

# MASTERFILL® 300I

## Semi-rigid epoxy joint filler

### DESCRIPTION:

MASTERFILL® 300I semi-rigid, 100% solids epoxy joint filler is designed to protect joint edges and to prevent spalling in non-moving control and relief joints in concrete.

### RECOMMENDED FOR:

- Non-moving joints in manufacturing, warehouse and commercial floors
- Filling saw-cut, relief and control joints
- Filling and sealing wire slots in concrete pavement (e.g., inductive loop detectors)

### FEATURES/BENEFITS:

- Protects joint edges
- Conforms to requirements of ACI 302.1R (5.12) Guide for Concrete Floor & Slab Construction
- Convenient 1:1 mix ratio, by volume
- Economical
- Designed to reduce long interruptions to traffic flow

### PACKAGING:

MASTERFILL 300I joint filler is packaged in 2 and 10 gallon (7.6 and 37.9 liter) units. For mixing and convenience, the 2 gallon unit is supplied in a 3 gallon pail.

### SHELF LIFE:

Shelf life of MASTERFILL 300I joint filler is one year if stored in original, unopened containers and stored between 40 to 90 °F (4.4 and 32.2 °C). Keep from freezing.

### ESTIMATING<sup>1</sup>:

| Joint Size, Width x Depth |                 | Lineal ft/<br>U.S. gal | Lineal m/<br>L |
|---------------------------|-----------------|------------------------|----------------|
| in.                       | (mm)            |                        |                |
| 1/8 x 3/4                 | (3.18 x 19.05)  | 200                    | 16.09          |
| 1/8 x 1                   | (3.18 x 25.40)  | 150                    | 12.07          |
| 1/8 x 1-1/4               | (3.18 x 31.75)  | 125                    | 10.05          |
| 1/8 x 1-1/2               | (3.18 x 38.10)  | 100                    | 8.04           |
| 1/8 x 1-3/4               | (3.18 x 44.45)  | 85                     | 6.83           |
| 3/16 x 3/4                | (4.76 x 19.05)  | 135                    | 18.9           |
| 3/16 x 1                  | (4.76 x 25.40)  | 100                    | 8.04           |
| 3/16 x 1-1/4              | (4.76 x 31.75)  | 85                     | 6.83           |
| 3/16 x 1-1/2              | (4.76 x 38.10)  | 70                     | 5.63           |
| 3/16 x 1-3/4              | (4.76 x 44.45)  | 60                     | 4.82           |
| 1/4 x 3/4                 | (6.35 x 19.05)  | 100                    | 8.04           |
| 1/4 x 1                   | (6.35 x 25.40)  | 80                     | 6.43           |
| 1/4 x 1-1/4               | (6.35 x 31.75)  | 60                     | 4.82           |
| 1/4 x 1-1/2               | (6.35 x 38.10)  | 50                     | 4.02           |
| 1/4 x 1-3/4               | (6.35 x 38.10)  | 45                     | 3.62           |
| 3/8 x 1                   | (9.35 x 25.40)  | 50                     | 4.02           |
| 1/2 x 1                   | (12.70 x 25.40) | 40                     | 3.21           |
| 3/4 x 1                   | (19.05 x 25.40) | 25                     | 2.01           |

### PERFORMANCE DATA<sup>2</sup>:

#### PHYSICAL PROPERTIES

|   | Components                             |   |  |
|---|--|---|--|
|   | Mixed                                  | Part A<br>(Resin)                       | Part B<br>(Hardener)                   |
| <b>Density</b>                                    | 9.4 lb/gal<br>(4.3 kg/m <sup>2</sup> ) | 10.2 lb/gal<br>(4.6 kg/m <sup>2</sup> ) | 8.6 lb/gal<br>(3.9 kg/m <sup>2</sup> ) |
| <b>Viscosity</b>                                  | 4,000 to<br>5,000 cps                  | 3,000 to<br>4,000 cps                   | 8,000 to<br>9,000 cps                  |
| <b>Mix Ratio</b>                                  | 9.4 lb/gal<br>(4.3 kg/m <sup>2</sup> ) | 10.2 lb/gal<br>(4.6 kg/m <sup>2</sup> ) | 8.6 lb/gal<br>(3.9 kg/m <sup>2</sup> ) |
| <b>Tensile Strength</b><br>(ASTM D 638)           | 800 to 1,100 psi<br>(3.4 to 5.5 MPa)   |   |  |
| <b>Tensile Elongation</b><br>(ASTM D 638)         | 40 to 50%                              |   |  |
| <b>Impact Resistance</b><br>(Gardner-Direct)      | 160 in-lb.<br>(18.1 N-m)               |   |  |
| <b>Hardness, Shore A</b><br>(ASTM D 2240)         | 75 to 80                               |   |  |
| <b>Hardness, Shore D</b><br>(ASTM D 2240)         | 55 to 60                               |   |  |
| <b>Adhesion to Concrete</b><br>(ASTM D 4541)      | >250 psi<br>(>1.7 MPa)                 |   |  |
| <b>Mix Ratio, By Volume</b>                       | 1:1 (Part A:Part B)                    |   |  |
| <b>Pot Life</b>                                   | 1 gal (3.8 L), 25 to 30 minutes        |   |  |
| <b>Thin Film, Tack-Free Time</b>                  | 8 hours                                |   |  |
| <b>Thin Film, Hard Dry Time</b>                   | 12 hours                               |   |  |
| <b>Full Cure Time</b>                             | 3 days                                 |   |  |
| <b>Flash Point</b><br>(Pensky-Martens Closed Cup) | >200 °F<br>(>93 °C)                    |   |  |
| <b>Colors<sup>3</sup></b>                         | Standard                               |   |  |

<sup>1</sup> Estimated coverage rates are approximate and actual coverage will vary based upon application technique, waste and/or other jobsite conditions.

<sup>2</sup> Test specimens were cured 7 days @ 75 °F (24 °C). Properties listed are typical and descriptive of the product, and may be used as a guide for determining suitability for particular applications.

<sup>3</sup> Please refer to Master Builders Floor Products Standard Color Card. Please Note: All epoxy materials are subject to yellowing when exposed to ultraviolet (UV) light.

## INSTALLATION:

Read and understand data sheet and installation instructions completely before beginning installation.

Please refer to appropriate sections of ACI 302R "Guide for Concrete Floor and Slab Construction", including, but not limited to, Chapters 5.12 "Joint Materials", and 9.10 "Joint Filling and Sealing".

Please refer to appropriate sections of ACI 504R "Guide to Sealing Joints in Concrete Structures" concerning joint fillers.

### Surface Preparation

Joint surfaces must be dry and free from all substances that may inhibit proper bond. To prevent three-sided bonding, or joint material from seeping through cracks of the bottom of the joint, apply bond breaker tape, or a layer (1/8 to 1/4 in. {3 to 6 mm}) of dry fine masonry sand, on the bottom of the saw-cut.

### Mixing

Thoroughly mix each component separately prior to mixing together. Mix materials in uncontaminated, clean, mixing container. Although correct mixing ratio is 1:1 by volume, due to the sensitivity of mixing epoxy materials, only full units should be used.

While mixing Part A (Resin), slowly add required amount of Part B (Hardener). Once the complete amount of Part B has been added, continue mixing for an additional 3 minutes.

To help ensure proper mixing, be sure to scrape the sides and bottom of containers while mixing. It is strongly recommended that a slow-speed, electric mixer be used (e.g. Jiffy mixer, Jiffy Mixer Co., Irvine, CA).

### Application

Apply mixed material by pouring from a container, using appropriate bulk gun, or use of power dispensing equipment.

Make sure the joint is flush by applying a second layer to the settled first layer. Joint filler profile is critical to material's effectiveness. Ideally, the cured filler should be flush with the floor surface.

### Cure Time

|                                  |          |
|----------------------------------|----------|
| <b>Thin Film, Tack Free Time</b> | 8 hours  |
| <b>Thin Film, Hard Dry Time</b>  | 12 hours |
| <b>Full Cure Time</b>            | 3 days   |

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## CLEAN UP:

Epoxies are much easier to clean up before they cure. Remove excess material from surfaces and tools.

Although suitable solvents for this purpose are acetone, methyl-ethyl ketone (MEK) or Toluene (all flammable); and 1,1,1, trichloroethane (nonflammable). Follow all manufacturer's safety precautions and disposal procedures. Please Note: Since these solvents attack the epoxy, it is imperative that care is exercised to remove all excess (unwanted) epoxy, yet prevent these materials from attacking the epoxy in the joint.

## LIMITATIONS:

- Prior to specifying joint materials, please refer to standard industry publications for benefits and limitations of the various types of joints and joint materials.
- Please refer to ACI 302 "Guide for Concrete Floor and Slab Construction".
- Please refer to ACI 504R "Guide to Sealing Joints in Concrete Structures".
- Please Note: All epoxy materials are subject to yellowing when exposed to ultra violet (UV) light.
- Do not use when the ambient and/or surface temperature is below 40 °F (4 °C).
- Material is designed for use in control joints and other non-moving, stress relief type joints only. Do not use as an expansion or isolation joint sealer.
- If installed in a floor that has not completed its entire shrinkage process, or if the joint is dynamic (opening and/or closing) a separation will likely occur. Adhesive or cohesive failure of joint, due to movement, should be expected and should not be construed as a failure of the joint material.
- MASTERFILL 300I joint filler is a two-component epoxy that is formulated for industrial or professional use only. It must be kept out of the reach of children. This product contains epoxy resins and amine curing agents that may be CORROSIVE and potentially HARMFUL to your health if they are not stored and used properly. Hazards can be significantly reduced by observing all precautions that are found on Material Safety Data Sheets (MSDS), product labels and technical literature. Please read carefully before using the material.

## RELATED BULLETINS:

Material Data Safety Sheet