**SiliXan® M 300**

**Type**
methacrylate modified polymer based on SiO$_2$/Al$_2$O$_3$

**Form supplied**
high solid resin

**Uses**
Unsaturated binder for the formulation of scratch resistant UV coatings. Additive for commercial acrylate- or methacrylate based coating formulations, inks or binder. This binder is preferably used for UV-curing formulation, but also use for peroxidic thermal curing is possible.

### Specification

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Unit of measurement</th>
<th>Testmethod</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apha colour</td>
<td>-</td>
<td>-</td>
<td>DIN ISO 6271</td>
</tr>
<tr>
<td>Viscosity at 23°C</td>
<td>1100 ± 200</td>
<td>mPa*s</td>
<td>ISO 2555 (L4, 200 U/min)</td>
</tr>
<tr>
<td>Solid content (1g/1h 150°C)</td>
<td>91 ± 2</td>
<td>%</td>
<td>solid bulk scale</td>
</tr>
</tbody>
</table>

### Other data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Unit of measurement</th>
<th>Testmethod</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density at 23°C</td>
<td>1.17 ± 0.02</td>
<td>g/ml</td>
<td>DIN 12791 ISO 649</td>
</tr>
<tr>
<td>Flash point</td>
<td>38</td>
<td>°C</td>
<td>DIN ISO 3679</td>
</tr>
<tr>
<td>Content of double bonds</td>
<td>5.4 ± 0.1</td>
<td>mol/kg</td>
<td></td>
</tr>
<tr>
<td>SiO$_2$/ Al$_2$O$_3$ content</td>
<td>31% ± 1% SiO$_2$; 4.0% ± 0.2% Al$_2$O$_3$</td>
<td>Gew%</td>
<td>solid bulk scale (1g/1h 500°C)</td>
</tr>
</tbody>
</table>

### Properties

Formulations based on SiliXan M 300 show
- excellent abrasion resistance
- high chemical resistance
- easy-to-clean-properties
- good antistaining properties
- improved adhesion on metal

### Solubility / thinnability

SiliXan M 300 is dilutable in polar solvents like alcohols, esters, ether esters or ketones. However, the binder is insoluble in water, xylene, toluene or benzine.
The compatibility with other acrylate monomers or oligomers has to be pre-tested. A list of compatible acrylates is available on request.

### Application/ curing

SiliXan M 300 is both UV and thermal curing:
- UV- curing: a mercury lamp with a total irradiation dosage from 2-3 J/cm$^2$
- thermal curing: the system will be cured by IR or heat

The drying speed depends on the coating formulation and the type and content of used photo- or thermoinitiator.
SiliXan® M 300

Storage

The shelf life of the product is 6 months, provided the original container is protected from light and stored tightly closed at +5 to +25 °C. Opened containers should be processed shortly. The expiry date of each batch appears on the product label. Storage beyond the indicated period does not necessarily mean that the product is useless. However, in this case a review of the properties for the respective application is essential for reasons of quality assurance.

Safety

Please find the most important information on labeling, transport and storage as well as on handling, product safety and ecology in the latest safety data sheet. During processing appropriate personal protective equipment must be ensured.

Registration status

SiliXan M 300 has following listings

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS</td>
<td>polymer</td>
</tr>
<tr>
<td>CAS- No.</td>
<td>polymer</td>
</tr>
<tr>
<td>TSCA (USA)</td>
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</tr>
<tr>
<td>ECL (Korea)</td>
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<tr>
<td>ENCS (Japan)</td>
<td>no</td>
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<tr>
<td>REACH status</td>
<td>mixture</td>
</tr>
<tr>
<td>REACH registration</td>
<td>raw materials re-registered</td>
</tr>
</tbody>
</table>

Packaging

5L can  
30L drum  
200L drum

Subject to technical modifications and amendments. The above-mentioned details reflect the criteria regarding our quality inspections. They do not constitute any legal assurance of particular product features or of the suitability for a specific application. All of the values are applicable at the time when the product leaves the supplier’s factory. The values stated are reference points, they are subject to being continually updated within the scope of product maintenance. A written sales agreement shall be required for the information concerning product specifications to have a binding character. Please refer to our warning notices, our product information sheets and safety data sheet. Should you require further information and technical advice, our Applications Engineering Department and the relevant R&D Department are at your disposal.

Our product information and application technology consultancy whether communicated orally, in writing or by means of tests, are in accordance with the current status of the knowledge and experience gained by us.

We reserve the right to modify and update our products within the scope of technical progress and further developments within the company. This information is provided without engagement. The sole purpose of such information is to provide details on the properties of our products and their potential applications. It does not constitute any guarantee and is not intended to be an assurance of any particular properties or suitability for a specific application. The client or user is thereby not exempt from carrying out his/her own testing to determine the suitability for the intended processes, purposes and applications by members of staff with the appropriate qualifications. This also applies with regard to the protection of proprietary rights of third parties. Brand or trade names of other companies are mentioned merely by way of example and do not constitute any endorsement, the use of other products of the same nature is not excluded.

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Product data sheet  
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