



"YOU SUPPLY THE TALENT... WE'LL SUPPLY THE REST!"
THE COMPLEAT SCULPTOR

Hot Wire Foam Factory Styroplast

Description:

HWFF Styroplast is a two component, 100% solids, one part ISO to three parts poly by volume, slow cure polyurethane coating.

Usage:

HWFF Styroplast is a batch mixed coating applied most commonly by brush or trowel that has been found to have the following applications (among others):

Impact resistant coating for the protection of easily deformable substrates such as EPS and insulative foams.

Structural plastic for use in part fabrication where only a moderate level of impact resistance is required.

Plastic coating which may be textured to splash protect foam, drywall, wood or other architectural substrates from many common liquids. Aromatic base coat used to provide a continuous surface for stapled wood constructs.

Structural for foam sculptures. Gap or crack filler. Waterproof encapsulating material.

Coverage per gallon: Depends on thickness.

1/32" thick, 51.3 sq/ft

1/16" thick, 25.6 sq/ft

1/8" thick, 12.8 sq/ft

1/4" thick, 6.4 sq/ft

Application:

Material Preparation:

Application in humid conditions may create gas bubbles that rise to the surface during drying. Thoroughly power mix Poly component before beginning to apply. Usually this takes a minimum of 5 minutes per 1 gallon pail with proper mixing equipment. Mix with a slow speed drill and paddle mixer. Hand mixing is fine for small quantities. Mix exact proportions of Part A and B, or the plastic will not harden correctly. We highly recommend using our accessory Syringe for small batches (see the Related Products link at the bottom of the page). An air conditioned room will deliver an ideal low humidity and slow drying environment. Move coated object to a warm area to promote faster drying.

Equipment:

Ordinary paintbrush, notched trowel (preferred), or squeegee.

Reactivity:

Potlife (brush): 15 minutes @ 76°F

Potlife (trowel): 12 minutes @ 76°F

Cure Time:

Applied coating will set in about 2 to 5 hours at 70°F, depending on film thickness, liquid material temperature and the substrate temperature. Generally complete cure takes from four to five days at room temperature. Product can be placed into service after one complete day of cure at 70°F minimum. After four days cure the hardness is around 65 shore D . Higher hardness may be attained by post heating the part to 90 – 110 F after 6 hours cure time. Prime or paint the plastic coated part the next day, or better, later the same day. If you paint after 12 hours you will need to lightly sand the surface, or better to apply an epoxy primer for paint to stick.

Mixing:

Volume: 1 unit ISO: 3 units POLY by volume.

Weight: 1 unit ISO: 3.55 units POLY by weight.

Color:

Neutral (tan). Many other colors may be available upon request – Contact HWFF, Inc. for details.

Fire Resistance:

Styroplast is self-certified as UL-94 V0 at 60 mils thickness.

Weatherability:

QUV results indicate that yellowing may be visibly discerned in neutral or off-white in 2 – 3 months continuous exposure. Dark colors such as black may persist for almost a year before oxidative damage may manifest itself as chalking. Physical properties, however, do not typically show significant change for even long periods of time.

Chemical Resistance:

Hydrolytic Stability: Recovers after 10 days 150°F immersion. Generally resistant to most dilute aqueous agents when cleaned off within 10 hours of contact. Very difficult to stain by virtue of its high hardness and low porosity. Constant or frequent immersion service not recommended.

Tensile Properties:

ASTM D-412

Tensile Strength: 2742 psi

Elongation: 9.7 %

Yield Strength: 2653 psi

Elastic Modulus: 17,127 psi

Tear Resistance: ASTM D-624: 156 lb/in

Hardness: ASTM D-2240, Shore D: 65 - 70, Depending upon post cure Conditions.

Impact Resistance: Unnotched Izod: Untested

Liquid Component Properties:

Solids: % Nonvolatile (wt): 100%

Viscosity: Poly Component: Moderate - High @ 77°F, ISO Component: 200 cps @ 77°F

Density:

Poly Component: 12.11 lbs/gal, ISO Component: 10.3 lbs/gal

Flash Point:

ASTM D-56 (TCC) Greater than 200°F.

Toxicity:

ISO Component contains isocyanate (the ISO side is has similar health hazards as Gorilla glue). When spraying, fresh air supply, gloves, and protective clothing is required during application. When brushing, ventilation, gloves and protective clothing is required during application.

Shelf Life:

The shelf is twelve months for Part B and six months for Part A. They will last longer than that when stored properly.

The ISO, when left open will suck moisture out of the humid air and cause bubbles. The container should be closed when not taking some out.

Technical Support: (212) 367-7561