T-17 MMA POLYMER CONCRETE

Transpo 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.

T-17 consists of a two-component system. The T-17 liquid is a solvent-free, 100% reactive, low viscosity methyl methacrylate (MMA). The T-17 powder component consists of a prepackaged blend of fillers. The material can be applied at a minimum ½ inch / 13 mm thickness. For deeper patching, T-17 should be extended with a specific aggregate.

APPLICATION

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 and cut back to sound concrete.

Priming

Concrete surfaces are primed with T-41s MMA primer using either rollers or brushes at a rate of 80 ft^2/gal. For other substrates, contact a Transpo representative. The primer is mixed with an appropriate amount of catalyst (BPO) as shown in Table 1. The primer coat must be allowed to cure tack-free before application of the patching material.

Table 1: Mixing Instructions for T-41s Primer

Ambient Temperature	No. of 30 g Bags of BPO per Gal of T41-s	% of BPO by Weight of Resin
-10ºC – 2ºC / 14ºF – 35ºF	6	6
2ºC – 13ºC / 36ºF – 55ºF	5	5
13ºC – 24ºC / 56ºF – 75ºF	4	4
24ºC – 38ºC / 76ºF – 100ºF	3	2

Mixing

A rotary drum mortar mixer, or similar, is to 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 gallon / approx. 4 liters 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 specified 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 22.7 kg / 50 lb bag of T-17 Powder

Depth of Patch	Aggregate Size	Amount of Aggregate	T-17 Liquid	Yield
25 mm and above / 1 in and above	10 – 5 mm / 3/8 – 3/16 in	11.4 g / 25 lb	2.8 L / 0.75 gal	.016 m^3 / 0.56 ft^3
13 – 25 mm / ½ – 1 in	–	–	2.4 L / 0.625 gal	.011 m^3 / 0.40 ft^3

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. Tining 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: 22.7 kg / 50-pound bags

Aggregate: 22.7 kg / 50-pound bags

Liquid:

T-17 Liquid	55 Gal Drum	5 Gal Pail
Gross Weight	207 kg / 457 lb	19.3 kg / 42.6 lb
Net Weight	190 kg / 420 lb	17.2 kg / 38 lb
Nominal Volume	204.8 L / 54.1 gal	18.5 L / 4.9 gal

PROPERTIES*

Table 3: Physical Properties of T-17*

Property	Unit of Measure	Test
T-41s Primer/Sealer		
Viscosity	40 – 100 cPs	Brookfield
Density	8.16 lb/gal	ASTM D2849
Pot Life @ 21ºC / 70ºF	8 – 15 minutes	AASHTO T237
Solids Content	100%	ASTM D1644
T-17 Resin		
Viscosity	10 – 12 cPs	Brookfield
Density	7.63 lb/gal	ASTM D2849
Pot Life @ 21ºC / 70ºF	24 minutes	AASHTO T237
Solids Content (w/catalyst)	100%	ASTM D1644
T-17 Mortar (No Extension)		
Compressive Strength, 7 days	>8,000 psi	ASTM C579 Method B
Flexural Strength, 7 days	>1,800 psi	ASTM D790
Linear Shrinkage	<0.3%	ASTM C531
Tensile Strength, 7 days	>1,000 psi	ASTM D638 Type I
Compressive Modulus	>1.1 x 10^6 psi	ASTM C469
Tensile Adhesion (pull-off concrete)	>250 psi	ASTM C1583

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 25ºC / 77ºF.

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.

The value ranges stated above are based on system processing under laboratory conditions. Equipment configurations and/or field application conditions may produce variances in final system values.

To be used as general guidelines only.

The base language for this technical data sheet is English.