

# LIQUID ROC® 500+ SINGLE

## AVAILABLE MATERIALS

- Amine base epoxy
- Square cut rods - A307 steel, zinc plated. Other sizes, materials and finishes available upon request

## FEATURES/ADVANTAGES

- Nozzle included
- Specifically formulated to reduce toxicity
- Pre-measured epoxy dispenses with standard caulk gun
- Non-shrink epoxy is environmentally friendly
- Excellent chemical resistance once cured
- Meets ASTM C881 standard (modified for gel time)
- This product is suitable for long term loading at room temperature or below. It is not intended for use overhead or in applications where elevated temperatures occur

## CONCERNS

- Do not use below 40° F
- 24 month shelf life

## APPROVALS/LISTINGS

- Contact customer service for approvals/listings for state D.O.T.'s
- ASTM C881, Type I and IV, Grade 3, Class B and C



## ORDER DETAIL

LR 500+ Order Code	Square Cut Rod Order Code	Rod Box Quantity	Rod Master Quantity
	3106032	10	50
	3106048	10	20
	3108032	10	50
	3108048	10	20
7800008 8.5 fl. oz. w/nozzle 12/Box	3110032	10	50
	3110048	10	20
	3112032	10	50
	3112048	10	20
	*	-	-
	*	-	-

\*Special Made to Order

## CURE TIME

Concrete Temperature	Time
Over 80°F.	6 hrs
60° to 80°F.	12 hrs
40° to 60°F.	24 hrs

## ACCESSORIES

**7500100**  
Caulking Gun



**7521025**  
Replacement Nozzle for 8.5 oz. Single Tube



## LOAD AND PERFORMANCE DATA (LIQUID ROC 500+ SINGLE & TWIN TUBE)

Anchor Size	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"							
Effective emb.	2 3/8"	7 1/2"	2 3/4"	10"	3 1/8"	12 1/2"	3 1/2"	15"	3 1/2"	17 1/2"	4"	20"	5"	25"
Characteristic Tension - Cracked														
2500 psi	681 lbs	2,151 lbs	1,023 lbs	3,722 lbs	1,511 lbs	6,045 lbs	1,810 lbs	7,759 lbs	1,892 lbs	9,461 lbs	2,212 lbs	11,061 lbs	3,211 lbs	16,057 lbs
4000 psi	724 lbs	2,286 lbs	1,088 lbs	3,956 lbs	1,606 lbs	6,426 lbs	1,925 lbs	8,248 lbs	2,011 lbs	10,057 lbs	2,352 lbs	11,758 lbs	3,414 lbs	17,069 lbs
Characteristic Tension - Uncracked														
2500 psi	1,622 lbs	5,121 lbs	2,438 lbs	8,865 lbs	3,597 lbs	14,387 lbs	4,310 lbs	18,473 lbs	4,513 lbs	22,567 lbs	5,272 lbs	26,361 lbs	7,665 lbs	38,326 lbs
4000 psi	1,724 lbs	5,443 lbs	2,591 lbs	9,423 lbs	3,823 lbs	15,293 lbs	4,582 lbs	19,637 lbs	4,798 lbs	23,989 lbs	5,604 lbs	28,022 lbs	8,148 lbs	40,741 lbs
Characteristic Shear														
Effective emb.	3 1/2"	4 1/2"	5"	6 1/2"	8"	10"	11"							
2500 psi	3,530 lbs	6,107 lbs	8,266 lbs	11,823 lbs	15,526 lbs	20,169 lbs	26,350 lbs							
4000 psi	3,752 lbs	6,492 lbs	8,787 lbs	12,568 lbs	16,504 lbs	21,440 lbs	28,010 lbs							

1) The above loads are based on a temperature range of max short term 122°F & max long term 95°F, hammer drilled holes that are dry, supplemental reinforcement present and for a single anchor design. No reductions have been taken for edge distance or anchor spacing. Verify that strength of the steel used is capable of supporting the desired load for each application.

## INSTALLATION

- 1 Drill and clean hole to recommended diameter and depth. Excess water must be removed although hole may be damp.
- 2 Remove cap and divider plugs.
- 3 Screw on static mixing nozzle.
- 4 Insert into a standard caulk gun.
- 5 Dispense and discard a bead of material to display proper mix (indicated by uniform color change) before use.
- 6 Dispense adhesive into hole, filling from the bottom up.
- 7 Insert anchor rod into hole with a slight twisting motion.

**ADHESIVE VOLUME ESTIMATING GUIDE**

Type Package	Liquid Roc 200 Single Tube	Liquid Roc 200 Twin Tube	Liquid Roc 300 Pouch	Liquid Roc 300 Twin Tube	Liquid Roc 500+ Single Tube	Liquid Roc 500+ Twin Tube	VME Twin Tube	VMZ Internal Thread Injection System	Liquid Roc 700+ Single Tube	Liquid Roc 700+ Twin Tube
Net Contents	10 fl. oz.	28 fl. oz.	5.5 fl. oz.	28 fl. oz.	8.5 fl. oz.	22 fl. oz.	13oz.	20 oz.	10 fl. oz.	28 fl. oz.
Useable Vol.	15 cu. in.	45 cu. in.	10 cu. in.	45 cu. in.	13 cu. in.	34 cu. in.	20 cu. in.	31 u. in.	15 cu. in.	45 cu. in.
Rod Diameter	Linear inches of embedment into solid base material									
3/8"	63	133	105	312	91	237	140	215	63	133
1/2"	45	95	75	225	65	169	100	153	45	95
5/8"	35	73	38	172	50	130	76	118	35	73
3/4"	28	58	30	137	40	104	61	94	28	58
7/8"	23	49	25	115	33	87	51	79	23	49
1"	19	40	21	92	27	71	42	64	19	40
1-1/4"	14	30	16	71	20	54	32	49	14	30
Rod Diameter	Linear inches of embedment using screens into hollow base material									
3/8"	-	-	-	296	-	-	-	-	-	-
1/2"	-	-	-	172	-	-	-	-	-	-
5/8"	-	-	-	112	-	-	-	-	-	-
3/4"	-	-	-	62	-	-	-	-	-	-

**ENGINEERING DATA**

**HOW TO SPECIFY**

- 1 Select anchor diameter based on loading requirements.
- 2 Determine thickness of material to be anchored (if grout or shimming is to be used between material and concrete surface, add thickness of grout/shims to thickness of material to obtain total thickness of material to be anchored.)
- 3 Select anchor length that will satisfy total thickness of material, head clearance and embedment of anchor diameter selected.

**SPECIFICATIONS, LIQUID ROC 200, 300, 500+, 700+**

B Nominal Diameter (in.)						
Bolt Size (in.)	Capsule or Pouch	Single or Twin Tube	E - Min Embedment (in.)	S - Anchor Spacing (in.)	M - Edge Distance (in.)	T - Maximum Tightening Torque (ft. lbs.)
3/8"	7/16"	1/2"	3-1/2"	3-1/2"	3-1/2"	13
1/2"	9/16"	5/8"	4-1/2"	4-1/2"	4-1/2"	22
5/8"	11/16"	3/4"	5-1/2"	5-1/2"	5-1/2"	55
3/4"	7/8"	7/8"	6-1/2"	6-1/2"	6-1/2"	106
7/8"	1"	1"	8"	8"	8"	135
1"	1-1/8"	1-1/8"	9"	9"	9"	184

**REDUCTION FACTORS**

Tension		Shear		
Spacing (S) and Edge Dist. (M)	Factor (F)	Spacing (S) and Edge Dist. (M)	Direction of load	Factor (F)
S min. = 0.50S	0.7	S min. = 0.50S	toward edge	0.6
			not toward edge	1.0
M min. = 0.50M	0.7	M min. = 0.50M	toward edge	0.4
			not toward edge	0.5

**GENERAL SPECIFICATIONS**

Adhesive resin anchor shall be (polyester) (epoxy) (acrylic) as manufactured by MKT Fastening, LLC, #1 Gunnebo Dr., Lonoke, AR 72086

**INSTALLATION**

Adhesive resin anchors shall be installed in holes drilled with carbide tipped bits conforming to ANSI specification B212.15-94. Minimum installation depth and hole preparation shall be as recommended by manufacturer.

**LIQUID ROC 300 CAPSULE ANCHORS**

Anchor Diameter	Hole Diameter	Embedment Depth	Capsules Required
3/8"	7/16"	3-1/2"	(1) 3/8"
3/8"	7/16"	5-1/4"	(2) 3/8"
3/8"	7/16"	7"	(2) 3/8"
1/2"	9/16"	4-1/2"	(1) 1/2"
1/2"	9/16"	6-3/4"	(1) 3/8" & (1) 1/2"
1/2"	9/16"	9"	(2) 1/2"
5/8"	11/16"	5"	(1) 5/8"
5/8"	11/16"	7-1/2"	(1) 1/2" & (1) 5/8"
5/8"	11/16"	10"	(2) 5/8"
3/4"	7/8"	6-1/2"	(1) 3/4"
3/4"	7/8"	9-3/4"	(1) 5/8" & (1) 3/4"
3/4"	7/8"	13"	(2) 3/4"
7/8"	1"	7-1/2"	(1) 7/8"
7/8"	1"	11-1/4"	(2) 3/4"
7/8"	1"	15"	(2) 7/8"
1"	1-1/8"	8-1/2"	(1) 1"
1"	1-1/8"	12-3/4"	(1) 3/4" & (1) 1"
1"	1-1/8"	17"	(2) 1"
1-1/4"	1-3/8"	7-1/4"	(2) 3/4"
1-1/4"	1-3/8"	11"	(1) 3/4" & (1) 1"

**FOR REDUCED SPACING AND EDGE DISTANCES**

- 1 Linear interpolation is allowed for edge distances falling between 0.50M and 1.00M, and anchor spacing falling between 0.50S and 1.00S.
- 2 Load reduction factors should be combined where applicable. Where three or more anchors are used, spacing reduction factors must be multiplied together. Where two or more edge distances affect performance, edge reduction factors must be multiplied together. When a group of anchors is affected by both reduced spacing and reduced edge distances, the edge and spacing reduction factors must be multiplied together.

