



# THIXON™ OSN-2-EF-VV

**Description** THIXON™ OSN-2-EF-VV is a general purpose one-coat adhesive for bonding various elastomers to metals, such as hot and cold rolled steel, stainless steel alloys, brass, aluminum, and zinc plated metals. Formulated without reportable levels of lead (or other heavy metals), chlorinated solvents and ozone-depleting chemicals.

THIXON™ OSN-2-EF-VV can bond Natural Rubber (NR), Polybutadiene (BR), Polyisoprene (IR), Chlorosulfonated polyethylene (CSM), Styrene Butadiene Rubber (SBR), Chloroprene (CR) and Polyacrylate (ACM).

THIXON™ OSN-2-EF-VV is also used for post-vulcanization bonding. In addition, product bonds rubber to synthetic fibers such as rayon and polyester.

**Benefits & Features** A good general purpose rubber to substrate bonding agent that can be used as single coat or two coat system. The use of a ROBOND, THIXON™ or MEGUM™ primer or a two coat system will provide the best environmental resistance however THIXON™ OSN-2-EF-VV does quite well as a stand alone coating in many general rubber to metal bonding situations. THIXON™ OSN-2-EF-VV is designed for faster curing cycles and possibly lower curing temperatures.

Uncured Properties	Nominal Value	Unit	Test Method
Color	Black		
Solids Content			
-- 1	19	%	
-- 2	19 to 23	%	ASTM D2369
Density	0.911 to 0.971	g/cm <sup>3</sup>	ASTM D1475
Dry Film Density	2.0	g/cm <sup>3</sup>	
VOC Content	5.80	lb/gal	
Flash Point <sup>3</sup>	-4.00	°C	
Viscosity <sup>4</sup> (20°C, Brookfield RVT)	0.15 to 0.40	Pa·s	ASTM D1084
Viscosity (20°C)	18 to 31	sec	Zahn Cup 3
Theoretical Coverage <sup>5</sup>	9.50	m <sup>2</sup> /l	
Recommended Film Thickness	20	µm	
Recommended Film Thickness Range	15 to 38	µm	
Shelf Life <sup>6</sup> (25°C)	6	month	

**Elastomer**

Natural Rubber (NR), Polybutadiene (BR), Polyisoprene (IR), Chlorosulfonated-Polyethylene (CSM), Styrene Butadiene Rubber (SBR), Chloroprene (CR) and Polyacrylate (ACM).

**Substrate**

Metals-hot and cold rolled steel, stainless steel alloys, brass, aluminum, and zinc plated metals. Thermoplastic and other man-made materials-Polyamides, Polyesters and Rayon.

**Surface Prep**

Review Dow 's rubber-to-substrate bonding agent application guide or contact your account manager.

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**Mix Instructions**

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Diluents - Toluene or xylene, or a blend of 1 part aromatic solvent and 0.2-0.3 part MEK or MIBK

First, thoroughly mix THIXON™ OSN-2-EF-VV with a high speed 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™ OSN-2-EF-VV while spraying or dipping to keep the dispersed solids from settling to the bottom. The lower the viscosity, the more the solids tend to settle. This will assure that a homogenous mixture of the adhesive is applied.

1 part adhesive: 0 part diluent - estimate 21.0% theoretical solids  
1 part adhesive: 0.1 part diluent - estimate 19.1% theoretical solids  
1 part adhesive: 0.2 part diluent - estimate 17.5% theoretical solids  
1 part adhesive: 0.3 part diluent - estimate 16.2% theoretical solids  
1 part adhesive: 0.4 part diluent - estimate 15.0% theoretical solids  
1 part adhesive: 0.5 part diluent - estimate 14.0% theoretical solids  
1 part adhesive: 0.75 part diluent - estimate 12.0% theoretical solids  
1 part adhesive: 1.0 part diluent - estimate 10.5% theoretical solids

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**Application Technique**

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Brushing: use undiluted. To obtain the required film thickness, brush on a heavy wet film without brushing excessively.

Dipping: use a blend of 1 part aromatic solvent and 1 part ketone as the diluents. Dilute 6 to 8 parts of product with 1 part of this diluent blend, which will give a dry film thickness of 0.6 to 0.8 mil.

Spraying: dilute two parts product with one part diluent for a viscosity of 18 to 22 seconds, #2 G.E. Zahn cup.

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**Drying the Film**

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The drying time is approximately 30 to 45 minutes at 16°-27°C (60°-80°F). At lower temperatures, dry longer. The drying time can be shortened by force drying 5 minutes at 82°C (180°F) or 2 minutes at 104°C (220°F) or increasing the air flow, or both. Do not dry at temperatures above 120°C (250°F).

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**Molding and Curing**

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Can be used with all common molding and curing methods. Cure temperatures between 100°C and 204°C (212 and 400°F) are recommended.

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**Pre-Bake Resistance**

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Coated inserts can be pre-baked for up to 5 minutes at 163°C (325°F) without adversely affecting bond quality.

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**Dry Film Stability**

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Excellent dry film stability. Inserts coated with product can be stored for several weeks if protected from contaminants.

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**Clean-up**

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Equipment clean up should be done using recommended dilution solvents.

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**Packaging/Sizes Available**

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Drums, pails and cans.

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**Storage & Stability**

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The shelf life of this material is assured for 6 months (from the date of manufacture) at temperatures below 78°F in an unopened container.

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**Toxicity and Safety Information**

Read the Safety Data Sheet before using this material. Toxicity and safety information is included in the SDS.

**Food Contact Applications**

Dow Automotive products are not approved for direct or indirect food contact or drinking water applications. If your applications include food contact or drinking water requirements, please contact your Dow representative. For more information on the regulatory status of this product, please refer to the SDS for this product.

**Notes**

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

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<sup>1</sup> By volume

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<sup>2</sup> 1 gram @ 130°C for 1 hour

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<sup>3</sup> Pensky Martens Closed Cup

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<sup>4</sup> Spindle #3, @ 100 RPM

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<sup>5</sup> Applied at a dry film thickness of 0.6 mil

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<sup>6</sup> Unopened

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