



THIXON™ 305 Solvent-Based Adhesive

DESCRIPTION

THIXON 305 is a solvent-based one-coat adhesive for bonding silicone compounds to metal during vulcanization.

Product Typical Properties

THIXON 305	
Appearance	Clear, liquid
Dry solid content (Non-volatile solids by weight)	21-24%
Viscosity, (Zahn 1 at 25°C)	24-34 sec.
Density (20°C)	0.87 g/cm ³
Specific gravity (20°C)	0.85-0.88 g/cm ³
Weight per gallon	7.3 lbs
Volume solids	14.6% (calculated)
VOC content per gallon	5.82 lbs (calculated)
Dry film density	1.34 g/cm ³ (calculated)
Flash point (Seta)	+4°C/40°F
These properties are typical and are not to be used for specifications purposes.	

Main Features

Composition : THIXON 305 consists of reactive silane polymers in Methanol, Ethanol and isoparaffinic solvents. It is formulated without reportable levels of lead or other toxic heavy metals.

Elastomers : VMQ.

Materials : THIXON 305 adheres to hot and cold rolled steel, stainless steel, aluminum, brass as well as thermoplastics such as polyamides and polyesters.

Molding and Curing : THIXON 305 can be used with all common molding and curing methods. Cure temperatures between 120°C and 200°C (250°F and 400°F) are recommended.

Environmental Resistance : Properly prepared bonds using THIXON 305 display resistance to external influences, especially lubricating and transmission oils up to 150°C (300°F).

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 hydrocarbons with boiling range (120-135°C) or anhydrous alcohols.

Slowly add the diluent to the adhesive while mixing constantly.

This product is moisture sensitive ! It will only tolerate approximately 0.1% of moisture. If product develops a cloudy appearance, **DO NOT USE !**

Applying the Adhesive

THIXON 305 can be applied by brushing, dipping, spraying or other application methods.

Application Methods

Brushing

Dilution ratio : 1 p.b.v. bonding agent + 5-10 p.b.w. diluent, to achieve the required film thickness.

Dipping

Dilution ratio : 1 p.b.w. bonding agent + 10 p.b.w. diluent.

For dip applications, it is to be noted that the dip-tank life might differ from the actual product shelf-life. It depends on different process variables and the environment in the plant.

Spraying with air

Dilution ratio : 1 p.b.w. bonding agent + 5 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 20-30 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.

Suggested Dry Film Thickness

Apply THIXON 305 at a dry film thickness of less than 2 microns (0.08 mil.).

Dry Film Stability

THIXON 305 has good dry film stability. Inserts coated with THIXON 305 can be stored for several days before use, if protected from contamination.

Theoretical Coverage

Applied at a dry film thickness of 1 micron (0.04 mil.), THIXON 305 will cover approximately 167 m²/kg (7108 square feet/gallon).

Pre-bake Resistance

Pre-baking of THIXON 305 is not necessary for good adhesion. However THIXON 305 can be pre-baked up to 10 minutes at 160°C (320°F) during mold loading without affecting bond quality.

Drying

First, dilute THIXON 305 for use. Then add 0.1 to 0.3 of dye such as Savinyl Blue GLS from Clariant, or Orasol Red 2B from Ciba, and blend well. THIXON 305 is now ready for use.

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 305 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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