CASTEK® A TRANSPO INDUSTRIES COMPANY INC.

Technical Data Sheet

MMA POLYMER CONCRETE
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, grouting, and structural applications. This system is to be used on horizontal concrete surfaces, on grade, above and below grade.

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" (13 mm) 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, dry and free of all dirt, grease, rust and other contaminates that might interfere with the proper adhesion of the polymer concrete. All damaged or deteriorated concrete shall be removed using jack-hammers or any other means and cut back to sound concrete.

Priming: Priming is done with T-41s MMA primer using either rollers or brushes at a rate of 100 ft^2/gal. The primer resin is mixed with an appropriate amount of powder hardener (BPO) as shown in Table 1. The prime coat must be allowed to cure tack-free before application of the patching material.

Table 1: Mixing Instructions for T-41s Primer

Ambient Temperature ºF	No. of 30g Bags of BPO per gal of T41-s Resin
14 – 35	6
36 – 55	5
56 – 75	4
76 – 100	3

T-17 Mixing: A rotary drum mortar mixer may be used for mixing. The inside of the mixer should be clean and dry. Prior to mixing, the mixer should be pre-wet with a quart of T-17 Liquid. Add appropriate amount of Transpo T-17 liquid to the mixer, 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 for suggested mix ratios.

Table 2: Mixing Instructions for T-17 per 50-pound bag of T-17 Powder

Depth of Patch (in)	% Extension	Agg. Size (in)	Amt. Agg. (lb)	T-17 Liquid (gal)	Yield (ft^3)
2 and above	100%	3/4 x 3/8	50	0.875	0.72
1 - 2	50%	3/8 x 3/16	25	0.75	0.56
½ - 1	0%	-	-	0.625	0.40

Finishing:

Typical 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. Pencil vibrators may be used if the pour is over six inches thick or reinforcing steel clearance is less than or equal to the size of the coarse aggregate in the T-17 mix. 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-pound bags
Aggregate: Available in 50-pound bags
Liquid:

T-17 Liquid	55 Gal Drum	5 Gal Pail
Gross Weight (lb)	457	42.6
Net Weight (lb)	420	38
Nominal Volume (gal)	54.1	4.9

Table 3: Physical Properties* of T-17

Property	Unit of Measure	Test
T-41s Primer/Sealer		
Viscosity	40 – 100 cps(mpa-S)	Brookfield
Density	8.16 lb/gal (0.98 g/mL)	ASTM D2849
Pot Life @ 70ºF (21ºC)	8 – 15 minutes	AASHTO T237
Solids Content	100%	ASTM D1644
T-17 Resin		
Viscosity	10 – 12 cps(mpa-S)	Brookfield
Density	7.63 lb/gal (0.91 g/mL)	ASTM D2849
Pot Life @ 70ºF (21ºC)	24 minutes	AASHTO T237
Solids Content (w/catalyst)	100%	ASTM D1644
T-17 Mortar (No Extension)		
Compressive Strength	8000 – 9000 psi (55 – 62 MPa)	ASTM C579 Method B
Flexural Strength	1800 – 2500 psi (13-17 MPa)	ASTM D790
Linear Shrinkage	<0.2%	DuPont
Tensile Strength	1000 – 1200 psi (6.90-8.25 MPa)	ASTM D638 Type I
Compressive Modulus	1.1-1.2 x 10^6 (7.50-8.50 GPa)	ASTM C579 Method B
Tensile Adhesion (pull-off concrete)	>250 psi (>1.7 MPa)	ACI 503R

* To be used as general guidelines only

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 90ºF.

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 SDS 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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