



VFI-110 POLYURETHANE CASTING AND INJECTION MOLDING PLASTIC

Overview

■ **Description**

VFI-110 is a unique, two-component, moderate viscosity casting system designed for easy processing and rapid de-molding. This system results in very tough plastic with a smooth and glossy surface. VFI-110 can be used in conjunction with fiberglass or ceramic beads for reducing cost, reinforcement, and lowering the overall density. The system is also available in faster versions for reaction injection molding.

■ **Usage**

VFI-110 has numerous applications including:

- Structural parts
- Furniture parts

- Interior building parts
- Sporting goods
- Ornamental molding
- Automotive parts
- Decorative figurines, picture and mirror frames and other similar items

■ **Color**

Both the ISO and Poly components are moderate viscosity, clear amber liquids. When they are combined, rigid thermoset plastic is formed. For information on custom colors, contact Volatile Free, Inc.

Physical Properties

■ **Hardness**

ASTM D-2240
 Shore D

72 ± 3

■ **Tensile Properties**

ASTM D-638
 Strength
 Elongation

4,000 psi
 75%

■ **Flexural Properties**

ASTM D-790
 Strength

3,230 psi

■ **Notched Izod**

ASTM D-256
 ft.lb./in

1.8

Liquid Component Properties

■ **Solids**

100%

■ **Viscosity**

"A" side
 "B" side

500-700 cps @ 77°F
 900-1100 cps @ 77°F

■ **Specific Gravity**

"A" side
 "B" side

1.16 g/ml
 1.06-1.12 g/ml

Depending on color

■ **VOC**

Contains no volatile organic compounds.

■ **Flash Point, PMCC**

ISO Component
 Poly Component

370°F
 240°F

■ **Boiling Point**

ISO Component
 Poly Component

>400°F
 >530°F

■ **Reactivity**

- **Pot Life:** Between 35 - 50 seconds when mixed at room temperature.
- **Tack-Free Time:** 30 seconds after gelation occurs.
- **Gel Time:** When gelation occurs, the clear liquid mixture forms an amber to translucent rigid plastic.
- **De-mold Time:** Plastic parts can be de-molded in about three times the gel-time. The warmer the mold, up to 130°F, the shorter the de-molding time.
- **Cure Time:** The material will reach its maximum physical properties in two to seven days. Faster curing variations are available to meet reaction injection molding cycles.

■ **Storage Stability or Shelf Life**

Warning! VFI-110 is sensitive to moisture. Store in a dry place between 60-90°F. Do not preheat over 100°F without mixing. Shelf life is 6 months for the ISO (A) side and 6 months for the Poly (B) side in original unopened container. All containers must be sealed when not in use. Containers that have been opened should be used within one week. To prolong the shelf life of the containers, it is recommended that a blanket of nitrogen be applied to the container or desiccant cartridge inserted into the container opening.

Application

■ **Equipment**

For specific instructions and equipment requirements, contact Volatile Free, Inc.

■ **Mixing**

The mixing ratio is 1 to 1 by volume or 109 parts by weight of Isocyanate to 100 parts Polyol. Hand mix thoroughly for 30 seconds. Power mixing is mandatory for large quantities or if ceramic beads are used.

■ **Limitations**

To verify this product is appropriate for your specific application, consult with Volatile Free, Inc.'s technical department.

■ **Thinning**

Do not thin. VFI-110 components cannot be cross mixed with any other coating components.

■ **Precautions**

See Safety Data Sheet for complete safety data.

■ **Packaging**

- 5 Gallon pails
- 15 Gallon ponies
- 55 Gallon drums
- 270 Gallon totes

For more information, contact us today at **800-307-9218**

Corporate Office: P.O. Box 344 • Brookfield, WI 53008 • (800) 307-9218 • (262) 787-0400 • Fax (262) 787-0500 • www.volatilefree.com

This information and technical advice provided herein are believed to be reliable and accurate to the best knowledge of Volatile Free, Inc. As based on tests and should serve only as a recommendation. As the manufacturer, Volatile Free, Inc. makes no representations or warranties of any kind, expressed, implied or statutory, including but not limited to all implied warranties of merchantability or fitness for use or a particular purpose, or any other matter with respect to this product. Volatile Free, Inc. makes no representations or warranties as to the results of the use of the product and assumes no obligation or liability in connection therewith. Volatile Free, Inc. is not liable for any special, exemplary, punitive, incidental or consequential damages of any sort or kind from use of this product. The information provided herein is subject to change at any time without notice. Information changes may include, but are not limited to, commercial and technical changes, changes in pricing, physical characteristics and packaging.