



SPECIALTY ADHESIVES

THIXON™ P-21 Solvent-Based Adhesive

Regional Product Availability

- Asia, Europe and North America
- Other regions on request

Description

THIXON P-21 is a solvent-based primer, used in combination with MEGUM or THIXON™ cover coats.
THIXON P-21 can also be used as a one-coat adhesive for the bonding of polar elastomers.

Product Typical Properties

Property		
Appearance	Gray liquid	
Dry solid content (Non-volatile solids by weight)	23.0 - 26.0 %	
Viscosity, Brookfield LV#2 spindle at 30 rpm	70 - 160 mPa.s (cP)	
Density (20°C)	0.93 - 0.97 g/cm ³	
Specific Gravity	0.95	
Weight per gallon	7.9 lbs	
Volume solids (calculated)	13.6 %	
VOC content per gal (calculated)	5.9 lbs	
Dry film density (calculated)	1.74 g/cm ³	
Flash Point (Seta)	17°C / 63°F	

These properties are typical and are not to be used for specification purposes.

Main Features

Composition: THIXON P-21 consists of reactive polymers and pigments in methyl isobutyl ketone (MIBK). It is formulated without reportable levels of lead or other toxic heavy metals.

Elastomers: NBR, HNBR etc.

Materials: THIXON P-21 adheres to hot and cold rolled steel, stainless steel, aluminum, brass as well as thermoplastics such as polyamides and polyesters.

Molding and Curing: THIXON P-21 can be used with all common molding and curing methods. Cure temperatures between 120°C and 205°C (250°F and 400°F) are recommended.

Environmental Resistance: Rubber-to-metal bonding systems using THIXON P-21 display resistance to severe environmental exposures such as humidity and corrosion. Properly prepared bonds will also resist heat, salt fog, oil and water exposures.

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ADHESIVES****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 phosphatizing.

Further details are provided in our "Substrates Preparation Guide", please contact your usual Dow representative should you need a copy of this guide.

Mixing and Diluting

Diluents: Use ketones like methyl ethyl ketone (MEK) and methyl isobutyl ketone (MIBK) or mixtures of ketones with xylene. For dilution ratios up to 1:0.3 solvent pure ketones can be used. For higher dilution ratios it's recommended to use mixtures of ketone and xylene with a xylene content of 20-50 %.

First, thoroughly mix THIXON P-21 with a propeller-type agitator. If diluting, slowly add the diluents to the adhesive while mixing constantly. Continue to mix THIXON P-21 while spraying 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

THIXON P-21 can be applied by brushing, dipping, spraying or other application methods.

- Brushing

Dilution ratio : Apply undiluted

- Dipping

Dilution ratio : 1 p.b.w. bonding agent + 0.05 - 0.2 p.b.w. diluent

- Spraying with air

Dilution ratio : 1 p.b.w. bonding agent + 0.2 - 0.8 p.b.w. diluent

Viscosity : at room temperature (20-25°C / 68-77°F)

34 - 48 seconds [Afnor-2.5-cup]

12 - 15 seconds [Afnor-4-cup]

12 - 14 seconds [DIN-4-cup]

12 - 14 seconds [Ford-4-cup]

15 - 20 seconds [Zahn cup #2]

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 30 min at room temperature (20-25°C / 68-77°F).

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



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Directions For Use (continued)

Suggested Dry Film Thickness

Apply THIXON P-21 at a dry film thickness of 5 to 15 microns (0.2 to 0.6 mil).

Dry Film Stability

THIXON P-21 has excellent dry film stability. Inserts coated with THIXON P-21 can be stored for several weeks, if protected from contamination.

Theoretical Coverage

Applied at a dry film thickness of 10 microns (0.4 mil) THIXON P-21 will cover approximately 14.4 m²/kg (560 square feet/gallon).

Pre-bake Resistance

Adhesive-coated inserts can be pre-baked for up to 5 minutes at 160°C / 320°F without adversely affecting bond quality.

Cleaning

Cleaning should be done using ketones like methyl ethyl ketone (MEK) or methyl isobutyl ketone (MIBK).

Further details are given in our "General Guide to Use", please contact your usual Dow representative should you need a copy of this guide.

Shelf Life

THIXON P-21 has a shelf life of at least 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

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

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 distributor / Dow representative. 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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Handling Precautions

For personal protection see section EXPOSURE CONTROLS/PERSONAL PROTECTION of the MSDS. Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin and eyes. Do not breathe vapors or spray mist.

CAUTION! Keep combustible and/or flammable products and their vapors away from heat, sparks, flames and other sources of ignition including static discharge. Processing or operating at temperatures near or above product flashpoint may pose a fire hazard. Use appropriate grounding and bonding techniques to manage static discharge hazards.

Storage

Store products in tightly closed original containers in a cool, dry, well-ventilated place. Avoid temperature extremes during storage; ambient temperature preferred. Store out of direct sunlight. Material can burn; limit indoor storage to approved areas equipped with protection against fire.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner. It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

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