

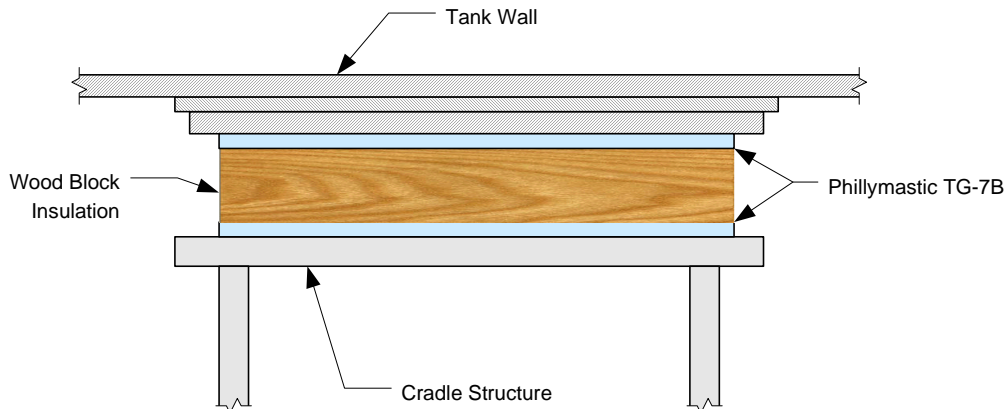
## Product Description

Phillymastic TG-7B is a two-component, load-bearing, epoxy mastic specifically developed for LNG/LPG tank or container system installations where shimming or void-filling of supporting components is required. TG-7B provides excellent load-bearing and adhesive properties at cryogenic temperatures assuring evenly distributed loads across all tank supports. This mastic is available as either a pourable liquid or a trowelable paste. Both can be mixed either by hand or with automatic dispensing equipment.

Phillymastic TG-7B is designed to meet the requirements set forth by GAZ Transport's Technical Specification N. 402; Revision F issued in 1993. Gaztransport and TechniGaz currently approve TG-7B.

## Use & Benefits

Phillymastic TG-7B liquid is most frequently used to install LPG storage tanks into ship hulls. In this type of installation, the tank is supported on individual pedestals by wood insulation blocks. The wooden blocks are installed by damming off the areas and pumping in TG-7B above and below the block. The thickness of TG-7B depends on the insulation requirements. Phillymastic a TG-7B load-bearing capability eliminates the need for fitting the wood blocks to precisely conform to the tank surface.



TG-7B paste is a non-sagging material that is most often applied by trowel on top of curved tank cradles before the tanks are set in position. This mastic is designed to accommodate the thermal expansion requirements of cylindrical tanks and contributes to the cumulative *K Factor*.

## Design Considerations & Surface Preparations

The area to receive the TG-7B should be clean and free of water, dirt, oil, etc. A dam is required around the area to prevent the mastic from leaking out. This is usually accomplished by installing self-adhesive strips of low compression rubber around the area to be filled.

**ITW POLYMER TECHNOLOGIES**

130 Commerce Drive • Montgomeryville, PA 18936

Phone 215-855-8450 • Fax 215-855-4688 • [www.chockfast.com](http://www.chockfast.com)



## Application Instructions

In liquid form, TG-7B is typically injected into void areas using a meter, mix and dispense (MMD) mastic application equipment with a static mixer. In paste form, TG-7B can be mixed by hand and spread with a putty knife or it can be mixed and applied with MMD equipment. The mixing and application of large volume drum quantities of TG-7B as is typically required for LNG/LPG tank installation can only be accomplished economically with MMD equipment. This equipment must draw resin and hardener from their individual drums in the proper proportion, mix the materials completely and deliver the mixed material to a trigger-controlled, pistol-grip applicator. It must be able to vary the quantity of mixed material applied from zero to several gallons per minute.

To mix paste by hand, remove proper amounts of resin and hardener from containers and mix thoroughly with a putty knife on a clean flat surface.

To mix the liquid by hand, add one can of hardener to the slack-filled can of resin. Mix at 200 to 300 RPM for five minutes. Let stand a few minutes to allow air to escape before installing.

## Physical Properties at 20°C (68°F) Unless otherwise stated

COMPRESSIVE STRENGTH	20 °C (68 °F) - 70.3 MPa (10,200 psi)
COMPRESSIVE MODULUS OF ELASTICITY	4,192 MPa (6.08 x 10 <sup>5</sup> psi)
COEFFICIENT OF LINEAR THERMAL EXPANSION	29 x 10 <sup>-6</sup> mm/°C (0.63 x 10 <sup>-7</sup> in/°F)
SHRINKAGE	0.2% by Volume
ADHESIVE BOND TO STEEL	8.5 MPa (1,230 PSI)
ADHESIVE BOND TO BIRCH PLYWOOD	2.6 MPa (387.3 psi)
CREEP TEST OBSERVATIONS	0.011 to 0.053 inch/inch after 120 hours at 300 psi
LAP-SHEAR STRENGTH	3.6 MPa (515 psi) - 100% wood substrate failure
TENSILE ELONGATION	0.7% at failure
HARDNESS	24 Barcol
SPECIFIC GRAVITY	Paste – 1.6; Liquid – 1.66
VISCOSITY – LIQUID TG-7B	Resin – 54,400 cps; Liquid – 48 cps; Mixed – 1,440 cps

## Product Information

COVERAGE	Paste – 15,900 cm <sup>3</sup> (970 in <sup>3</sup> ) -15.9 liter kit; 208,000 cm <sup>3</sup> (12,693 in <sup>3</sup> ) – 208 liter kit Liquid – 17,200 cm <sup>3</sup> (1,050 in <sup>3</sup> ) – 17.2 liter kit
MIXING RATIOS	Paste – By Weight: 100g resin to 16.6 g hardener By Volume: 6 parts resin to 1 part hardener Liquid – By Weight: 100g resin to 4.9 g hardener By Volume: 11 parts resin to 1 part hardener
CURE TIME (approximate)	20 °C (68 °F) - 12 days 40 °C (104 °F) - 3 days 60 °C ( 140 °F) - 8 hours
POT LIFE	90 minutes @ 20°C
CLEAN UP	IMPAX IXT-59
PACKAGING per Unit	Paste – 15.9 liters (4.2 gal); 208 liters (55 gal) Liquid – 17.2 liters (4.6 gal)
UNIT WEIGHT	Paste – 25.4 kg (56 lbs); 334 kg (734 lbs) Liquid – 28.7 kg (63.1 lbs)
SHELF LIFE	2 years

**Date** 09/2005

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