

Kieselit-Fusion

Sol-silicate paint according to DIN 18363 part 2.4.1 with nanotechnology for exterior coatings on mineral and organic substrates. Due to best values in terms of building-physics, a high alkalinity and a moderate hydrophobicity, protected against algae and fungal attack. Biocide-free.



Product characteristics

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| Properties | <ul style="list-style-type: none"> • Self-cleaning effect due to photocatalysis • High resistance to chalking • Minimization of efflorescences of potash • Biocide-free protection against algae and fungus due to a moderate hydrophobic treatment • Highest colour consistency (acc. to BFS-Fact Sheet No. 26: Klasse A) • Outstanding adhesive power also on organic substrates • Silicification with mineral substrates • Highly permeable to CO₂ |
| Areas of application | Exterior only |
| Suitable substrates in detail | <ul style="list-style-type: none"> • Listed façades•ETICS•On renovation renders according to WTA and on dehumidifying plasters•Calcerous substrates•Mineral and organic substrates |

Material description

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| Binder | <p>Silica sol</p> <p>Lithium water glass</p> <p>Nanoscaled silicon compounds</p> |
| Ingredients | <p>Photocatalytically active titanium dioxide</p> <p>Fillers</p> <p>Additives</p> |
| Density | 1.5 kg/l |
| Water vapour permeability | V1 (ca. 0,001 m) |
| Water absorption coefficient (w-value) | W3 (ca. 0,09 kg/m ² h ^{0,5}) |
| Maximum particle size | Fine |
| Average consumption (short text) | approx. 130 - 160 ml/m ² |
| Average consumption | Note: In order to obtain the assured product qualities two coats are necessary in exterior areas. It is advisable to determine the exact consumption figure by producing a sample area. |
| Colour shade | <p>White</p> <p>Base 1</p> |
| Suitable tinting paints | Kieselit full colour and tinting paints or ready-mixed at the factory. Base 1 - 3 products with system-matching tinting pastes of the ALLFAcolor range. Please note that with tinted products the specified properties may change. |

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| Gloss level | Matt |
| Class accord. to BFS fact sheet no. 26 | A |
| Group accord. to BFS fact sheet no. 26 | 1 |
| Storage | Cool, but protected from frost |
| Thinning | Kieselit-Grundiermittel mixed with water at a ratio of 1:1. Intermediate coat: 3%. Finishing coat preferably unthinned. |

Substrates

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| Suitable substrates | Solid, mineral and organic existing paint layers All usual mineral substrates (plasters/renders, concrete, masonry) Also suitable for renders/plasters of mortar group P Ic class CS I (minimum compressive strength 1.5 N/mm ²) |
| Substrate conditions | The substrate must be clean, dry, frost-free, firm and sound as well as free from efflorescences, algae, moss, fungal attack, sinter layers and release agents. Follow the building regulations (in Germany VOB, Part C, DIN 18363, Section 3). |
| Substrate conditions | Base renders (exterior): Mineral base renders must be thoroughly cured and dry, because otherwise discolouration, in particular with tinted following coats, may occur. As a rule of thumb assume 1 day drying time per mm of layer thickness, but correspondingly longer at low temperatures and high humidity. Excessive temperatures and low humidity also lengthen the setting process. Treat replastered locations with fluosilicate. In addition, the guidelines according to BFS Fact Sheet No. 9 apply. Fibre-cement: Products of fibre-cement have to be primed water based. On exterior surfaces solvent-based primers may be used as well. For constructions showing inaccessible and uncoated rear sides and edges do only use water vapour permeable coatings. Since 01.12.2012 uncoated fibre-cement panels containing asbestos must no longer be coated according to the Ordinance on Hazardous Substances (GefStoffV). For asbestos containing fibre-cement the corresponding directives (in Germany TRGS 519) referring to the handling with asbestos have to be observed. Aerated concrete - exterior Use only diffusion capable coating materials for renovation coatings. With paints tinted in dark colours the lightness value must not fall below 30. If colours with a lightness value below 30 are determined, the coating must show a TSR-value of ≥ 35 . The guidelines of BFS Fact Sheet No. 11 apply. Exposed brickwork Ingredients might penetrate, therefore a test coating is advisable. To be coated with diffusion capable coating materials only. The guidelines of BFS Fact Sheet No. 13 apply. Lime-sand brick fair faced brickwork To be coated with diffusion capable coating materials only. The guidelines of BFS Fact Sheet No. 2 apply. |

Application

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| Application method | Application by brush or roller |
| Coating system | Initial coating: Priming coat with Kieselit-Grundierfarbe or Kieselit-Grundiermittel thinned with water 1:1. Intermediate coating thinned to max. 3%. Finishing coating preferably unthinned. Recoatings Priming coat with Kieselit-Grundierfarbe. Intermediate coating thinned to max. 3%. Finishing coating preferably unthinned. On weakly absorbent substrates the product can be applied as priming, intermediate or finishing coating. |

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Recoatings on critical substrates:

Priming coat with L-66 Tiefengrund mixed with Grundierfarbe P 1:1.

Intermediate coating thinned to max. 3%.

Finishing coating preferably unthinned.

Due to the great varieties of our range and specific applications it is also possible to use other primers or coating systems. For this please contact our technical service.

Application

The material can be applied by brush or by roll. Stir well before use. The product can be applied to firm and solid substrates without prior priming.

Application hints

Do not apply under a glaring sun, during strong wind or on warm substrates.

Note

Check tinted paint for colour accuracy prior to the application. Objections regarding the colour shade cannot be accepted after the application.

The figures given for parameters are average values. Due to the use of natural raw materials in our products, the actual value determined on the individual supplied product may differ slightly without affecting its suitability. These data refer to the white respectively standard product. Tinting may cause deviations.

Among other things colour stability depends on the pigment. Organic (true colors) pigments are less colour stable than inorganic (earth colours) pigments. With alkaline substrates and silicate based products only use inorganic colours and pigments. Basically, materials with lower binder capacity should only be tinted in pastel shades. With matt, intensely tinted materials mechanical stress (scratching) may result in bright stripes. In Germany the BFS Fact-Sheet No. 26 applies.

If exposed to aqueous solutions of heavy metals, e.g. copper salts, ingredients of Kieselit-Fusion react to brownish discolouration. Therefore copper areas must be protected against oxidation. Alternatively Kieselit-Fassadenfarbe can be used.

With varying absorptivity and substrate moisture as well as with alkalinity, the chemical binding process - particularly with tinted products - may provoke irregular drying.

Adjacent areas, particularly glass, ceramics, clinker, need to be masked carefully, as the product may affect the surface.

Practical hints

Repairs

Touching up surfaces may be more or less visible, even with using the original coating material. Traces are unavoidable according to BFS Fact Sheet No. 25. Whether a repair is considered as optically disturbing is depending on many parameters, like colour shade, gloss level, layer thickness, substrate, illumination etc. It is advisable to apply a test coating on inconspicuous places.

Washing out with early Moisture Load

After the application, an early exposure to moisture (dew, fog, rain) may result in a washing out of additives or emulsifiers if the still not dry coating. This will be visible on the surface as transparent traces with a slightly glossy shine. These additives are water-soluble and disappear under the influence of rain, once the coating is dry. If such surfaces must be directly coated, the traces should be washed off thoroughly.

Dark Colour Shades on ETICS

Colour shades with a light reflectance value ≥ 20 are possible on ETICS without limitations. On request, darker shades are possible based on a specific TSR-formulation. Please observe the information regarding colour stability with brilliant and intensive hues.

Colour Accuracy / Metamerism

The perception of colour shades is influenced by various parameters, such as light, gloss, angle, structure. Substrates of different degrees of irregularities may have different effects despite having been coated with the same material. Coating materials of the same hue but of different gloss levels also appear to be different. Various materials of the same colour shade that appear to be matching by daylight may show strong deviations in artificial light (metamerism effect). In case of increased requirements on matching colours of different building parts, materials and / or surfaces, the BFS Fact Sheet No. 25, section 4.2.2. can be taken into consideration.

Sidelight

Unfavourable lighting conditions (sidelight) may occur for instance after the subsequent installation of lights. This fact must be known before works. Specific requirements on evenness and uniformity of the coating have to be previously agreed upon.

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Continuous Surfaces

Before processing on continuous surfaces, especially with tinted material, check for colour consistency or mix the required quantity in advance. In order to avoid laps, apply wet-on-wet.

Recoating of Joint Sealing Compounds

Basically and if possible do not coat elastic joint sealing compounds. If however required, the coating is only possible provided that the sealing compound and coating material are suitable and compatible according to DIN 52452-4 (in Germany). The higher elasticity of the sealing compound may produce hairline cracks in the coating as well as discolouration of the paint. Due to the large variety of products available on the market, we recommend to produce test areas.

Protection against Algae and Funghi

For a prolonged protection we recommend to apply two coats. According to the state of technology, a durable protection against algae and fungal attack cannot be ensured.

"Cloudy" Drying

Depending on weather and object conditions, the chemical setting process of silicate paints may cause a cloudy or streaky appearance of the dried coating. This effect is characteristic for the material and does not affect the functional capability of the coating.

Efflorescences on the Surface

The chemical setting process of silicate products may cause precipitation of potash on the surface. In interior, this can normally be dry removed, e.g. by vacuum cleaning. In exterior, potash will normally disappear under the influence of water (e.g. rainfall).

Covering measures

Cover adjacent areas, especially glass, ceramics, clinker, carefully, as water glass containing products may affect their surfaces.

Shrinkage Cracking

With very rough substrates, the formation of higher layer thicknesses in cavities cannot be avoided. Depending on the product, fine hairline cracks may occur on the surface of the coating. These shrinkage crackings are product specific properties and state of the art and do not affect the quality of the coating.

Horizontal surfaces

Exterior horizontal surfaces such as mural crowns, cornices, windowsills etc. must be professionally protected with appropriate covering material, e.g. from metal or stone, in order to prevent dirt stains and moisture damage of the coating.

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| Temperature limit | Between+ 8° C and + 30° C for substrate and ambient air during processing and drying. |
| Drying time | At + 20° C for substrate and ambient air and 65% relative humidity (RH), recoatable after approx. 12 hours. Lower temperature or a higher humidity extend the drying time. |
| Tool cleaning | Immediately after use with water and soap |

Information

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| Product code | BSW40 (M-SK01) |
| General information | Keep out of reach from children. Ensure good ventilation during use and drying. Do not eat, drink or smoke while using the product. In case of contact with eyes or skin, immediately and thoroughly rinse with water. Do not allow to enter drains, waterways or soil. Clean tools immediately with water and soap. The coating material is highly alkaline. Therefore protect skin and eyes from paint splashes. |
| Hazard statements and safety advice | Contains 2-methyl-2H-isothiazol-3-one, N-[3-(dimethoxymethylsilyl)propyl]ethylenediamine. May produce an allergic reaction |
| Declaration of ingredients | Hybrid binder (Organosilicate / acrylate), polysiloxane, silicone resin, alkali water glass, silicates, titanium dioxide, mineral pigments / fillers, calcium carbonate, water, additives, Preservative. |

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| Observe safety data sheets | Further details: See Safety Material Data Sheet (MSDS) |
| Category VOC | EU limit value for the VOC contents of this product: (Category A/c) 40g/l (2010). This product contains max. |
| VOC content (in gram per litre) | < 10 g/l |
| WHC | 1 (weakly water-polluting) |
| Waste disposal | Only completely emptied containers should be given for recycling. Dispose containers with residues of liquid product via waste collection point accepting old paints and enamels. Dispose dried hardened product residues as construction site/demolition/ municipal or domestic waste. |

Container size

| Content | | EAN code | Article no. |
|---------|---------|---------------|-------------|
| 12,5 L | Weiß | 4002822007454 | 787037 |
| 5 L | Basis 1 | 4002822024222 | 887473 |
| 12,5 L | Basis 1 | 4002822007447 | 786987 |

System specific and system completing products

Kieselit-Grundiermittel

Kieselit-Grundierfarbe

Kieselit-Streichvlies

This data sheet cannot deal with all types of application arising in practice. Therefore, we cannot be held responsible for their content. These instructions do not release the purchaser / applicator from his responsibility of professionally examining the substrate and determining the suitability of the product in consideration of the project characteristics. In case of queries please request the technical assistance of ALLIGATOR FARBWERKE.