



THIXON™ 422 Solvent-Based Adhesive

DESCRIPTION

THIXON 422 is a one-coat bonding agent used for bonding castable polyurethane elastomers to metal.

Pre-baking THIXON 422 is not necessary for good adhesion.

THIXON 422 has very good high temperature and hydrolysis resistance.

Product Typical Properties

THIXON 422	
Appearance	Straw yellow to brown, liquid
Dry solid content (Non-volatile solids by weight)	16-18%
Viscosity, Brookfield (LV #2, V30 at 25°C)	165-365 mPa.s
Density (20°C)	0.88 g/cm ³
Specific gravity (20°C)	0.87-0.89 g/cm ³
Weight per gallon	7.3 lbs
Volume solids	12.4% (calculated)
VOC content per gallon	5.82 lbs (calculated)
Dry film density	1.21 g/cm ³ (calculated)
Flash point (Seta)	-9°C/16°F
These properties are typical and are not to be used for specifications purposes.	

Main Features

Composition : THIXON 422 consists of resins in Methyl Ethyl Ketone, Ethyl Benzene, Xylene, Ethanol, Methanol, n-Butyl alcohol. It is formulated without reportable levels of lead or other heavy metals.

Elastomers : castable polyurethane, thermoplastic polyurethane.

Materials : THIXON 422 adheres to hot and cold rolled steel, stainless steel, aluminum, brass as well as thermoplastics such as polyamides and polyesters.

Molding and Curing : THIXON 422 can be used with all common molding and curing methods. Cure temperatures between 70°C and 120°C (158°F and 248°F) are recommended.

To prepare the urethane, preheat the prepolymer and the curing agent to the recommended temperatures. Degas the prepolymer at 5mm Hg vacuum. Combine the curative and the urethane, and mix thoroughly. Then, cast the urethane. Cure the parts in the oven according to the time and temperature cycle required for the urethane polymer.

Environmental Resistance : PUR-to-metal bonding systems using THIXON 422 display resistance to severe environmental exposures. THIXON 422 has very good high temperature resistance.

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 ketones like MEK.

Thoroughly mix THIXON 422 with a high speed propeller-type agitator before using. If diluting, slowly add the diluent to the adhesive while continuously stirring.

Applying the Adhesive

THIXON 422 can be applied by brushing, dipping, spraying or other application methods.

Application Methods

Brushing

Dilution ratio : Use undiluted.

Dipping

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

Spraying with air

Dilution ratio : 1 p.b.w. bonding agent + 0.5-0.6 p.b.w. diluent.

Spray gun : Most spray equipment can be used.

Nozzle : e.g. 1.0 mm/0.04 in.

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

Drying Time

The drying time is approximately 40-60 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.

Suggested Dry Film Thickness

Apply THIXON 422 at a dry film thickness of 12 to 25 microns (0.5 to 1 mil.).

Dry Film Stability

THIXON 422 has excellent dry film stability. Parts coated with THIXON 422 can be stored for up to 2 weeks, if protected from contamination.

Theoretical Coverage

Applied at a dry film thickness of 20 microns (0.8 mil.), THIXON 422 will cover approximately 7 m²/kg (301 square feet/gallon).

Pre-bake Resistance

THIXON 422 must be pre-baked in order to obtain optimum adhesion. However THIXON 422 can be pre-baked for up to 12 hours at 90 to 100°C without adversely affecting the bond.

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

THIXON 422 has a shelf life of 24 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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