Innovative Polymers, Inc.
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RapidVAC™

Product Name

VA-274 Polyurethane

Low viscosity ultra clear

RoHS Compliant

Description

VA-274 is a water clear, rigid polyurethane formulated for room temperature hand-batch or vacuum-assisted casting methods. Excellent physical properties can be obtained without the utilization of mercury, MOCA, or TDI. VA-274 is low viscosity to be used in applications with thin wall sections for excellent flow rates.

Physical Properties

Mix Ratio	Resin:Hardener (parts by weight)	**100:50**		
Mix Ratio	Resin:Hardener (parts by volume)	**100:55**		
Viscosity	Resin	900	**Gel Time**	18 ± 3 minutes
(cps)	Hardener	725	**Demold Time**	6 ± 2 Hours
	Mixed	750	**Color**	Water Clear
Specific Gravity	Resin	1.16		
(g/cc)	Hardener	1.05		

Cured Properties

Cure 1► 24 hours at 77˚ F. + 16 hours at 180˚ F.
Cure 2► 7 Days at 77˚ F.

	Method	Cure 1	Cure 2
Hardness (shore D)	ASTM D-2240	83 ± 3	83 ±3
Tensile Strength (psi)	ASTM D-638	9,800	7,000
Elongation at Break	ASTM D-638	7%	3%
Ultimate Flex Strength (psi)	ASTM D-790	16,700	16,500
Flexural Modulus (psi)	ASTM D-790	365,000	385,000
Notched Izod (ft.lbs./in.)	ASTM D-256	1	0.4
Linear Shrink (in./in.)	ASTM D-2566	.005-.010	.005-.010
Heat Deflection Temp. (66psi)	ASTM D-648	74˚C / 166˚F	50˚C / 122˚F
Heat Deflection Temp. (264 psi)	ASTM D-648	70˚C / 158˚F	49˚C / 120˚F
Specific Gravity (g/cc)		1.08	1.08

Processing Notes

Formulated for hand-batch or vacuum assisted casting equipment. For best results, de-air the material prior to casting, then pressurize to 60 psi until cured. During the initial mix, the material will turn cloudy in color. As it becomes more compatible, it will phase-change back to clear. This will take approximately two to three minutes depending upon temperature.

Agitate the hardener and resin before use to ensure that the formula is homogeneous.

Safety and Handling

DO NOT USE UNTIL MSDS HAVE BEEN READ AND UNDERSTOOD. Store containers in a dry location. Partially used containers should be blanketed with dry nitrogen to prevent moisture contamination. Moisture will react with the resin component, creating carbon dioxide gas and a possible pressure increase in the container.

SPECIFICATION WRITERS: The above values are meant to represent typical properties only. Users are encouraged to qualify products in their own laboratories prior to specification publication.

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