

Elastomer Bonding Agent

Composition

Heat reactive polymers in ethanol solution.

Description:

Chemosil 511 is a single coat bonding agent for elastomer compounds based on silicone (MVQ) and fluorocarbon (FPM) rubber to common metals, alloys and other polar polymeric substrates. Bonding occurs during the vulcanisation process of the rubber under cure temperatures typically between 120 and 180 °C. The bonded components have excellent resistance to heat, water, oils and other aggressive media.

Chemosil 511 may also be used as primer in combination with other bonding agents such as Chemosil X 6025, X 6150 or X 2360 to bond a wide range of elastomers to fabrics.

Specifications:

Method *)

| | | | | |
|-------------|---|-------------|----------|--------|
| Dry residue | : | 5.0 - 7.0 | weight % | 3040 |
| Density | : | 0.83 - 0.85 | g/ml | 950017 |

*) Methods
3040 : Determination of Dry Residue, 30 min @ 130°C
950017: Determination of Density @ 20°C

Properties:

Appearance : clear colourless liquid

Processing:

A properly prepared substrate is essential to achieve consistent elastomer bond performance. All oil, grease and other soluble contamination should be removed by solvent degreasing or alkaline cleaning. Rust, scale and other non soluble contaminants should be removed by mechanical or chemical methods. Grit blasting is the most commonly used mechanical method. A second degreasing stage after the mechanical treatment is strongly recommended to remove residual grease, oil and abraded dusts. Chemical treatments for ferrous substrates usually involve the use of phosphatising agents. Full details of the special chemical treatments required for non ferrous and plastic substrates are given in the information sheet, "*Preparation Of Substrates For Chemosil Bonding*".

Chemosil 511 can be applied by brush spray or dip techniques. A dry film thickness of ~ 5 microns can be achieved by using the material undiluted. Partly used bonding agent should not be returned to bulk containers. Solvents for dilution include ethanol and methanol. Solvents used for dilution should preferably be anhydrous or with a moisture content of below 0.5%. The stability of diluted bonding agent in dip tanks should be monitored if the solvent used for dilution contains more than 0.5% water.

At ambient temperature allow ~15 minutes drying time after coating. Elevated temperatures (up to 90°C) in hot air ovens or drying tunnels will reduce the drying time required. Chemosil 511 will dry to a non tacky film. Lay over times of several days under clean and dry conditions are possible, the coated parts should be processed as soon as is practicable after drying to avoid contamination and corrosion of the metal.

Vulcanisation temperatures for Chemosil 511 are typically between 140 and 200°C. If components are to be post cured special care should be taken during de-moulding operation as the bond may be only partly formed at that stage and be sensitive to mechanical attack. Maximum post cure temperatures for thicker component sections should be approximately 180-200°C with heating rates of 15-20°C per hour starting at 140-150°C.

The addition of a dye to Chemosil 511 can be used to check film coverage. Suitable dyes include Savinyl Blue RS or Savinyl Orange RSL (Sandoz AG, Basel/Switzerland). Concentrations up to 1g per kg of bonding agent may be used..

Safety/hazard Information:

See Health and Safety Data Sheet

Delivery form:

Containers 4 kg

Shelf life:

At least 12 months in closed containers below 25°C.

The above information and recommendations are based on our knowledge and experience. Due to different materials and conditions of application which are beyond our control we strongly recommend that sufficient tests are carried out in order to ensure that our products are suitable for the intended processes and applications.