Chemlok® AP-133 Primer and/or Adhesive

Technical Data Sheet

Chemlok® AP-133 primer and/or adhesive is a clear one-coat adhesive used to bond unvulcanized silicone rubber to various substrates such as metals, glass, plastics and textiles.

Chemlok AP-133 adhesive also bonds specialty elastomers such as fluoroelastomers, polyacrylates, epichlorohydrin and some peroxide vulcanized elastomers.

Features and Benefits:

Versatile – provides excellent bonding characteristics between a wide variety of commercially available elastomer stocks and many diverse metallic and nonmetallic substrates.

Environmentally Resistant – creates strong bonds capable of withstanding salt spray, harsh chemical exposure, corrosive atmospheres and temperature extremes.

Durable – provides rubber tearing bonds that are stronger than the rubber; provides high strength performance at both high and low temperatures.

Easy to Apply – applies easily by brush, spray or dip methods.

High Temperature Resistant – withstands temperatures up to 204°C (400°F) and below -51°C (-60°F) when bonding with fluoroelastomers or silicone.

Elastomers:

- Fluoroelastomer (FKM)
- Polyacrylate (ACM)
- Epichlorohydrin (ECH)
- Silicone (VMQ, PMQ, PVMQ) - peroxide cure
- Hydrogenated Nitrile (HNBR) - peroxide cure
- EPDM - peroxide cure
- Nitrile (NBR) - peroxide cure
- Viton®

Application:

Surface Preparation – Thoroughly clean metal surfaces prior to application. Remove protective oils, cutting oils and greases by solvent degreasing or alkaline cleaning. Remove rust, scale or oxide coatings by suitable chemical or mechanical cleaning methods.

Carefully prepare nonmetallic surfaces. Fabric is usually desized by a scouring operation. Glass can be cleaned in an alkaline bath. Clean plastic surfaces with a solvent.

For further detailed information on surface preparation of specific substrates, refer to Chemlok Adhesives application guide.

Mixing – Pour the adhesive into a receptacle and dilute with toluene, methanol or ethanol as required. Average dilution ratio of 1:1 solvent to adhesive will provide the optimum adhesion and maximum coverage with minimum product use.

Pour out only enough adhesive to use for a short period of time, as rapid evaporation occurs in open containers. Porous substrates, such as heavy fabrics, may require more extensive dilution in order to prevent excessive pick-up.

Typical Properties*	
Appearance	Clear Liquid
Viscosity, cSt	0.0 - 5.0
Density kg/m^3 (lb/gal)	 790 - 830 (6.6 - 6.9)
Solids Content by Weight, %	4.8 - 6.2
Flash Point (Seta), °C (°F)	14 (57)
Solvents	Methanol, Ethanol, Toluene

*Data is typical and not to be used for specification purposes.

Applying – Apply adhesive in a uniformly thin coat by brush, spray or dip methods. Bond strength can be compromised by repeated brushing or improper dipping drainage.

When coating fabrics, use a dry pick-up level of 0.05-1.0%, based on the dry weight of the fabric. Spray applications ensure that the adhesive is effectively applied to the fabric surface. For fabrics that are dipped or brushed, diluting the adhesive will help prevent fabric stiffness caused by excessive pick-up levels. For information on using dyes and fluorescing additives with Chemlok AP-133 adhesive, contact your Parker Lord Technical Service Representative.

Drying/Curing – Allow applied adhesive to air-dry for approximately 10-30 minutes at room temperature. Porous substrates may require a longer time for the solvent to completely evaporate. Allow for longer drying times during humid conditions. The parts can be dried at elevated temperatures; excellent bonding properties have been achieved by drying at 104°C (220°F) for 15 minutes.

Adhesive-coated parts may be bonded immediately after air-drying.

Open steam, autoclave and other curing methods will produce good bonds with Chemlok AP-133 adhesive. Maintain intimate contact between the compound and the bonding surface.

Oven or post-cures can enhance bond strength because the bonded parts are exposed to higher temperatures for longer periods of time than during press-cure.

Exposing the bonded part to high temperatures without proper conditioning at lower temperatures is detrimental to bond performance. This conditioning is especially important for end-use bond temperatures that exceed 204°C (400°F).

Chemlok AP-133 adhesive bonds are resistant to many destructive environments. Electroplating or anodizing metal parts after fabrication will not harm the bond.

Shelf Life/Storage:

Shelf life is one year from date of shipment when stored by the recipient at 21-27°C (70-80°F) in original, unopened container. Do not store or use near heat, sparks or open flame.

Cautionary Information:

Before using this or any Parker Lord product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

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