME (hours)
40-60	48	24
61-70	24	8
71-80	24	2.5
81-100	24	2
Over 100	24	1.5

Cure time is the time required before the epoxy reaches ultimate strength. Minimum cure time is the minimum time required before the design or allowable load may be applied. The anchors are not recommended for installation in a substrate colder than 40°F.

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NOTE: The temperatures given above were measured in the concrete surrounding the Pro-Poxy 300 Fast. The temperature in the concrete should not be mistaken for the ambient air temperature.

FIGURE 1—CONCRETE TEMPERATURE SENSITIVITY LOAD FACTOR FOR PRO-POXY 300 FAST  
Influence of Temperature on Tensile Load