

technical datasheet

Durazane® 1033, 1066, 1085

Polysilazane

PRODUCT DESCRIPTION:

Durazane® 1033, 1066 and 1085 are liquid low-viscous, solvent-free polysilazane resins to be employed as coating binder, with different crosslinking abilities.

SPECIAL FEATURES:

- Good adhesion and hydrophobicity
- Good weather, UV- and chemical resistance
- Only thermally curable
- Lower crosslinking density than Durazane® 1500 rapid cure and slow cure
- Due to its chemical structure, Durazane® 1033, 1066 and 1085 react readily with other components of coating formulations having functional groups such as isocyanates, alcohols, ketones, epoxies, amines and phenolics and is therefore suitable as basis for hybrid systems

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

Coating methods:

- Painting can be done by spraying, dipping or wiping

Curing conditions:

- Can be cured at 130°C for 4 h
- To high curing temperatures can result in high weight loss
- The addition of curing catalysts (e.g. amines, metal chelates) allows a reduction of the curing temperature or time.

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:

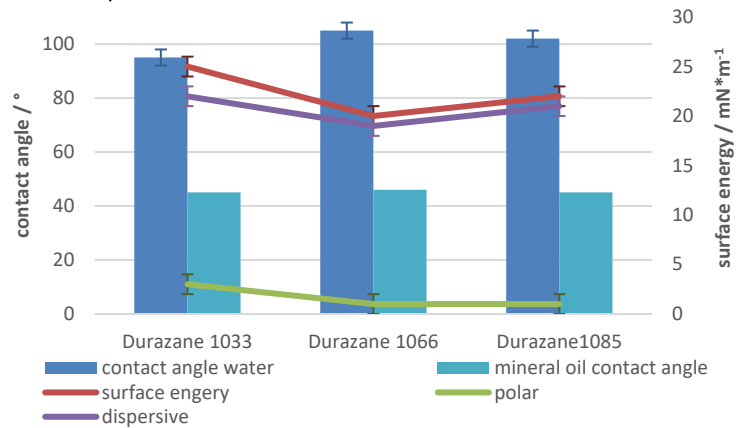
(e.g. after 4h/130°C on a glass substrate)

Dry film thickness: 1 – 5 µm

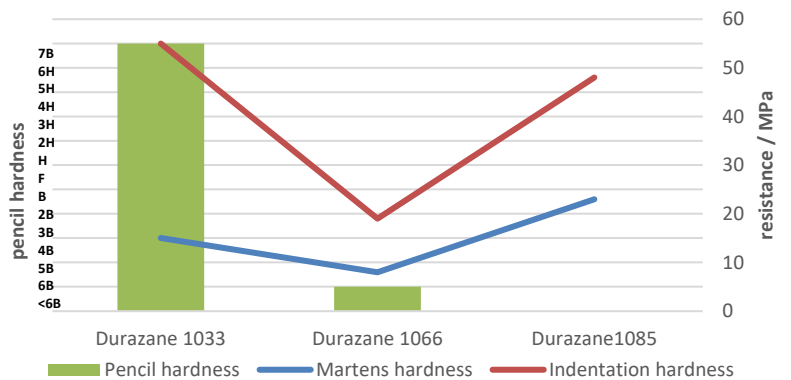
Temperature stability: up to 350 - 400°C

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

Surface Properties:



Hardness:



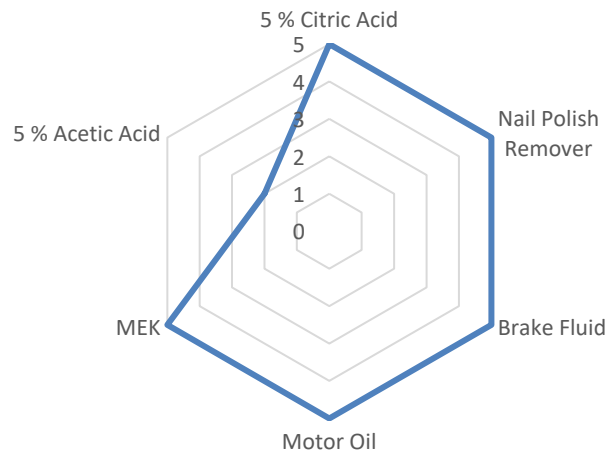
(Pencil Hardness according to DIN EN ISO 15184 and Martens/Indentation Hardness according to DIN EN ISO 14577-1)



PERFORMANCE DATA:

(e.g. after 4h/130°C on a glass substrate)

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)
- 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

PACK SIZES:

Art. No Durazane 1033: 214042
Art. No Durazane 1066: 214047
Art. No Durazane 1085: 214328

Aluminum bottle containing 1.0 kg and 5.0 kg available.

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

TECHNICAL PRODUCT DATA:

Appearance: clear to trace hazy liquid
Colour: Colorless to trace yellow
Hazen: 1 – 30 (ISO 6271)
Turbidity: <= 10 NTU



Durazane 1033:

Density @25°C: 0.995 - 1.005 g/cm³ (ISO 2811-1)

Viscosity @20°C: 10 - 40 cP

Durazane 1066:

Density @25°C: 0.950 - 0.980 g/cm³ (ISO 2811-1)

Viscosity @20°C: 1 - 20 cP

Durazane 1085:

Density @25°C: 0.940 - 1.000 g/cm³ (ISO 2811-1)

Viscosity @20°C: 1 - 20 cP

Active content: 100%

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

DATE OF ISSUE:

February 2021

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

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