



MEGUM™ 538 Solvent-Based Adhesive

DESCRIPTION

MEGUM 538 is a general purpose cover-coat adhesive, used in combination with a MEGUM or THIXON™ adhesive primer, for bonding rubber compounds to metals and other rigid substrates during vulcanization.

The product is especially suitable for bonding both difficult to bond compounds and soft compounds.

Product Typical Properties

MEGUM 538	
Appearance	Black, liquid
Dry solid content (Non-volatile solids by weight)	22-25%
Viscosity, Brookfield (LV #2 spindle at 30 rpm)	200-500 mPa.s (cP)
Density (20°C)	0.96-1.00 g/cm ³
Specific gravity (20°C)	0.98 g/cm ³
Weight per gallon	8.2 lbs
Volume solids	14.2% (calculated)
VOC content per gallon	6.2 lbs (calculated)
Dry film density	1.6 g/cm ³ (calculated)
Flash point (Seta)	+26°C/79°F
These properties are typical and are not to be used for specifications purposes.	

Main Features

Composition : MEGUM 538 consists of reactive polymers and pigments in xylene. It is formulated without reportable levels of lead or other toxic heavy metals.

Elastomers : NR, IR, SBR, BR, EPDM, IIR, CR, NBR, etc.

Materials : MEGUM or THIXON adhesive primers adhere to hot and cold rolled steel, stainless steel, aluminium and brass prior to applying MEGUM 538. These same primers can be used to adhere to thermoplastics such as polyamides and polyesters.

Molding and Curing : MEGUM 538 can be used with all common molding and curing methods. Cure temperatures between 130°C and 190°C (265°F and 375°F) are recommended.

Environmental Resistance : MEGUM 538 used in combination with a MEGUM or THIXON primer yields bonds that are resistant to high temperatures, boiling water, salt water, salt fog and hydraulic fluids.

DIRECTIONS FOR USE

Preliminary Surface Preparation

Properly preparing the metal surface is essential to obtaining consistent, high quality bonds.

A mechanical or chemical pre-treatment should follow degreasing. Common pre-treatments are grit blasting and phosphating. Further details are provided in our "Substrates Preparation Guide", please contact your usual Rohm and Haas commercial representative should you need a copy of this guide.

Mixing and Diluting

Diluents : Use aromatic solvents such as toluene and/or xylene as diluents.

First, thoroughly mix MEGUM 538 with a propeller-type agitator. If diluting, slowly add the diluent to the adhesive while mixing constantly.

Continue to mix MEGUM 538 while spraying or dipping to keep the dispersed solids from settling to the bottom. This will assure that a homogeneous mixture of the adhesive is applied.

Applying the Adhesive

MEGUM 538 can be applied by brushing, dipping, spraying or other application methods. For spray application, the viscosity can be reduced by either dilution and/or heating, e.g. to 40°C/105°F.

Application Methods

Brushing

Dilution ratio : Use undiluted.

Dipping

Dilution ratio : 1 p.b.w. bonding agent + 0.2-0.3 p.b.w. diluent.

Spraying with air

Dilution ratio : 1 p.b.w. bonding agent + 0.3-0.7 p.b.w. diluent.

Viscosity : at 20°C/68°F.

30-80 mPa.s (cP) [Brookfield, LV#2 spindle at 60 rpm].

16-24 seconds [DIN-4-cup].

18-28 seconds [Ford-4-cup].

22-32 seconds [Zahn #2 cup].

Spray gun : Most spray equipment can be used.

Nozzle : e.g. 1.0 mm/0.04 in. or 1.4 mm/0.055 in.

Air pressure : 2-4 bar/30-60 psi.

Drying Time

The drying time is approximately 30 minutes at 20°C/68°F.

Drying at higher temperatures will reduce drying time accordingly, e.g. 5 minutes force drying at 80°C/176°F. Heated circulating air will further accelerate drying.

Do not dry at temperatures above 120°C/250°F.

Suggested Dry Film Thickness

Apply MEGUM 538 at a dry film thickness of 10 to 25 microns (0.4 to 1.0 mil.).

Dry Film Stability

MEGUM 538 has excellent dry film stability. Inserts coated with MEGUM 538 can be stored for several weeks, if protected from contamination.

Theoretical Coverage

Applied at a dry film thickness of 17.5 microns (0.7 mil.), MEGUM 538 will cover approximately 8.3 m²/kg (330 square feet/gallon).

Pre-bake Resistance

Depending on the rubber formulation, coated inserts

can be pre-baked for up to 5-10 minutes at 160°C/320°F without adversely affecting bond quality. Dried films of MEGUM 538 show no tendency to sweep during transfer or injection molding.

Cleaning

Cleaning should be done using recommended dilution solvents. Further details are given in our "General Guide to Use", please contact your usual Rohm and Haas commercial representative should you need a copy of this guide.

Storage and Handling

Keep containers tightly closed. Store them in a cool, dry, well-ventilated area away from heat, direct sunlight and sources of ignition. Containers should be supported and grounded before opening, dispensing, mixing, pouring or emptying.

Shelf Life

MEGUM 538 has a shelf life of at least 12 months if stored unopened at temperatures below 25°C/77°F. If the material is kept beyond its recommended shelf life, a quality control evaluation should be performed prior to use. This check should include bond testing as well as evaluation of typical physical properties.

Safety Information

Material Safety Data Sheets (MSDS) are available for all Rohm and Haas products. These sheets contain important information that you may need to protect your employees and customers against any known health and safety hazards associated with our products. We recommend that you obtain copies of our MSDS from your local Rohm and Haas technical representative before using our products in your facilities. We also suggest that you contact your suppliers of other materials recommended for use with our products for appropriate health and safety precautions before using them.

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