



# P-TUFF® HM

## Polymeric Header Nosing & Deck Patching System

### 1.01 DESCRIPTION

**P-Tuff® HM** is a unique, three component, rapid curing, non-shrink, hybridized, polymer based, elastomeric concrete that cures to a dense, semi-flexible, weather, abrasion and impact resistant polymer mortar for the construction or repair of expansion and construction joints on bridge and parking decks. The combined Side-A and Side-B of P-Tuff® HM polymers, when mixed with its Side-C (blended aggregate), forms a mortar with excellent long-term installation properties for joint nosing repairs, or deep patches. Please use the correct product grade that complies with VOC regulations as per federal, state, county and city regulations/codes at the place of installation of product.

### 1.02 FEATURES

- Chemical and Impact Resistant
- Dries Tack-Free and Skid Resistant
- Excellent Water Repellency
- Fast Drying in any Temperature
- High-Load Bearing Capacity
- New as well As Old Concrete Surfaces
- Outstanding Anti-Spalling Properties
- Resists The Effects Of Freeze-Thaw Cycling

### 1.03 USES

- Airfield and Highway Pavement Repairs
- Bridge Headers and Concrete Nosings
- Bridges and Ramps
- Concrete and Masonry Surfaces
- Parking Structures
- Pavements and Marine Platforms

### 1.04 TECHNICAL DATA

Meets: TxDot DMS- 6140 Type I Polymer Concrete  
Exceeds: ASTM C881 Type III (Mortar)

### 1.05 PACKAGING

0.5 cuft (.014 cum) kit: 1 gallon (3.78 liters) of Side A and B liquid, one 56 lbs (25.4 kgs) bag of Side C aggregate

1.0 cuft (.028 cum) kit: 2 gallon (11.34 liters) of Side A and B liquid, 2 56 lbs (25.4 kgs) bags of Side C aggregate

6-gallon kit (0.5 cuft or 0.0142 cum) is made up of equal volumes of Side-A and Side B polymers, 30 pounds (13.61 kg) of body aggregates, 20 pounds (9.07 kg) of 3/8" (0.96 cm) pea gravel, and a 6-pound bag (2.72 kg) of topping sand. (All aggregates are pre-treated). The entire contents come in a 6-gallon pail, which the material can be mixed with the PSI's **Quickie Pail Mixer** or a 1/2 hp heavy-duty drill.

Bulk Mortar and Overlay Kits are also available in 10, 30, 100, & 250 gallon (37.85, 1113.56, 378.54, 946.36 liters) vessels. Treated Sands & Aggregates are available in 25 & 50 (11.34 & 22.67 kg) pound sacks, 2500 pound (1134 kg) bins, and 2500 pound (1134 kg) Super Sacks.

### 1.06 COLOR

Gray or Black

### 1.07 PREPARATION

All surface contamination must be removed by mechanical means, creating a surface profile of exposed sound aggregate that will provide a strong bond surface for the **P-Tuff® HM**. It is recommended to profile surface according to ICRI Guide 03732 to a minimum of CSP 3 by abrasive blasting. Apply PSI's **B-Tuff® Rust Check** permanent rust converter to any exposed steel. Precondition the **P-Tuff® HM** to 72°F (22.22°F) for 24 hours for best results. **P-Tuff® HM** may be heated up to 100°F (37.88°C) to speed cure at colder temperatures. It is recommended to condition all components when the temperature is below 50°F (10°C).

### 1.08 MIXING

**P-Tuff® HM** is shipped in pre-measured 0.5 cuft (0.0142 cum) and 1 cuft (0.0284 cum) units. Mix these products **ONLY** in complete units. **DO NOT THIN** or add any solvents or other aggregates prior to mixing.

**P-Tuff® HM 0.5 cuft (0.0142 cum) kit:** Side-A and Side-B are packaged in equal jugs. Side-C Aggregate is packaged in one 50 lbs (22.78 kgs) poly-lined bag. Pour Side-B Hardener into the mixing vessel containing Side-A Resin. Mix material thoroughly for 3 minutes with a Jiffy mixer on a low-speed (300 rpm) drill motor until a uniform consistency is achieved. Pour liquids into Mortar Mixer, making sure to remove all resins from sides and bottom of the pail with a spatula or similar tool. Introduce the half the bag of Side-C Aggregate prior to starting the mixer. Start mixer and slowly add the remaining bag of Side-C Aggregate. Extreme care should be taken to ensure that the aggregate is mixed uniformly.

**P-Tuff® HM 1.0 cuft kit (0.028 cum) kit:** Side-A and Side-B are packaged in 1 gallon (3.78 liters) jugs. Side-C Aggregate is packaged in two 50 lbs (22.78 kgs) poly-lined bags. Pour Side-B Hardener into the mixing vessel containing Side-A Resin. Mix material thoroughly for 3 minutes with a Jiffy mixer on a low-speed (300 rpm) drill motor until a uniform consistency is achieved. Pour liquids into Mortar Mixer making sure to remove all resins from sides and bottom of the pail with a spatula or similar tool. Introduce the first bag of Side-C Aggregate prior to starting the mixer. Start mixer and slowly add the remaining bag of Side-C Aggregate. Extreme care should be taken to ensure that the aggregate is mixed uniformly.

### 1.09 APPLICATION

The blended batch must be applied to the surface in 5-10 minutes. Once spread out, working time will be approximately 1/2 hour depending upon temperature. It is extremely important that the material be thoroughly compacted. Care should be taken to assure good compaction on the vertical face of the joint and along the side of the block out or form. Just smoothing the top with a steel float is not compacting the mortar. A small margin trowel, wood block, or other means, can be used for compaction.

When using **P-Tuff® HM** as an expansion joint header, care should be taken to ensure the mortar is even with the plane of the bridge deck or a fraction lower. Leaving the mortar higher than the plane of the bridge deck can subject it to snowplow or other impact damage. If after removal of the forming material the mortar is found to be higher than the adjacent bridge deck or overlay, it may be reprofiled using a handheld grinder with a diamond cup wheel.

### 1.10 DRY OR USE TIME

At 75°F (23.88°C) (substrate & air temperature), the mortar will cure sufficiently to accept traffic in two hours. Higher temperatures will shorten the cure while lower temperatures will lengthen the cure time. For temperatures in excess of 100°F (37.88°C), or lower than 60°F (20.55°C), contact PSI for recommended procedures and cure time.

### 1.11 CLEANUP

All tools, other application or mixing equipment must be cleaned at frequent intervals and while **P-Tuff® HM** remains soft and uncured. Clean with PSI's **EnviroClean**, or locally approved solvent.

### 1.12 STORAGE AND SHELF LIFE

Store in a horizontal position to prevent moisture accumulation on the drum head. The material should be stored between 40–95°F (4–35°C) in a cool, dry area away from direct sunlight. The shelf life of properly stored, unopened bags is 24 months from the date of manufacture. An excessive temperature differential and/or high humidity can shorten the shelf life expectancy.

### 1.13 CAUTION

Use with adequate ventilation. Wear protective clothing, gloves, and eye protection (goggles, safety glasses and/or face shield). Keep out of

the reach of children. Do not take internally. In case of ingestion, seek medical help immediately. May cause skin irritation upon contact, especially if prolonged or repeated exposure. If skin contact occurs, wash immediately with soap and water and seek medical help as needed. If eye contact occurs, flush immediately with clean water and seek medical help as needed. Dispose of waste material in accordance with federal, state and local requirements. Cured resins are innocuous. Dispose of waste material in accordance with federal, state and local requirements.

**READ SDS PRIOR TO USING PRODUCT. FOR PROFESSIONAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. MADE IN THE USA.**

PHYSICALS	
Gel Time (Tex-614-J)	15-25 minutes
Compressive Strength (ASTM C579, B)	
3 Hours	1400 psi (9.65 MPa)
24 Hours	4800 psi (33 MPa)
Wet Bond Strength (Tex-618-J)	450 psi (3.10 MPa)
Compressive Stress (Tex-618-J)	4000 psi (25.58 MPa)
Resilience, % (Tex-618-J)	95%
Bond Strength	300 psi (2.06 MPa)
Tensile Strength	2100 psi (14.47 MPa)

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with the PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

#### LIMITED WARRANTY

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical and chemical properties. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

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