Technical Information Chemosil 512

Elastomer Bonding Agent

Composition

Heat reactive polymers in ketone solution. (MEK)

Description:

Chemosil 512 is a single coat bonding agent designed to bond fluorocarbon (FPM) polymers to common metals, alloys, fabrics and other polymeric substrates. While Chemosil 512 was designed to bond difficult to bond fluorocarbon polymers Chemosil 512 can also be used to bond some difficult elastomers including silicones.

Bonding occurs during the vulcanisation process of the rubber under cure temperatures typically between 140 and 200 °C. The resultant bonds have excellent resistance to water, oils, lubricants and other aggressive fluids.

Specifications:				**Method *)**
Dry residue	:	13.0 - 17.0	weight %	970074
Density after manufacturing **)	:	0.84 - 0.86	g/ml	950017

*) Methods 970074:Determination of Dry Residue, 30 min @ 130°C
950017:Determination of Density @ 20°C

**) Density systematically rises during the first months to 0.85-0.87 g/ml.

Properties:

Appearance : clear brown 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 512 can be applied by brush spray or dip techniques. A dry film thickness of ~ 5-8 microns can be achieved by using the material undiluted. Lower micron films will give satisfactory bonds in many cases. Chemosil 512 can be diluted with 50-100% MEK, MIBK or isopropanol. Diluted and partly used bonding agent should not be returned to bulk containers. At ambient temperature allow ~15 minutes drying time after coating.

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 metal substrates.

Vulcanisation temperatures for Chemosil 512 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 512 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 9 months in closed containers below 25°C.