



**POLYGEM**  
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# 307FR Pourable II™ Epoxy | CASTABLE | BRUSHABLE

**EASY TO MIX, ROCK-HARD, 2 PART LIQUID EPOXY SYSTEM**

**E-84 CLASS A FLAME-RATED & PUBLIC SPACE SAFE**



**ZOO POXY™**  
theming epoxy

**TB - TECHNICAL BULLETIN**

## PRODUCT DESCRIPTION

**307FR Pourable II™ Epoxy is a two-component filled epoxy system that is E-84 Class A Flame-Rated and public space safe-** It is ideal for both theming and fabrication projects. It contains no VOCs, phthalates or crystalline silica making it a solid choice for use in animal enclosures or displays.

**307FR Pourable II** has a **1A to 1B** mix ratio by weight or volume and can be cast solid or thickened for brushing or troweling onto vertical surfaces. It cures to shore 85D with negligible shrinkage. Cured epoxy can be sanded and painted.

## WORKING FEATURES & BENEFITS

**307FR Pourable II** has a generous working time of 85 min. and can cure overnight at room temperature 73°F (23°C).

- **Easy to Mix**
- **Can be Thickened**
- **Bonds to Itself & Many Substrates**
- **Will Not Melt or Dissolve Foam Surfaces**
- **Easy Clean Up with Just Water.**

## USE WITH POLYGEM THICKENING AGENT

**Polygem Thickening Agent** allows you to thicken the material from a Pourable liquid to a brushable consistency making it ideal for brushing or trowelling it on to vertical surfaces.

**307FR Pourable II** forms a permanent bond to a variety of surfaces and can be applied as a fire rated protective & decorative coating. Apply it to EPS or rigid foam, wallboard, plaster, wood, PVC concrete and more. 307FR Pourable II also makes an exceptional repair cement; bonds permanently to itself, PVC, Acrylic, wood, and many metals, plastics, and rigid foams.

**NOTE: 307FR Pourable II DOES NOT BOND** to silicone, polyethylene, polypropylene, or plastic wrap.

## PACKAGING

**307FR Pourable II** is available in **2 Gallon**, and **10 Gallon Kits**.

## PERFORMANCE BENEFITS OF CURED MATERIAL

- **ASTM E-84 Class A Flame Rated**
- **No VOCs**
- **Phthalate-Free**
- **Contains No Crystalline Silica**
- **Cures to a Hard & Durable Material**
- **Easy to Sand, Shape, and Machine**
- **Paintable, Stainable and Pigmentable**
- **Safe For Animal Habitat Use**
- **Safe For Aquatic Life**

## UNIT SIZE & COVERAGE RATE @ .125 in. (3.175 mm)

<b>2 Gallons</b> 20 lbs (9.08 kgs)	<b>10 square ft.</b> (.92 m <sup>2</sup> )
<b>10 Gallons</b> 100 lbs (45.36 kgs)	<b>51 square ft.</b> (4.73 m <sup>2</sup> )

## TECHNICAL SPECIFICATIONS

TYPICAL PROPERTIES | All values measured after 7 days at 73°F (23°C).

**Mix Ratio: 1A:1B | Pot Life:** 85 min. (100 gms) - ASTM D-2393 by weight or volume

**Mixed Color:** Lt. Brown | **Mixed Viscosity:** 13,500 cps. - ASTM D-2393  
PART - A: Beige - B: Brown PART - A: 29,500 cps. - B: 17,750 cps.

**Cure Time:** 16 Hrs\* | **Shore Hardness:** 85 D - ASTM D2240

**Specific Gravity:** 1.51 g/cc - ASTM D1475

**Specific Volume:** 18.35 cu. in./lb. - ASTM D1475

**Heat Deflection Temperature:** 131°F (55°C) - ASTM D648

\*When mixed or cured at 73°F (23°C)

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## PROJECT PREPARATION

### **BEST PRACTICE: CONDUCT A SMALL-SCALE TEST.**

*Before mixing substantial amounts of epoxy, always conduct a small-scale test to ensure the planned material & process yields desired results.*

- 1. Storage** – Store and use product at room temperature 73°F (23°C) **DO NOT USE** below 60°F (16°C).
- 2. Safety** – Use in a well-ventilated area (“room size” ventilation). If you use any epoxy system regularly, wearing a NIOSH-approved respirator is advised. Wear safety glasses, long sleeves, and rubber gloves to minimize skin contact. Wear nitrile or vinyl gloves only.
- 3. Plan Your Project & Rate of Coverage** – Recommended minimum thickness is ¼ in (6.35 mm).
- 4. Prepare Your Substrate/Surface** – If applying to smooth surfaces such as plastics, glass, etc., surface may be roughened with sandpaper (120 grit) to aid adhesion. Clean surface thoroughly to ensure it is free of dust, oils, release agents, etc.  
**For Metal Substrates**– Abrade the surface to a white metal finish, then wipe down and clean it thoroughly.
- 5. Measure & Mix**– After pre-mixing Parts A and B, measure out equal parts 1A:1B by volume or weight. Combine and mix material thoroughly with a squared edged mixing stick until “streak free”. Be sure to scrape the sides and bottom of your mixing container periodically as you mix. If drill mixing, mix at a low speed and follow with hand mixing as directed above to ensure a thorough mix. **DO NOT** mix more than can be applied within the working time of 85 minutes.
- 6. Using with Polygem Thickening Agent** – to thicken **307FR Pourable II™** from a liquid to a brushable or trowelable consistency, start by adding 1 Part Thickening Agent to 1 Part A to 1 Part B by volume. More Thickening agent can be added as needed to reach the consistency you prefer to work with.  
  
When adding, the Thickening Agent should be thoroughly and slowly sifted in while mixing by hand or drill mixing.
- 7. Application**– Cast, brush, or trowel the material onto your chosen substrate. **DO NOT** apply to a surface that is less than 60°F (16°C). **307FR Pourable II**, will bond to itself and can be built up in layers if needed. When thickened to a brushable consistency, it can be brushed into a silicone mold to create detailed reproductions.

### **WORKING TIME – MATERIAL IS MASS SENSITIVE.**

#### **More Mass = Less Time to Work.**

Apply and spread quickly to achieve the maximum working time. Temperatures above 73°F (23°C) will reduce working time.



## CASTING & CASTING THICKNESS

**Casting** – When casting into a rubber mold, pour mixture in a single spot at the lowest point of the mold. Let the mixture seek its level. A uniform flow will help minimize air entrapment. Recommended casting thickness is a maximum of 4 in. (102 mm). Castings thinner than .25 in. (6.35 mm) Will cure more slowly than a thicker casting of the same material will.

## APPLYING A RELEASE AGENT

To release **307FR Pourable II** from non-porous surfaces such as resin, metal, glass etc., coat the surface with Ease Release 200 or 205 to prevent adhesion prior to applying the epoxy.

## FINISHING, PAINTING, AND CLEAN UP

**Finishing** – Cured material may be finished either by hand or with power tools. For best results & to minimize build up of material, use power tools at lower speeds.

**NOTE: We recommend wearing a dust mask when machining.**

**Painting** – For outdoor display cured **307FR Pourable II** can be primed and painted with any acrylic enamel paints. Let paint dry fully before putting part into service. Follow paint manufacturer’s instructions.

**Sealing** – For outdoor or post-finish applications, **307FR Pourable II must be sealed** with a commercially available, UV-resistant 2K clear coat. Apply in accordance with the clear coat manufacturer’s instructions to ensure long-term performance and environmental resistance.

**IMPORTANT:** Sealing is optional for components intended for aquatic environments. However, if a component has been painted, sealing is **mandatory**. The recommended sealer is Polygem **1618™ Clear Epoxy Coating**.

**Clean Up** – Uncured **307FR Pourable II** by removing as much uncured material from the surface as possible. Clean any remaining residue with soap and water.

**Cleaning** – When cleaning cured **307FR Pourable II** wipe with a mild solvent followed by a water rinse. **DO NOT** allow solvent to pool on the surface.

**Flame testing data & certification available upon request.**



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### **POLYGEM LIMITED WARRANTY:**

Polygem warrants that during the shelf life of the product (as determined from the date of manufacture), the product will conform to the specifications provided in this technical bulletin. **POLYGEM MAKES NO OTHER WARRANTIES, EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.** Neither any performance or other conduct, or any oral or written representation, statement or advice provided by Polygem or any of Polygem’s distributors, agents, or employees will create a warranty, or in any way increase the scope or duration of this limited warranty. Polygem will have no warranty obligation if the product becomes defective, in whole or in part, as a result of: (i) the transportation of the product; (ii) any alteration or modification to the product by third parties; or (iii) improper handling or storage of the product (including improper handling or storage by third-party carriers or distributors).