Product Datasheet

Primax® PR19

1-Component Primer & Adhesive

Primax® PR19 is a thermosetting coating that can be used as a primer or adhesive. It is composed of high performance phenoxy resins and adhesion promoters in a blend of organic solvents. . It provides high shear and peel strengths in adhesive applications and is excellent for priming metals prior to bonding with other adhesives. It is also an excellent primer for castable 2 part urethanes and many thermoplastic urethanes (TPU). bonding metals to themselves and other substrates. Once applied and thoroughly dried, the primer/adhesive coating can remain suitable for bonding for up to 3 months if protected from dust and other contaminants. However optimal results are achieved by bonding within 4-8 hours of application.

APPLICATIONS & BENEFITS:

- Excellent Shear & peel strength
- Dried coating is bondable for up to 3 months
- Meets SCAQMD VOC requirements
- Heat, Chemical, & Radiation resistant
- Easy to Use

HANDLING PROPERTIES	VALUE	TEST METHOD
Visual Appearance	Clear to Light Amber liquid	
Density – lbs. /gallon	9.74 – 10.1	ASTM E-201
Density – g/ cm^3	1.17 – 1.21	ASTM E-201
Viscosity at 25ºC	20 - 80 cps	ASTM D-2393
Percent Solids (non-volatile %)	8% - 12%	
Base Chemistry	Phenoxy	
Primary Solvents	Propylene Carbonate & MEK	
Flash Point	52°C (125.6°F)	
VOC Content	249 g/L	SCAQMD rule 1168

Drying time: Primax PR19 will typically air dry to a tack-free coating in about 30 - 45 minutes at room temperature. However for an optimum performance the dried coating should be air dried for 45 minutes at 93°C (200°F), 30 minutes at 121°C (250°F), or 10 minutes at 149°C (300°F). A heated drying step will yield a stable B-stage coating layer that is resistant to mechanical damage and that can be stored for up to 3 months if protected from contamination.

Curing Schedule: Cure for 2-3 hours at 121°C (250°F) or 30-60 minutes at 150°C (300°F). For adhesive applications apply a bond-line pressure of approximately 70 - 80 psi. Ensure that the bond-lines have reached the curing temperature before starting to time the cure cycle. This is especially important when bonding large metal parts.

PHYSICAL PROPERTIES	VALUE	TEST METHOD
Color	Amber	Visual

T-Peel Strength	>8 pli	ASTM D-1876
Lap Shear Strength (etched aluminum)		ASTM D-1002
at -55°C (-67°F)	4400 psi	
at 25°C (77°F)	4200 psi	
at 82°C (180°F)	3300 psi	
at 121°F (250°F)	1050 psi	
at 150°C (300°F)	250 psi	
Lap Shear Strength - Environmental Aging		ASTM D-1002
30 days in tap water at 25°C (77°F)	4100 psi	
30 days in 20% salt solution at 35°C (95°F)	4100 psi	
7 days in hydraulic oil at 25°C (77°F)	4200 psi	
7 days in aromatic fuel at 25°C (77°F)	4200 psi	
Glass Transition Temperature (Tg)	92°C (197.6°F)	ASTM D-648
Coefficient of Thermal Expansion (CTE)		ASTM E-831
Alpha 1 (below Tg)	262 ppm/°C	
Alpha 2 (above Tg)	543 ppm/°C	

ELECTRICAL PROPERTIES

	VALUE	TEST METHOD
Dielectric Constant at 1 kHz & 25°C (77°F)	5.2	ASTM D-150
Dissipation Factor at 1 kHz & 25°C (77°F)	0.11	ASTM D-150
Dielectric Strength at 1 mil thickness	2000 V/ mil	ASTM D-149
Volume Resistivity at 25°C (77°F)	1.1 x 10^{15} ohm-cm	ASTM D-257

NOTE: Values above are based on laboratory or average production results – not for specification purposes. All properties generated on samples cured for at least 60 minutes at 300°F (150°C). Adhesive samples subject to 75 psi bond-line pressure applied using a platen press.

SUGGESTED PROCESSING GUIDELINES:

Apply in a uniform, thin coat using a brush or roller or by dip or spray methods. If spraying, the material may be thinned with small amounts of Acetone, MIBK or propylene carbonate to produce a lower viscosity or control application thickness, but this is seldom necessary. Typical primer layers have a dry film thickness of 0.5 - 1 mils (12.7 – 25.4 microns). For adhesive applications a 1 mil dry thickness one a single surface or 0.5 mil dry thicknesses on both surfaces is usually satisfactory. Coverage is typically about 90 - 100 sq. feet per gallon of the Primax® PR19.

For best results ensure surfaces to be primed or bonded are clean and lightly roughened. Surfaces that have had the adhesive applied and allowed B-stage remain bondable for up to 3 months, but must be protected from dust, oil, and other contaminants. Wrapping or covering the surface in unplasticized kraft paper is often a suitable means to protect the surface from many types of contamination.

STORAGE GUIDELINES:

Store this material in a clean, cool and dry environment in its tightly closed original container. Keep from freezing and if frozen immediately warm to room temperature rather than allowing to remain frozen. Tightly reseal containers after use to prevent evaporation. If the recommended storage conditions are observed the products will have a minimum shelf-life of 12 months from the date of shipment.

HANDLING PRECAUTIONS:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheet.

PERSONAL HYGIENE:

Primax® PR19

WARNING: FLAMMABLE KEEP AWAY FROM OPEN FLAMES, SPARKS, AND HEAT. Avoid breezing vapors. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. May cause respiratory irritation and overexposure may cause nausea or dizziness. Use only with good mechanical ventilation and/or respirator. Do not take internally.

FIRST AID

In case of contact:

Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER:

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