

TECHNICAL DATA SHEET

SL 100 – SiO₂

Solvent-borne dispersion of surface-treated silica — a scratch-resistance additive for solvent-based coatings and clear coats.

PARTICLE Treated silica	PARTICLE SIZE (D50) 80 – 150 nm	ACTIVE CONTENT 31 %	DOSAGE 3 – 6 %
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01 Description

SL 100 – SiO₂ is a dispersion of a surface treated silica in solvent to enhance scratch resistance of solvent borne coatings. The additive is specifically designed to improve the scratch resistance of coatings by forming a tough, durable film that enhances the surface hardness of the coating. SL 100 – SiO₂ improves rebuilding of gloss after scratching and has a positive influence on flow effects.

SL 100 – SiO₂ is easy to use and can be incorporated into a wide range of solvent-based coatings, including clear coats and solid colour top coats. It is also compatible with a variety of solvents and can be used in air-, forced-dry and baking type applications.

02 Fields of application

SL 100 – SiO₂ is a versatile product that is specifically designed to enhance the scratch resistance of a wide range of coatings and surfaces. Its primary application is in the coatings industry, where it can be used to improve the durability and performance of clear coats, industrial coatings and other solvent-based systems.

COATING SYSTEMS Clear coats, industrial coatings and solid colour top coats in solvent-based systems; air-drying, forced-dry and baking type applications.	OPTICAL NEUTRALITY No impact on the transparency of clear coats — suitable for applications requiring a high level of clarity, so the final product retains its aesthetic appeal and meets the desired specifications.
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03 Technical data *

PROPERTY	TYPICAL VALUE
Appearance	Opaque liquid
Solvent	Mixture of methoxy propyl acetate and butyl acetate
Particle size (d50)	80 – 150 nm
Active content	31 % (20 min, 150 °C)
Dosage	3 – 6 % as delivered, on formulation

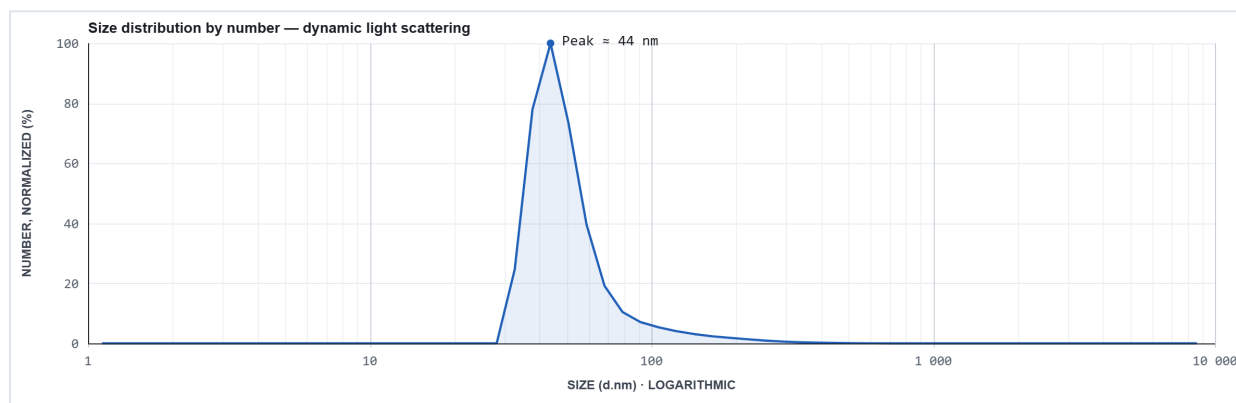
* No specification data. Values indicated in this datasheet describe typical physico-chemical properties of the dispersion and do not define specification limits.

04 Processing instructions

- SL 100 – SiO₂ can be used in concentrations ranging from **3 to 6 %**, with higher or lower concentrations possible depending on the application. The optimal concentration should be determined through a series of trial runs.
- The additive should be added to the base paint with low shear rates to prevent coagulation. Careful mixing is essential to ensure that the additive is thoroughly dispersed into the liquid coating.
- SL 100 – SiO₂ has no impact on the transparency of dried clear coats.

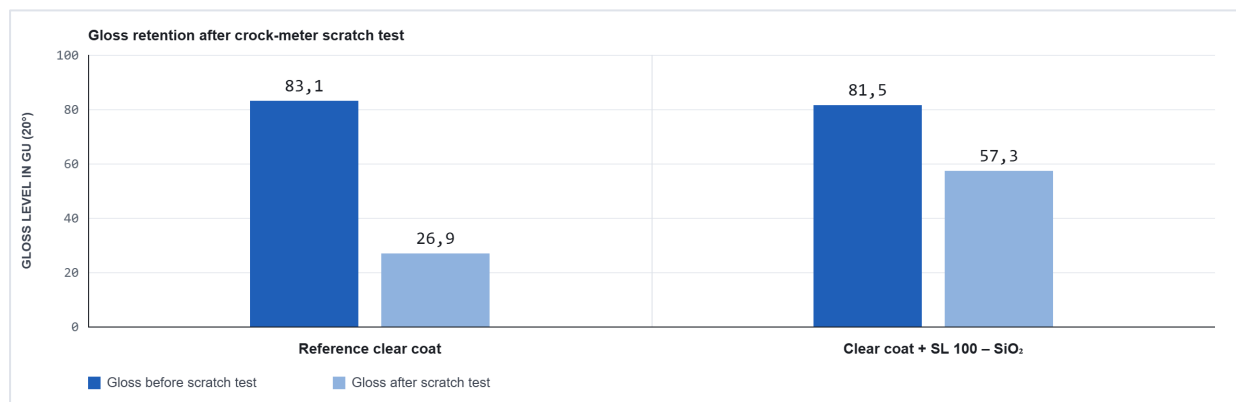
05 Size distribution and undersize curve

The particle dispersion is stable in solvent. Dynamic light scattering measurements of the particle dispersion show the typical size distribution of the product.



06 Scratch resistance

The scratch resistance was measured using a gloss meter at a gloss angle of 20°, and the substrate (clear coat) was scratched using a crock meter.



REFERENCE CLEAR COAT

83,1 → 26,9 GU · gloss retention 32 %

CLEAR COAT + SL 100 – SiO₂

81,5 → 57,3 GU · gloss retention 70 %

07 Packaging

25 kg pails.

08 Storage

Containers should be stored at ambient temperature at a dry place. Under these conditions the shelf life is 24 months in closed original containers.

09 Labelling

H226 Flammable liquid and vapour.

H336 May cause drowsiness or dizziness.

Protective measures and handling are given in our material safety datasheets.

10 – NOTES AND DISCLAIMER

All the above information about the product is to the best of the manufacturer's knowledge and has been published in good faith. However, the manufacturer does not guarantee the completeness and accuracy of the information contained in this document and is not liable for the consequences of its use. The user is obliged to verify and confirm it himself. The manufacturer recommends that users carry out their own preliminary tests, taking into account the conditions and intended use of the product, including the choice of the substrate. The manufacturer reserves the right to change the contents of this document at any time without giving reasons.

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