

CASTING AND INJECTION MOLDING PLASTIC SYSTEM

■ Description

VFI-1680 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-1680 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-1680 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-638
Strength: 5,200 psi

■ Hardness

ASTM D-2240
Shore D 81 ± 3

■ Flexural

ASTM D-790
Strength: 4,300 psi

■ Notched Izod

ASTM D-256
ft. lb./in 15.2

Liquid Component Properties

■ Solids

Weight: 100%
Volume: 100%

■ Viscosity

Poly Component:
650-850 cps @ 77°F
Iso Component:
650-850 cps @ 77°F

■ Specific Gravity

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

■ V. O. C.

Contains no Volatile Organic Compounds.

■ Flash Point

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

■ Boiling Point

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

■ Storage Stability

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

Application

■ **Mixing**

The mixing ratio is 1 to 1 by volume or 113 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 150 - 180 seconds when mixed at room temperature. When gelation occurs, the clear liquid mixture forms an amber to translucent rigid plastic. VFI-1680 will be tack-free in approximately 3 minutes after gelation occurs. Faster curing variations are available to meet reaction injection molding cycles.

■ **Cure and Demold**

Plastic parts can be demolded in about 3 times tack-free 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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