

# technical datasheet

## 214043 Durazane® 1500 rapid cure

Polysilazane

### PRODUCT DESCRIPTION:

Durazane® 1500 rapid cure is a liquid low-viscous, solvent-free polysilazane resin to be employed as coating binder.

### SPECIAL FEATURES:

- Outstanding weather resistance, high UV and chemical resistance
- Good balance of heat resistance, hardness and hydrophobicity
- Very fast curable via moisture cure at room temperature or via thermal cure
- Durazane® 1500 rapid cure is a reactivity-enhanced polysilazane with a higher crosslinking density compared to Durazane® 1500 slow cure and Durazane® 1000 series products.

### APPLICATIONS:

- Scratch resistant coatings as used in automotive interior or exterior applications
- Hydrophobic, repellent coatings as employed in architecture, consumer goods or transportation
- Applicable on Metal, Glas and Plastic substrates

### PROCESSING AND CURING:

Pretreatment:

- Grease and dust/particle free surface of substrates are required
- Sandblasting of metal substrates is recommended
- For plastic surfaces pretreatment with corona or plasma improves the adhesion

Coating methods:

- Painting can be done by spraying, dipping or wiping

Curing conditions (at room temperature):

- Dry-to-touch after 20-30 Minutes [10 µm film thickness at curing temperature 25°C, 50% rel.hum.] measured according to DIN EN ISO 9117-4
- Ready-to-use at given performance data (parameter shown below) after 7 days
- Completely cured and fully crosslinked after 20 days



## DILUTION/FORMULATION

### Dilution:

Possible with organic solvents such as alkanes (e.g. heptane, iso-alkanes), esters (e.g. ethyl acetate, butyl acetate, propylene glycol methyl ether acetate), ethers (e.g. THF, di-n butyl ether), aromates (e.g. toluene, xylene) or ketones (e.g. methyl ethyl ketone). Resin reacts in the presence of water, water vapor or alcohols therefore important to use above mentioned solvents with lowest possible water content.

### Formulation:

For formulation advice employing additives, possible co-binders, pigments and fillers please refer to Durazane guide formulations.

## PERFORMANCE DATA:

*(After 7 days curing at room Temperature on a glass substrate)*

Dry film thickness: 6 – 8 µm

Temperature stability: up to 350°C – 400°C

Pencil Hardness: up to 5H (DIN EN ISO 15184)

Indentation Hardness: 250-270 MPa (DIN EN ISO 14577-1)

Contact angle water: 88 - 92°

Contact angle mineral oil: 43 – 46°

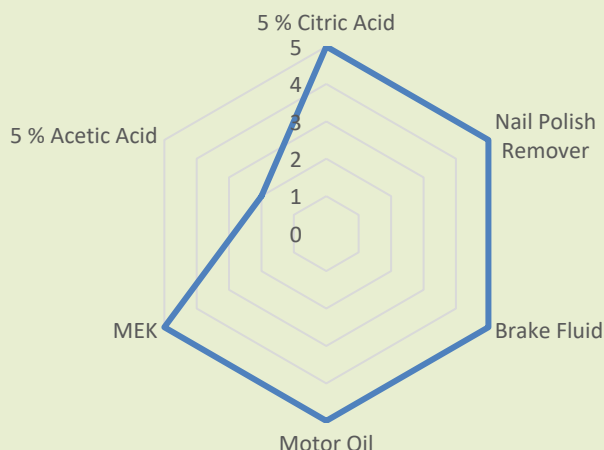
Surface energy: 28 - 30 mN/m

Polar part: 3 - 4 mN/m

Dispersive part: 24 - 27 mN/m

Adhesion by cross cut: 0 (DIN EN ISO 2409:2013, 0=excellent, 5 = no adhesion)

### Chemical Resistance:



(Open-spot test for 24h according to ASTM D1308: 5 - excellent resistance, 4 - small visible effect/matting, 3 - slight delamination, 2 - strong delamination, 1 - complete destruction/ no resistance)

## SAFETY AND STORAGE:

- Inherent product properties lead to gas formation (ammonia)
- Appropriate degassing with adequate ventilation to be performed upon first delivery and thereafter: Bottle <= 5kg every 4 month and bottle > 5kg every month wearing appropriate PPE open bottle or drum slowly, lift up the lid and close the container again.
- Opened containers should be tightly closed after use or degassing to prevent contaminants and water vapour from entering the product
- Containers must be stored in a cool (at 25 °C max), dry and well-ventilated place
- Use with adequate ventilation only



**REMOVAL AND DISPOSAL:**

## Removal:

- Processing equipment should be cleaned immediately after use (before Durazane® starts curing)
- Uncured Durazane® can be removed with suitable organic solvents (e.g. n-butyl acetate, acetone)
- Cured Durazane® can only be removed with very aggressive lye baths (e.g. 5% sodium hydroxide solution for at least 3 h)

## Disposal:

- Durazane® leftovers must not be mixed with other liquid or solid waste and should be collected separately in appropriate, dry and pressure-resistant containers.
- Disposal of waste containers with Durazane® must be done at appropriate and authorized disposal sites according to the relevant regulations only (see MSDS for more information). During transport, the waste containers must be sealed tightly.

**PACK SIZES:**

Art. No.: 21404327061, containing 1.0 kg

Art. No.: 21404326665, containing 5.0 kg  
delivered in aluminum bottles

Steel drum with PE-Inliner containing 150 kg available in US only.

**TECHNICAL PRODUCT DATA:**

Appearance: clear to trace hazy liquid

Colour: Colorless to trace yellow

Hazen: 1 – 30 (ISO 6271)

Density @25°C: 0.995 - 1.005 g/cm<sup>3</sup> (ISO 2811-1)

Viscosity @20°C: 10 - 50 cP

Turbidity: &lt;= 10 NTU

Active content: 100%

Shelf life: 18 months from production date (in between 5 and 25 °C)

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For further information about chemical inventory listing status of the pigment components, please contact our Regulatory Service department, email: [Regulatory\\_Inquiries\\_PM-PC.MDA@emdgroup.com](mailto:Regulatory_Inquiries_PM-PC.MDA@emdgroup.com)

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