CASTEK® INC.
A TRANSPO INDUSTRIES COMPANY

Technical Data Sheet

MMA Polymer Crack Sealer T-78

T-78 MMA Crack Sealer is a very low viscosity, low surface tension, rapid curing methacrylate reactive resin system that is highly effective for sealing and filling cracks and pores in concrete structures.

Application Procedure

Surface Preparation: It is strongly recommended that all concrete surfaces that are to receive T-78 be thoroughly clean and sound. Remove all surface dirt, grease, paint, rust, and other contaminates by sand blasting or shot blasting. Applications on LMC overlays do not require blasting or mechanical abrasion, the surface can be high pressure washed to remove contamination. Before application of T-78 the surface must be dry for 24 hours and just prior to application cracks should be cleaned with dry high pressure compressed air. The concrete surface should be visibly dry and the moisture content in the concrete should be tested according to ASTM D4263. The temperature of the deck and air should be between 40ºF – 104ºF (4ºC-40ºC). For colder temperatures contact a Transpo representative.

Mixing: T-78 must be mixed with the appropriate amount of powder hardener just prior to application. Air/substrate temperature determines the amount of powder hardener used. Table 1 lists the appropriate amount of powder hardener to be added to one gallon of T-78 resin. Using clean, dry plastic buckets and scoops; add powder hardener to T-78 and mix until dissolved (approximately one minute). A drill-mounted paddle mixer should be used for larger batches. Mixed T-78 must be used immediately.

Table 1: Mixing Instructions for Powder Hardener per one gallon of T-78

Temp ºF (ºC)	Packets (30-grams each)	Weight %	Vol. oz
40 (5)	5	5	10.5
50 (10)	4	4	8.5
60 (16)	3	3	6.5
70 (21)	2	2	4.5
90 (32)	1	1	2

Application: T-78 is applied in a gravity-fed process. The rate of application of T-78 resin should be approximately 100-150ft²/gal (2.5-3.75m²/L). However, this will vary depending on the surface porosity, size, and quantity of cracks present in the area being treated.

Spray equipment, if used, should be airless, generating sufficient pressure to atomize mixed resins. If hand applied, the concrete surface should be flooded with the resin, allowing sufficient time for penetration into the surface and complete filling of all cracks. Excess material should be redistributed using squeegees or brooms within 5 minutes after application. The quantity of T-78 resin mixed at one time should be limited to 5gal (19L) for manual application.

Broadcasting of Aggregate: Broadcast sand should be applied to the entire treated area prior to cure, typically at 1-2lb/yd² (0.4-0.8kg/m²). The sand used should be 12x16 mesh, #1 or #2 blasting sand, and should have a maximum moisture content no greater than 0.5%. It should be placed within minutes of the resin application and before any setting of the resin occurs. Traffic can be restored once the concrete surface is cured tack-free. Note; if line striping is to be applied after the application of T-78 the cured material on the concrete surface may need to be removed before application of the striping material, or striping can be applied prior to the T-78 application.

Table 2: Pot life and Cure Times* for T-78 depending on temperature

Temperature ºF(ºC)	Cure Time* (min) T-78	Pot life (min) T-78
40 (4)	35 – 40 (with 10 % Additive CW)	10 – 15
50 (10)	30 – 35 (with 10% Additive CW)	7 – 9
60 (16)	45 – 50	15 – 20
70 (21)	45 – 50	15 – 20
90 (32)	30 – 35	5 – 10

*Cure times are approximate and will vary with ambient and deck temperature, humidity, and sunlight.

Table 3: Properties of T-78*

Property	Unit of Measure	Test
Appearance	Bluish Liquid	
Viscosity	<5-10 cps (mPa-sec)	Brookfield
Density	8.08lb/gal (0.95kg/L)	ASTM D2849
Pot Life @ 70ºF	15 – 20 min	AASHTO T237
Tack Free Time @ 70ºF (21ºC)	30 – 40 min	AASHTO T237
Flash Point	>50ºF (>10ºC)	ASTM D1310
Solids Content	100%	ASTM D1644
Tensile Strength	8100 psi (56.4 MPa)	ASTM D638 Type I
Tensile Elongation	5%	ASTM D638 Type I
Compressive Strength (24 hr)	12800 psi (88.2 MPa)	ASTM C579 Method B

*To be used as general guidelines only

Packaging

T-78 comes in 5 and 50 gallon containers. The powder hardener is provided in separate labeled containers or in pre-measured quantities.

Storage

T-78 should be stored in tightly sealed containers in a dry and out of direct sunlight location. Maximum storage temperature is 68ºF (20ºC). Store materials in original containers.

Caution

T-78 is a flammable liquid in the uncured state. Read and understand product labels and MSDS prior to use. T-78 may produce minor skin irritations to persons prone to such reactions. It is recommended that all persons involved in mixing and application wear protective clothing such as goggles, rubber boots, rubber gloves.

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 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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