

CASTING AND INJECTION MOLDING PLASTIC SYSTEM

■ Description

VFI-110 is a unique two component, moderate viscosity casting system designed for easy processing and rapid demolding. This system results in very tough plastics with smooth and glossy surfaces. The VFI-110 system 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 application possibilities such as 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 combined, a rigid amber to translucent thermoset plastic is formed. Custom colors are available on request.

Physical Properties

■ Tensile

ASTM D-412
Strength: 4370 psi
Elongation: 14%
Yield: 4503 psi
Elastic Modulus: 33929 psi

■ Flexural

ASTM D-790
Strength: 3,200 psi

■ Tear

ASTM D-624
Strength: 342 pli

■ Hardness

ASTM D-2240
Shore A 93 - 95
Shore D 70 - 72

■ Impact Resistance

Unnotched Izod
ASTM D-256
32.56 ft./lbs. per in.

Liquid Component Properties

■ Solids

Weight: 100%
Volume: 100%

■ Density

Poly Component: 8.88 lbs./gal.
Iso Component: 9.68 lbs./gal.

■ Viscosity

Poly Component:
1290 ± 300 cps @ 77°F
Iso Component:
836 ± 200 cps @ 77°F

■ V.O.C.

Contains no Volatile Organic Compounds.

■ Flash Point, PMCC

Poly Component: 240°F
Iso Component: 370°F

■ Specific Gravity

Poly Component:
1.06 - 1.12 g/ml
Depending upon color.
Iso Component:
1.16 g/ml

■ Boiling Point

Poly Component: >530°F
Iso Component: >400°F

■ Storage Stability

12 months in unopened containers @ 50°F- 90°F.

Application

■ 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 in the case of large quantities or if ceramic beads are used.

■ Pot Life

Pot life is between 35 - 50 seconds when mixed at room temperature. When gelation occurs, the clear liquid mixture forms an amber to translucent rigid plastic. VFI-110 will be tack free in approximately 30 seconds after gelation occurs. Faster curing variations are available to meet reaction injection molding cycles.

■ Cure & Demold

Plastic parts can be demolded in about 3 times gel-time. The warmer the mold (up to 130°F), the shorter the demolding time. The material will reach its maximum physical properties in two to seven days.

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