

**MMA Polymer Concrete Patching Material**

**T-17**

T-17 is a 100% reactive, rapid setting, solvent-free methyl methacrylate (MMA) polymer concrete system that can be used as a repair for partial or full depth patching, overlays, grouting, and structural repairs. This system is to be used on horizontal concrete surfaces, on grade, above and below grade, and can be pumped.

The polymer concrete consists of a two-component system. The T-17 liquid component consists of a solvent free 100% reactive, low viscosity methyl methacrylate (MMA). The T-17 powder component consists of a prepackaged blend of sand, inert fillers, polymers, and initiators. The material can be applied at a minimum ½” thickness. For deeper patching, the T-17 should be extended with a special aggregate.

**Application Procedure**

Surface Preparation: All surfaces that are to receive T-17 must be thoroughly clean and free of all dirt, grease, rust, and other contaminants that might interfere with the proper adhesion of the polymer concrete. All damaged or deteriorated concrete shall be removed using jackhammers or any other means and cut back to sound concrete. All surfaces must be thoroughly shot-blasted or sandblasted prior to applying T-17.

Priming: Priming is done with T-41s MMA primer using either rollers or brushes at a rate of approximately 100 square feet per gallon. The primer resin is mixed with an appropriate amount of curing agent (BPO) as shown in the table below. The primer coat must be allowed to cure tack-free before application of the patch material.

**Table 1: Mixing Instructions for T-41s Primer**

Ambient Temperature	No. of 30 gm. Bags of BPO Per Gallon of T-41s Liquid
14 °F – 35 °F	6
36 °F – 55 °F	5
56 °F – 75 °F	4
76 °F – 104 °F	3

Mixing: For small batches, the material can be mixed in a polyethylene bag that is available upon request. This is done by adding a pre-measured amount of liquid component to the bag, twisting the top with both hands so as to leave a small air space above the material, holding the bag closed with one hand and using the other to agitate the components in the bag until completely mixed. After powder and liquid are mixed, additional aggregate should be added and repeat mixing procedure.

For larger mixing, a rotary drum mortar mixer may be used. The inside of the mixer should be clean and dry. Add appropriate amount of Transpo T-17 liquid to the mixer and

the Transpo T-17 powder component, and mix until uniform consistency. Next, add the additional coarse aggregate and re-mix for another minute. The amount of aggregate and resin added per bag of Transpo T-17 powder depends on the depth of the patch. Refer to Table #2:

**Table 2: Mixing Instructions for T-17 (per 50 lb. bag of T-17 powder)**

Depth of Patch	Amt. of Extn.	Agg. Size (in.)	Agg. Amt. (lb)	T-17 Liq. (quarts)	Yield (ft <sup>3</sup> )
2" and above	100%	¾" x 3/8"	1 bag (50 lbs)	3.5 (0.875 gallon)	0.72
½" – 2"	50%	3/8" x 3/16"	1/2 bag (25 lbs)	3 (0.75 gallon)	0.56
Less than ½"	0%	---	---	2.5 (0.625 gallon)	0.40

**Finishing**

Standard concrete finishing tools can be used to place and finish T-17 polymer concrete. Steel trowels, floats, or screeds can be used to obtain a “closed” surface. Do not overwork the materials. Tinning or Broom Finishing is not recommended.

**Packaging**

The standard packaging for Transpo T-17 consists of a powder component, coarse aggregate, and a liquid component in the following sizes:

Powder: Available in 50 lb. Bags

Aggregate: Available in 50 lb. Bags

Liquid:

<b>T-17 Liquid</b>	55 Gallon Drum	5 Gallon Pail
Gross Weight (lbs.)	457	42.6
Net Weight (lbs.)	420	38
Nominal Volume (gal.)	54.1	4.9
<b>T-41s Primer</b>		
Gross Weight (lbs.)	437	42.6
Net Weight (lbs.)	400	38.0
Nominal Volume (gal.)	51.4	4.65

**Storage**

The liquid and powder components can be stored for up to 12 months in original, unopened containers in a cool, dry area at temperatures less than 90 °F and greater than 35 °F.

## Properties\*

Property	Unit of Measure	Test
<b>T-41s Primer/Sealer</b>		
Viscosity	40 - 60 cps (mpa-S)	Brookfield
Density	8.16 lbs/gal (0.98 gms/ml)	ASTM D2849
Pot Life (@ 70 °F)	8 - 15 min	AASHTO T237
Flash Point	>49 °F (>9.5 °C)	ASTM D1310
Solids Content (w/catalyst)	100%	ASTM D1644
<b>T-17 Resin</b>		
Viscosity	10-12 cps (mpa-S)	Brookfield
Density	7.63 lbs/gal (0.91 gms/ml)	ASTM D2849
Pot Life (@ 70 °F)	24 min	AASHTO T237
Flash Point	>58 °F (>15 °C)	ASTM D1310
Solids Content (w/catalyst)	100%	ASTM D1644
<b>T-17 Mortar (No Extension)</b>		
Compressive Strength	8000 - 9000 psi (55-62 MPa)	ASTM C109
Flexural Strength	2000 - 2500 psi (13-17 MPa)	ASTM D790
Linear Shrinkage	<0.2%	DuPont
Tensile Strength	1000-1200 psi (6.90-8.25 MPa)	ASTM C307
Compression Modulus	1.1-1.2 x 10 <sup>6</sup> psi (7.50-8.50 GPa)	ASTM D638
Tensile Adhesion (pull-off concrete)	>250 psi (>1.7 MPa)	ACI 503R

\* To be used as general guidelines only

## Caution

The uncured liquid component is flammable. All appropriate precautions should be taken. After curing, it will not support combustion. It is recommended that all persons involved in mixing and application wear protective clothing such as goggles, rubber boots, rubber gloves. As with all chemicals, read MSDS prior to use.

## Warranty

The following warranty is made in lieu of all other warranties, either expressed or implied. This product is manufactured of selected raw materials by skilled technicians. Neither seller nor manufacturer has any knowledge or control concerning the purchaser's use of either product and no warranty is made as to the results of any use. The only obligation of either seller or manufacturer shall be to replace any quantity of this product that proves to be defective. Neither seller nor manufacturer assumes any liability for injury, loss, or damage resulting from use of this product.

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