Environmentally Safe Polymers, Inc.

Technical Data

Updated 11/2004

POLYCAST #19
CASTING PLASTIC SYSTEM

PRODUCT DESCRIPTION AND USAGE:
PolyCast #19 a unique two component, low viscosity, low odor casting system designed for easy processing and rapid demolding. This system results in very tough plastics with smooth and glossy surfaces. The PolyCast #19 system can be used in conjunction with fiberglass or ceramic beads for reducing cost, reinforcement and lowering the overall density. PolyCast #19 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 low viscosity, clear amber liquids. When combined, a rigid translucent to opaque ivory thermoset plastic is formed.

PHYSICAL PROPERTIES

HEAT DEFLECTION TEMPERATURE:

ASTM D-648	264 psi	212°F.

TENSILE:

ASTM D-638	Strength	7000 psi
	Elongation:	15%

HARDNESS:

ASTM D-2240	Shore D	80 ± 2

FLEXURAL:

ASTM D-790	Strength	12,200 psi
	Modulus	275,000 psi

NOTCHED IZOD:

ASTM D-256	ft. lb/in 0.75

LIQUID PROPERTIES

SOLIDS:

Weight:	100%
Volume:	100%

VISCOSITY:

Poly Component:	700-900cps @ 77°F.
Iso Component:	50-100cps @ 77°F.

SPECIFIC GRAVITY:

Poly Component:	1.06 g/ml
Iso Component:	1.2 g/ml

V.O.C.:
Contains no Volatile Organic Compounds.

FLASH POINT, PMCC:

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

BOILING POINT:

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

STORAGE STABILITY:
One year in unopened containers at 50-90°F.

APPLICATION

MIXING:
The mixing ratio is 1 to 1 by volume or 113 parts by weight of the 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 30 and 70 seconds when mixed at room temperature. When gelation occurs, the clear liquid mixture forms a translucent to opaque ivory colored rigid plastic. PolyCast #19 will be tack free in approximately 30 seconds after gelation occurs. Faster curing product is available to meet needs for faster cycling of molds.

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

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