THIXON™ OSN-2-EF

Description
THIXON™ OSN-2-EF is a general purpose one-coat adhesive used for bonding various elastomers to metals, such as hot and cold rolled steel, stainless steel alloys, brass, aluminum, and zinc plated metals.

THIXON™ OSN-2-EF bonds Natural Rubber (NR), Polybutadiene (BR), Polyisoprene (IR), Hypalon 1 (CSM), Styrene Butadiene Rubber (SBR), Chloroprene (CR) and Polyacrylate (ACM).

THIXON™ OSN-2-EF is also used for post-vulcanization bonding. In addition, THIXON™ OSN-2-EF 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 does quite well as a stand alone coating in many general rubber to metal bonding situations.

Uncured Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Nominal Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solids Content</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 1</td>
<td>16</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>- 2</td>
<td>24 to 26</td>
<td>%</td>
<td>ASTM D2369</td>
</tr>
<tr>
<td>Density</td>
<td>0.959 to 0.983</td>
<td>g/cm³</td>
<td>ASTM D1475</td>
</tr>
<tr>
<td>Dry Film Density</td>
<td>2.0</td>
<td>g/cm³</td>
<td></td>
</tr>
<tr>
<td>VOC Content</td>
<td>5.95</td>
<td>lb/gal</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>-4.00</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Viscosity (20°C, Brookfield RVT)</td>
<td>0.10 to 0.40</td>
<td>Pa·s</td>
<td>ASTM D1084</td>
</tr>
<tr>
<td>Viscosity (20°C)</td>
<td>14 to 40</td>
<td>sec</td>
<td>Zahn Cup 3</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>11.2</td>
<td>m²/l</td>
<td></td>
</tr>
<tr>
<td>Recommended Film Thickness</td>
<td>20</td>
<td>µm</td>
<td></td>
</tr>
<tr>
<td>Recommended Film Thickness Range</td>
<td>15 to 38</td>
<td>µm</td>
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</tr>
<tr>
<td>Shelf Life (25°C)</td>
<td>6</td>
<td>month</td>
<td></td>
</tr>
</tbody>
</table>

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.
Mix Instructions

Diluents - Toluene, xylene, or use a blend of 1-3 parts aromatic solvent and 1 part MEK or MIBK

First, thoroughly mix THIXON™ OSN-2-EF with a high speed propeller-type agitator. If diluting, slowly add the diluents to the adhesive while mixing constantly. Otherwise, the polymer base may precipitate from solution.

Continue to mix THIXON™ OSN-2-EF while spraying or dipping to keep the dispersed solids from settling to the bottom. This will assure that a homogenous mixture of the adhesive is applied.

1 part adhesive: 0 part diluent - estimate 25.0% theoretical solids
1 part adhesive: 0.1 part diluent - estimate 22.7% theoretical solids
1 part adhesive: 0.2 part diluent - estimate 20.8% theoretical solids
1 part adhesive: 0.3 part diluent - estimate 19.2% theoretical solids
1 part adhesive: 0.4 part diluent - estimate 17.9% theoretical solids
1 part adhesive: 0.5 part diluent - estimate 16.7% theoretical solids
1 part adhesive: 0.75 part diluent - estimate 14.3% theoretical solids
1 part adhesive: 1.0 part diluent - estimate 12.5% theoretical solids

Application Technique

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

Dipping: use a blend of 1-3 parts aromatic solvent and 1 part ketone as the diluent. Dilute 6 to 8 parts of product with 1 part of this diluents blend. This will give a dry film thickness of 0.6 to 0.8 mil.

Spraying: dilute 2 parts product with 1 part diluent for a viscosity of 18 - 22 seconds, #3 G.E. Zahn cup.

Drying the Film

The drying time is approximately 30 to 45 minutes at 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).

Molding and Curing

Can be used with all common molding and curing methods. Cure temperatures between 100°C and 212°C (212 and 415°F) are recommended.

Pre-Bake Resistance

Coated inserts can be pre-baked for up to 6 minutes at 163°C (325°F) without adversely affecting bond quality.

Dry Film Stability

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

Clean-up

Equipment clean up should be done using recommended dilution solvents.

Packaging/Sizes Available

Drums, pails and cans.

Storage & Stability

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.

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.

1 By volume
2 Non-volatile solids by weight
3 Pensky Martens Closed Cup
4 Spindle #3, @ 100 RPM
5 Applied at a dry film thickness of 0.6 mil
6 Unopened
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