

Primax™ P94 and P99

1-COMPONENT PRIMERS FOR RUBBERS & THERMOPLASTICS

Primax™ P94 and Primax™ P99 are one component primers designed to improve adhesion of epoxy, urethanes, and many other types of adhesives, coatings, elastomers, tapes, and encapsulants applied to vulcanized rubbers and thermoplastics that are otherwise hard to bond.

The Primax™ P94 chemically modifies the surface of the material being primed to create better wetting and allow for greater chemical bonding of the surface. It is ideal for polyolefins like polypropylene and polyethylene as well as many types of rubber. Primax P99 provides a thick elastic primer layer that improves bond strength of adhesives and coatings to thermoplastic elastomers including Santoprene and is also effective with many types of rubber.

Adhesives, tapes, and coatings applied to surfaces primed with Primax P94 and P99 show are generally more resistant to moisture, chemicals, and to humidity & thermal exposure than the same materials applied to the same surfaces unprimed.

Use of Primax P94 and P99 can increase the adhesive bond strength by 25% – 100% when bonding vulcanized rubbers, thermoplastics, and engineered plastics.

TYPICAL PROPERTIES	VALUE	TEST METHOD
<u>Primax™ P94</u>		
Visual Appearance	Clear light yellow to amber liquid	
Density	0.82 g/cm ³	ASTM E-201
Viscosity, at 25°C	< 10 cps	ASTM D-2393
Solids Content	3%	Calculated
Flash Point	-20°C	ASTM D-92
<u>Primax™ P99</u>		
Visual Appearance	Light tan	
Density	0.82 g/cm ³	ASTM E-201
Viscosity, at 25°C	10 - 50 cps	ASTM D-2393
Solids Content	5%	Calculated
Flash Point	-18°C	ASTM D-92

ENHANCING ADHESION

Many adhesives, potting materials, and coatings are designed to adhere well to a variety of substrates, but some products and some surfaces require adhesion enhancement to achieve optimal bond strength or to ensure that the bond strength remains satisfactory when the bonds are subject to moisture or other environmental conditions. Primax™ P94 and P99 increases the bond strengths of many adhesive, coatings, tapes, and other materials to rubber and

thermoplastic surfaces, and it also creates a chemically modified surface that is more resistant to moisture & chemical attack. In some cases, this modification may provide enhanced heat resistance to the bond.

SURFACE PREPARATION

For best results, the primer must thoroughly wet-out and coat the surface to be bonded. The surface should be as free of dirt, rust, grease, mold releases, and other contaminants as possible as these could negatively affect adhesion. For most applications, general, light surface abrasion followed by cleaning to remove any dust or debris, is all that is required to provide a good clean surface and to increase the surface area for bonding. Steel wool, a wire brush, sandpaper, or abrasive pads are all suitable for light abrasion of most surfaces. Sandblasting and etching are also options for preparing the surface. In all cases, after abrasion, the surface should be dusted to remove any loose material and then cleaned and degreased with an aqueous cleaner, naphtha, mineral spirits, methyl ethyl ketone (MEK) or other suitable means of removing oils and other contaminants. A final surface wipe with acetone or IPA may also be helpful. Allow any solvent to completely evaporate before applying the primer. Different cleaning techniques may give better results than others and the user should determine the best technique for each specific application.

APPLICATION

This product should be applied in a very light, even coat by wiping, dipping, or brushing. Spraying is also possible with many types of spray equipment with the goal of applying a 5-10 mil wet film of the primer.

To apply by wiping, use a clean, lint free cloth made of cotton or a synthetic material. Wipe on in thin layers and change the part of the cloth being used and the entire cloth as it become contaminated with soil from the surface being primed. For brushing, use nylon bristle or foam brushes. Do not use brushes with metal handles or collars as these may react with the primer. For dip applications, use glass or polyolefin containers to hold the primer and submerge the area to be primed and then allow the parts to drain while the primer dries for at least 15 - 20 minutes. If parts cannot drain completely use a lint free cotton or synthetic cloth to wipe the surface dry after 15 minutes or so. In any case, allow the primer to air dry for at least 15 - 20 minutes and ensure they are visually dry, before applying adhesives, coatings, encapsulants, or other materials that will bond to the surface.

Note: Porous or uneven surfaces may require a thicker coating or 2 coats of the Primax P94 or P99 to achieve full coverage.

CURE CONDITIONS

Air drying for 15 - 30 minutes is usually sufficient to fully dry the primer. Full adhesion will develop over 1-2 hours, but the surface can be bonded with overlayers of adhesives, coatings, etc. and those materials cured as soon as the air drying is complete and the coating is without compromising the priming effect.

SUGGESTED PROCESSING GUIDELINES:

The desired adhesive, castings materials, or coating should be applied after the primer has fully dried as mentioned above. Typically applying within 1 - 4 hours after the primer has dried is most desirable. However, in some applications, keeping the primed surface clean and free of

contaminants will allow application of the final polymeric system to be delayed for longer periods. If the primer is not giving the fully priming effect after storage for more than 4 hours, applying an additional layer of primer and allowing it to freshly dry may be necessary to achieve the desired performance.

STORAGE AND SHELF LIFE

Shelf life is indicated on the product label. For best results, Primax primers should be stored below 32°C (90°F) and should be protected from high humidity after opening. Containers should be kept tightly closed and head or air space minimized. Partially filled containers should be purged with dry air or other gases such as nitrogen to maximize shelf life.

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 sheets.

PERSONAL HYGIENE:

Primax™ P94 and Primax™ P99

FLAMMABLE: AS WITH ALL INDUSTRIAL MATERIAL USE CAUTION WHEN WORKING WITH THESE MATERIALS. Avoid breezing vapors. Keep away from sparks or open flames. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Extending exposure could cause a slight irritation of the nasal passages, eyes, or skin. May cause eye & skin irritation. Wash thoroughly after handling. Use only with adequate ventilation. 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:

IMPORTANT: The following supersedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential, or indirect damages for alleged negligence, breach of warranty, strict liability, tort, or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

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