



ADHESIVES AND SEALANTS

THIXON™ P-20-EF Solvent-Based Adhesive

Primary Use:

Thixon P-20-EF is a vulcanizing adhesive primer used with Thixon covercoat adhesives for bonding most elastomers to various substrates. Thixon P-20-EF is formulated without reportable levels of lead (or other heavy metals), chlorinated solvents and ozone-depleting chemicals.

Thixon P-20-EF is also used for bonding nitrile rubber compounds. Thixon P-20-EF will bond metal substrates including hot and cold rolled steel, stainless steel alloys, brass, aluminum, and zinc plated metals.

*Typical Physical Properties:

Property		ASTM Method
Color	Gray	
Viscosity, #2 G.E. Zahn cup	41 seconds	D-1084-88-D
Viscosity, Brookfield #2 spindle at 30 RPM	60-100 cps	D-1084
Non-volatile solids by weight	27.5%	D-2369 †
Spec. Gravity	0.94	D-1475
Wgt per Gal	7.8 lbs	D-1475
Flash Point (Seta)	57°F	
Cure temp range	212-400°F	
Sugg. film thickness	0.25-0.35 mil	
Shelf life unopened	18 months	

† Modified to internal Rohm and Haas method

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

Environmental Resistance: Properly prepared bonds will resist heat, salt fog, oil, and water immersion.

Preparing the Metal Surface: Properly preparing the metal surface is the most important factor in obtaining consistent, high quality bonds.

First, remove contaminants by alkaline cleaning or solvent degreasing. Then, gritblast ferrous metal surfaces with #40 or #50 steel grit; gritblast nonferrous metals with silica sand or aluminum grit. Then solvent degrease the metal.

Metal surfaces can also be pretreated using iron or zinc phosphate, chromate conversion, and acid or alkaline cleaning procedures.

Keep the pretreatment solutions clean. Often, poor bonds can be traced to using contaminated pretreatment solutions. Follow the manufacturer's instructions carefully. **Change the cleaning solutions when they are contaminated.** Keep the cleaning solutions at the concentration and temperature specified. Likewise, keep the metal immersed for the length of time specified.

Mixing and Diluting

Diluents - Use MEK or MIBK as the diluent. Toluene can be used as a diluent when the dilution rate is 2 parts or more adhesive to 1 part diluent, by volume.

First, thoroughly mix Thixon P-20-EF with a propeller-type agitator. If diluting, slowly add the diluent to the adhesive while mixing constantly. Otherwise, the polymer base may precipitate from solution.

Continue to mix Thixon P-20-EF while spraying or dipping to keep the dispersed solids from settling to the bottom of the tank. The lower the viscosity, the more the solids tend to settle.

Applying the Adhesive

Brush - For brush applications, use Thixon P-20-EF undiluted. To obtain the required film thickness, brush on a heavy wet film without brushing excessively.

Dip - For dip applications, dilute 3 parts Thixon P-20-EF with 1 part diluent, to obtain a dry film thickness of 0.3 to 0.5 mil.

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Conventional Air Spray - For spray applications, dilute one part Thixon P-20-EF with one part diluent to obtain a viscosity of 18 to 21 seconds (#2 G.E. Zahn cup).

Equipment	Binks	DeVilbiss
Gun Models	62 or 18	JGA 502 or MBC 510
Fluid Nozzles	63A - 0.040" 63B - 0.046" 63C - 0.052"	FX - 0.042" FF - 0.055"
Air Caps	53PB or 66SD	704 or 777

Pressure Tank - Pressure tanks must be equipped with an agitator and be ASME rated for industrial use.

Flow Rate - 300 to 350 cc per minute

Atomization Pressure - 30 to 60 psi

To clean your spray equipment, use one of the recommended diluents.

Temperature Viscosity Chart

Temperature	#2 G.E. Zahn cup
50°F	34 seconds
60°F	33 seconds
70°F	31 seconds
80°F	30 seconds
90°F	29 seconds
100°F	28 seconds

Drying the Film: After applying the film of Thixon P-20-EF, thoroughly dry approximately 30 to 45 minutes at 60° to 80°F. At lower temperatures, dry longer. The drying time can be shortened by force drying, five minutes at 180°F. Do not dry at temperatures above 250°F.

Theoretical Coverage: One gallon of Thixon P-20-EF applied at a dry film thickness of 0.3 mil will cover approximately 588 square feet.

Dry Film Stability: Thixon P-20-EF has excellent dry film stability. Inserts which have been coated with Thixon P-20-EF can be stored for several weeks, if protected from contaminants.

Molding and Curing: Thixon P-20-EF can be used with all common molding and curing methods. Use a cure temperature between 212 and 400°F.

Oven Prebaking: The adhesive-coated inserts can be prebaked for up to 5 minutes at 325°F without affecting the bond quality. Dried films of Thixon P-20-EF show no tendency to sweep during transfer and injection molding.

Toxicity and Safety Information

Read the Material Safety Data Sheet before using this material. Toxicity and safety information is included on MSDS.

Various raw materials used in this product formulation may contain non-reportable levels of some heavy metals. Additionally, minimal amounts of lead may be present in this product due to the manufacture of other products at our facility. Therefore, a typical analysis of this product may detect nominal quantities of lead

Storage & Handling Information

Read the Material Safety Data Sheet, Section 7, for the safe handling and storage of the product. Store in a cool, dry, well-ventilated area away from heat, ignition sources and direct sunlight. Keep containers tightly closed. Containers should be supported and grounded before opening, dispensing, mixing, pouring and emptying.

For questions regarding the handling of empty containers or dry film with respect to the hazardous waste regulations, we suggest you contact the RCRA Hotline sponsored by US EPA at 1-800-424-9346 or your local/state environmental agencies.

Note: Thixon P201-EF was formerly known as Thixon D-21814.

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Visit us at <http://www.rohmhaas.com/adhesivesSealants>

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