



RapidVAC™

Product Name

VA-273 Polyurethane



Description

VA-273 is a tough, impact resistant elastomer formulated for hand-batch or vacuum-assisted casting methods. Excellent physical properties can be obtained without the utilization of mercury, MOCA, or TDI. The unique chemistry of VA-273 imparts excellent optical clarity as well as U.V. stability. With a short post cure, exceptional heat resistance may be achieved.

Physical Properties

Mix Ratio	Resin:Hardener (parts by weight)	100:37		
Mix Ratio	Resin:Hardener (parts by volume)	100:40		
Viscosity (cps)	Resin (at 77°F)	900	Gel Time	12 ± 2 Minutes
	Hardener (at 100°F)	2100	Demold Time	3 ± 1 Hours
	Mixed	1000	Color	Water Clear
Specific Gravity (g/cc)	Resin	1.16		
	Hardener	1.08		

Cure 1 ▶ 7 days at 77°F
Cure 2 ▶ 24 hours at 77°F + 4 hours at 175°F

Cured Properties

	Method	Cure 1	Cure 2
Hardness (shore D)	ASTM D-2240	85 ± 5	85 ± 5
Tensile Strength (psi)	ASTM D-638	9,000	9,900
Elongation at Break	ASTM D-638	4%	6%
Compression Strength (psi)	ASTM D-695	N/A	N/A
Compression Modulus (psi)	ASTM D-695	N/A	N/A
Ultimate Flex Strength (psi)	ASTM D-790	16,000	15,500
Flexural Modulus (psi)	ASTM D-790	350,000	350,000
Notched Izod (ft.lbs./in.)	ASTM D-256	0.7	0.8
Linear Shrink (in./in.)	ASTM D-2566	N/A	N/A
Heat Deflection Temp. (66psi)	ASTM D-648	65°C / 149°F	100°C / 212°F
Heat Deflection Temp. (264 psi)	ASTM D-648	58°C / 137°F	90°C / 194°F
Specific Gravity (g/cc)		1.14	1.14

Processing Notes

For best results, de-air the material prior to casting, then pressurize to 60 psi until cured. A short post-cure at 175°F will significantly increase the heat resistance of this system. VA-273 can be easily buffed when cured. The lower hardener viscosity at a slightly elevated temperature allows improved processing where thin wall sections are difficult to fill.

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

Safety and Handling

Although warming the hardener component will reduce the viscosity effectively, it is not recommended that the material be stored in the oven at 100°F or above. This will cause the material to yellow.

<p>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.</p> <p>PURCHASER has the responsibility for determining any applicability of and compliance with federal, state, and local laws concerning labeling, use, and waste disposal, particularly in making consumer items. Innovative Polymers, Inc. makes no warranty, expressed or implied, for merchantability or fitness of use. The sole liability of Innovative Polymers, Inc. for any claim arising out of the manufacture, use, or sale of its products shall be the buyers purchase price.</p>
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