LOCTITE LIOFOL LA 3740 / LA 6029

Known as Liofol UR 3740 / LA 6029
May 2013

PRODUCT DESCRIPTION
LOCTITE LIOFOL LA 3740 / LA 6029 has the following product characteristics:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Type</td>
<td>Laminating adhesive</td>
</tr>
<tr>
<td>Condition</td>
<td>Solvent-based</td>
</tr>
<tr>
<td>Components</td>
<td>Two component - requires mixing</td>
</tr>
<tr>
<td>Application</td>
<td>Film/Film and Film/Foil laminates</td>
</tr>
<tr>
<td>Performance</td>
<td>Standard Performance</td>
</tr>
<tr>
<td>Cure</td>
<td>Room temperature cure after mixing</td>
</tr>
</tbody>
</table>

Appearance Base
LOCTITE LIOFOL LA 3740 in 500 ml glass jar: yellow to brownish, clear to turbid, no precipitation

Appearance Hardener
LA 6029 clear to dull colourless to yellow

Mix Ratio, by weight - Base : Hardener
10 : 1

Application Areas:
LOCTITE LIOFOL LA 3740 / LA 6029 is suitable for film/film and film/foil laminates for standard performance.

Suitable Films:
- Aluminum Foil
- Polyethylene
- Polypropylene
- Polyester
- Polyamide

Not suitable Films:
- white pigmented EVA-Copolymerfilms

Product Properties:
LOCTITE LIOFOL LA 3740 / LA 6029 is an economic, slip agent compatible system. Depending on amount of slip agents in the PE-films and the thickness of the used films laminate properties may vary. The product shows a good initial tack. Optimal results will be achieved with a solid content of 35 to 40 %. The cured adhesive film is transparent, odorless, elastic and age-resistant.

TECHNICAL DATA

<table>
<thead>
<tr>
<th>LOCTITE LIOFOL LA 3740</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Solid Content, %</td>
<td>68 to 72</td>
</tr>
<tr>
<td>Viscosity, Brookfield - LVT, 20 °C, mPas:</td>
<td>1,000 to 2,000</td>
</tr>
<tr>
<td>Spindle 2, speed 6 rpm</td>
<td></td>
</tr>
<tr>
<td>Volumetric Density, g/cm³</td>
<td>1.1</td>
</tr>
<tr>
<td>Component</td>
<td>NCO component</td>
</tr>
<tr>
<td>Solvent</td>
<td>Ethylacetate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hardener LA 6029</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid Content, %</td>
<td>100</td>
</tr>
<tr>
<td>Viscosity, Brookfield - LVT, 25 °C, mPas:</td>
<td>3,000 to 7,000</td>
</tr>
<tr>
<td>Spindle 2, speed 20 rpm</td>
<td></td>
</tr>
<tr>
<td>Volumetric Density, g/cm³</td>
<td>1.1</td>
</tr>
<tr>
<td>Component</td>
<td>OH component</td>
</tr>
<tr>
<td>Solvent</td>
<td>none</td>
</tr>
</tbody>
</table>

Compliance with food packaging regulations:
Under specific conditions LOCTITE LIOFOL LA 3740 / LA 6029 is suitable for the manufacture of food packaging materials under the applicable FDA, EC-provisions and/or BfR recommendations.
A food contact statement with further details is available on request.
The responsibility for compliance with the specific conditions is with the converter and not with the adhesive supplier.

DIRECTIONS OF USE
Preliminary Statement:
Prior to application it is necessary to read the Safety Data Sheet for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed. Please also refer to the local safety instructions and contact Henkel for analytical support.

Protective Measures:
As the adhesive contains polyisocyanates any contact with skin should be avoided. If skin gets in contact with LOCTITE LIOFOL LA 3740 / LA 6029 please remove the adhesive immediately. Safety regulations with regard to handling of isocyanates have to be followed as per the guide lines issued by the International Isocyanates Institute.

Dilution:
Suitable solvents are ethyl acetate, acetone and Methylcyclohexane provided that the water content does not exceed 300 ppm.
Do not use aromatic or alcoholic solvents.
Dilution Table:
In order to obtain a certain solids content, the following quantities of solvent have to be added.
The Ford/DIN cup (4 mm/20 °C) viscosities are based on an average viscosity of LOCTITE LIOFOL LA 3740 / LA 6029.

<table>
<thead>
<tr>
<th>Base &amp; Hardener</th>
<th>Ethyl Acetate</th>
<th>Solid Content</th>
<th>Viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kg</td>
<td>0.82 kg</td>
<td>40%</td>
<td>16 - 18 sec.</td>
</tr>
<tr>
<td>1 kg</td>
<td>1.08 kg</td>
<td>35%</td>
<td>13 - 14 sec.</td>
</tr>
<tr>
<td>1 kg</td>
<td>1.43 kg</td>
<td>30%</td>
<td>12 - 13 sec.</td>
</tr>
</tbody>
</table>

Mixing:
LOCTITE LIOFOL LA 3740 has to be diluted under stirring with corresponding solvent to the desired application solids. Then the correct amount of Hardener LA 6029 has to be added under agitation.

Pot Life:
The Ready-for-use adhesive (35%) in closed containers has a working time of about 1 day without substantial viscosity increase. The potlife of higher concentrated or open solutions is shorter. To be on the safe side, we suggest to dispose of the remaining adhesive in the machine unless it can be added gradually to fresh adhesive mixtures for non-critical laminates (no heat resistance, no chemical resistance).

Application:
LOCTITE LIOFOL LA 3740 / LA 6029 can be applied with all dry laminating units with smooth or gravure rollers.

Application Weight:
The application weight may range from 2.0 to 4.5 g/m² dry depending on the film or foil combination and the intended use of the laminate. For printed laminates the weight has to be adjusted to higher weights accordingly, it should be approx. 1 g/m² higher than for unprinted films.

Working Conditions:
High laminating temperatures together with a high line pressure of the calander improve the bond strength and optical appearance of the laminates.

Drying:
Drying conditions depend on the efficiency of the dryer and the line speed.

Curing:
The laminates may be rewound and slit after 1 to 2 days. Complete curing i.e. total resistance to severe environments will be achieved after 7 to 14 days of storage at room temperature depending on film combination and intended use of the laminates.

STORAGE
Once opened, containers have to be closed tightly again and the material should be consumed within a short period. Store separately from food. When stored in a dry and cool place in the original unopened containers storage life is as follows.

Classification:
Please refer to the corresponding safety data sheets for details on:
Hazardous Information
Transport Regulations
Safety Regulations

ADDITIONAL INFORMATION
Film Requirements:
Film additives - particularly slip agent content in LDPE, MDPE and CPP films - packed goods, printing inks, pre-treatment and coating of films are of significant importance to the intended use of the laminates and may affect the performance properties either straight away or later. Laminates of high slip containing films, EVA films, CPA films and white pigmented PE films bear the risk of migration of monomeric MDI. This can cause negative influences on the filling good and may lead to antiseal effects. Therefore, practical laminating tests as well as checks on the laminates are necessary before going into full scale production. Further detailed information can be obtained from our “Technical Guide Line for Laminating with Liofol Laminating Adhesives”.

Product Range:
Apart from LOCTITE LIOFOL LA 3740 / LA 6029 we can offer the following products for the manufacture of film/foil laminates:
- Solventbased, solventless and waterbased laminating adhesives for flexible packaging and special applications
- Coldseal Adhesives
- Heatseal Coatings
- Primer for Extrusion and PVDC-coating
- Adhesives for High Gloss Lamination
- Special Cleaning agents

To obtain product specifications please ask for the relevant technical datasheets.
Disclaimer

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