

Novagard® 500 Series 500-PV

Specification Data – Technical Data Sheet



DESCRIPTION

Novagard 500-PV is a two-component (10:1), 100% alkoxy silicone, neutral cure sealant that builds high bonding and elastomeric strength for industrial assembly, solar panel and junction box application, especially for substrates: glass, aluminum, steels and plastics. It develops high green strength, so it improves your production efficiency. Novagard 500-PV adhesive/sealant allows for the movement of assemblies without silicone transfer or substrate shifting in hours.

FEATURES AND BENEFITS

- Fast curing
- RoHS compliant and Halogen free
- Non-corrosive, low odor
- Excellent adhesion to a wide variety of substrates including glass, metals and plastics
- Wide operating temperature range
- Fast setting and fast curing enabling reduced production times

Novagard 500-PV demonstrates outstanding long-term resistance to natural weathering including extreme temperatures, ultraviolet radiation, rain, and snow, with negligible change in elasticity.

APPLICATIONS

Novagard 500-PV functions as an adhesive sealant that develops bonds to most substrates (glass, plastic and metals) and commonly used accessories in industrial assembly. It allows for high unit throughput, low pumping viscosity on production equipment, and void-free filling of the sealant joint.

Typical applications including:

- Frame Adhesive
- Seam sealing
- Bonding to Glass, Plastic and Metals
- Bonding and sealing in appliance applications
- General assembly sealing

INSTALLATION

As with all two-component materials, the work-life and cure times of Novagard 500-PV are dependent upon environmental conditions such as temperature. The material should be continued to room temperature before use. Adhesion should be checked on small samples prior to full-scale production.

PRIMER INFORMATION

Novagard advises utilizing a primer prior to Novagard 500-PV application to ensure performance per Technical Data Sheet (TDS) specifications. Novagard 500-PV achieves adhesion without primer, but to meet TDS performance specifications a primer is required. Various primers can be used to achieve bonding specifications; therefore, Novagard recommends consultation with your technical sales team on primer selection prior to product testing.

PRODUCT SPECIFICATIONS (UNMIXED)*

Physical Property	Test Method	Typical Value
Specific Gravity Part A Part B		White Black
Specific Gravity Part A Part B	ASTM D0792	1.40 1.03
Viscosity (cPs) Part A Part B	ASTM D1084 Brookfield HB #6 @ 20 rpm	150,000 100,000
Extrusion Rate	1/8" orifice	A: 120g/min @50psi A: 250g/min @90psi B: 800g/min @30psi

PRODUCT SPECIFICATIONS (MIXED)*

Physical Property	Test Method	Typical Value
Appearance		Black
Cure Chemistry		Alkoxy Condensation
Tack-Free Time	ASTM D2377	80 minutes
Cure Time	23 ± 2 C, RH50%	8 hours

MIX RATIO*

Physical Property	Typical Value
Base/catalyst Ratio by Volume	10:1
Base/catalyst Ratio by Weight	13.6:1

TYPICAL CURED PROPERTIES (23 ±2C, RH 50% x 7 days) *

Physical Property	Test Method	Typical Value
Appearance		Black
Tensile Strength (psi)	ASTM D412	268
Hardness (Shore A)	ASTM D2240	48
Elongation (%)	ASTM D412	103
Volume Resistivity (Ω cm)	ASTM D257/C961	7.6 x 10 ¹⁶
Dielectric Strength	ASTM D149	38 kV/mm 975 V/mil
Dielectric Constant at 100 Hz	ASTM D150	3.30
Dielectric Constant at 100 kHz	ASTM D150	3.21
Dissipation Factor at 100 Hz	ASTM D150	0.0100
Dissipation Factor at 100 kHz	ASTM D150	0.0020
Tensile Bonding - Glass/ Aluminum/ Steel Initial (With primer) After DH2000*	ASTM D897	>130 psi >50% of Base >90% Cohesive Failure
Shear Bonding - Glass/ Aluminum/ Steel Initial (With primer) (thickness 2.5 mm) After DH2000*	ASTM C974	>100 psi >50% of Base >90% Cohesive Failure

*DH2000: Damp heat at 85C, RH85% for 2000 hours

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AVAILABILITY

Novagard 500-PV is available in 55-gallon drums and in 5-gallon pails, and two-component 10:1 cartridge.

STORAGE

Novagard 500-PV has a shelf life of twenty (20) months from the date of manufacture for Part A, and nine (9) months for Part B, as indicated by the lot number when stored in the original, unopened container at, or below, 75°F (24°C).

SAFETY AND DISPOSAL

Consult and obey all applicable local, state, and federal regulations for the disposal of solvent and silicone waste. For additional information consult product S.D.S.

Silicone setting blocks are recommended for direct contact with Novagard 500-PV. Compatibility testing is recommended on all materials that are to be in direct contact with Novagard 500-PV.

General Instructions

a) For best performance bond surfaces should be clean, dry and free of any contaminants and oils. b) Mix Parts A and B evenly according to the applicable mix ratio. Machine meter mix is recommended. c) Apply the mixture to the surface or seam. Automated dispensing equipment is recommended for seam sealing applications. d) Excess materials can be removed after the fixture time. e) It is recommended to schedule a timely purge for the use of mixed material in the static mixer. This is done to avoid inconsistent mixing and to ensure desired performance and properties. f) Material is a secondary moisture-cure type material. It will start to cure immediately after mixing two-components. Moisture in the air will assist to cure material.

ADDITIONAL INFORMATION

Novagard believes that the information provided is a true and accurate description of the typical characteristics of the aforementioned product; however, it is the responsibility of the individual user to thoroughly test the product in their specific application to determine performance, efficacy, and safety.

CERTIFICATIONS

Physical Property	Typical Value
UL 94	HB
UL 746 A	PASS
UL 746 B	105°C
UL 746 C	f1 (both water & UV)

*The values outlined reflect testing that was conducted under laboratory conditions, actual results may vary. The information provided in the above table is not intended for use in preparing specifications. Please consult the manufacturer for additional information.