



TECHNICAL DATA SHEET

KEIM TWINSTAR®

1. PRODUCT DESCRIPTION

KEIM Twinstar is the innovative sol-silicate-based functional coating for facades that perfectly combines high application efficiency with a biocide-free formulation approach for clean facades. Thanks to the innovative product formulation with specific flow and drying properties, the primer and top coat can be applied very efficiently in one work step without intermediate drying time. Thanks to the intelligent combination of different active mechanisms, KEIM Twinstar also offers a high level of protection against algae and fungal growth - without the addition of biocidal ingredients. KEIM Twinstar is therefore particularly suitable for the efficient and sustainable coating of facades in solid construction as well as on insulated surfaces. KEIM Twinstar also satisfies the requirements of DIN 18 363, 2.4.1 "Dispersion silicate paints". KEIM Twinstar is awarded with Cradle to Cradle Certified® Silver and C2C Certified Material Health Certificate™ Gold.

2. FIELD OF APPLICATION

KEIM Twinstar is suitable for facades, both for renovation coats on load-bearing old coatings and for new coats and can also be used on intact ETICS surfaces. KEIM Twinstar is suitable for mineral, organic and mixed substrates.

Not suitable for:

wood substrates; plasto-elastic coatings; saponifiable existing substrates; non-wettable substrates

3. PRODUCT PROPERTIES

- universally applicable
- Two coats in one step, no drying time in between ("2in1"-coating)
- C2C Certified Material Health Certificate™ Gold
- Cradle to Cradle Certified®-Certificate Silver
- mineral matt
- non-film forming
- highly permeable
- microporous
- highly water-repellent
- highly weather-resistant
- absolutely UV-resistant
- antistatic, non-thermoplastic
- fire behaviour: non-flammable (Class A2-s1,d0 as per EN 13501-1 acc. to classification report)
- biocide-free
- no solvents added
- no plasticisers added

MATERIAL CHARACTERISTICS:

- | | |
|---|-------------------------------------|
| - Density: | approx. 1.5 - 1.7 g/cm ³ |
| - Organic content: | < 5 % |
| - pH value: | approx. 11 |
| - Colour fastness (Fb-code pursuant to BFS Leaflet No. 26): | A1 |

CLASSIFICATION:

- | | |
|------------------------------------|---|
| - Classification according to: | DIN EN 1062-1 |
| - Classification according to VOB: | Silicate emulsion paint according to DIN 18363 sec. 2.4.1 |

– Water vapour diffusion current density (V-value):	$\geq 2000 \text{ g}/(\text{m}^2 \cdot \text{d})$
– Diffusion-equivalent air layer thickness (sd-value):	$\leq 0,01 \text{ m}$
– Diffusion-equivalent air layer thickness class:	V1
– Standard Diffusion equivalent air layer thickness DIN EN ISO 7783:	DIN EN ISO 7783
– Water permeability:	$\leq 0,1 \text{ kg}/(\text{m}^2 \cdot \sqrt{\text{h}})$
– Water permeability rate class:	W3
– Standard Water permeability rate DIN EN 1062-3:	DIN EN 1062-3
– Gloss level at 85°:	matt
– Standard Gloss level ISO 2813:	ISO 2813

COLOUR SHADES:

White, colour shades only with pure mineral lightfast pigments. KEIM Twinstar can be tinted with KEIM PPF-Technology® according to all common colour collections. Please always check the colour for correctness before application. Only use colour shades from one tinting batch within a surface. When selecting the colour shade for ETICS, observe LRV ≥ 30 .

COMPOSITION

Full declaration in accordance with the "natureplus®" award guideline:

Silicate and calcite fillers, sol-silicate mixture, water, titanium dioxide, polyacrylate, hydrophobing agents, stabilisers, thickeners, wetting agents, defoamers. Origin of the mineral fillers: Germany and/or Austria.

4. APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION:

The substrate must be dry, sound, free from chalking, clean and dust-free. Loose parts of existing coatings must be removed mechanically or by high-pressure water jetting. Defective areas must be filled and texture-matched using a suitable repair material. Any sintered layers on new renders must be removed with KEIM Fluat-10 according to instructions. New render areas (repairs) are generally to be pretreated with KEIM Fluat-10 according to the specifications in the Technical Data Sheet. Algae, fungi or lichens must be removed professionally, thoroughly and without residues. After cleaning and drying of the surface, KEIM Algicid-Plus is used for disinfection. After a reaction time of at least 24 hours, the treated disinfected surface can be refinished.

Alternatively, biocide-free pre-treatment or cleaning is also possible:

In this case, KEIM Alkaclean is used for alkaline facade cleaning. The application is carried out according to the technical data sheet KEIM Alkaclean. Please note: Surfaces treated with KEIM Alkaclean must be rinsed with water. Direct reworking of the surfaces without re-washing is not possible. The instructions for waste water disposal and exposure time must be observed in accordance with the KEIM Alkaclean technical data sheet.

Dormant cracks in the substrate with a crack width of up to 0.25 mm can be coated without a separate additional coat. For dormant cracks in the substrate with a crack width of 0.25 to 0.5 mm, an additional coat of KEIM Twinstar must be applied before the actual coating.

APPLICATION CONDITIONS:

Ambient and substrate temperature $\geq 5 \text{ °C}$ during application and drying. Do not apply in direct sunlight or on sun-heated substrates. Protect surfaces from direct sun, wind and rain during and after application.

PREPARATION OF MATERIAL:

Stir up KEIM Twinstar thoroughly before application.

CONSUMPTION:

approx. $0,45 \text{ kg}/\text{m}^2$ for a finished coated surface.

These material consumption values are guide values for smooth substrates. Exact consumption values must be determined by means of test areas.

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APPLICATION:

KEIM Twinstar can be applied by brush, roller or airless spraying. For airless application, a nozzle ≥ 539 is recommended (without insertion filter). KEIM Twinstar is to be applied undiluted. To ensure proper function, an application quantity of at least 0.4 kg/m^2 must be observed. For a sufficient and homogeneous material application, it is recommended to apply the coating as follows:

1. Material application: Apply and spread the paint with the roller in a criss-cross pattern. (Approx. value: take up and distribute material approx. 3 - 4 times per m^2).
2. Material application: Immediately after the first material application, apply additional material with the paint roller to the still wet paint layer, rolling vertically in one direction.

Note: Intermediate drying time: none

DRYING TIME:

No intermediate drying time

CLEANING OF TOOLS:

Clean immediately with water.

5. PACKAGING

Container content	Unit of measure	Quantity on pallet	Type of container
18	kg	32	bucket
5	kg	70	bucket
2.5	kg	80	bucket

6. STORAGE

max. storage time	Storage conditions
12 months	cool frost-free keep container tightly sealed.

Material residues from opened containers should be refilled into smaller containers to keep the air space in the bucket as low as possible.

7. DISPOSAL

For disposal information refer to section 13 of the safety data sheet.

Waste code: 08 01 12

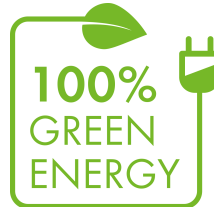
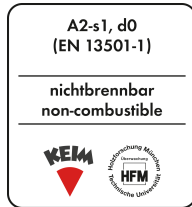
8. SAFETY INSTRUCTIONS

Please, refer to the Material Safety Data Sheet. EU limit value for this product (Cat. A/c): 40 g/l .
This product contains: $0 - 3 \text{ g/l VOC}$.

9. GENERAL INFORMATION

Cover surfaces not to be treated, especially glass, ceramics and natural stone. Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of water.
Mixing with products not part of the system or other foreign additives is not permitted.

10. CERTIFICATES & QUALITY SEALS



The stated values and properties are the result of extensive development work and practical experience. Our recommendations for application, whether given verbally or in writing, are intended to provide assistance in the selection of our products and do not establish a contractual relationship. In particular, they do not release the purchaser and processor from the obligation to convince themselves of the suitability of our products for the intended application with due care, which is general practice in trade and crafts. The general rules of construction technology must be observed. We reserve the right to make modifications to improve the product or its application. This edition supersedes all earlier editions.