



Hybrid Silicate Technology

**Coating Systems with High
Resistance to Chemicals**



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Reliable protection for highly stressed sewer structures

Whether in industry or the public sector, sewer structures must resist heavy stresses caused by waste water. Cement-based construction materials most frequently come to their limits when in contact with acid media.

Structures are especially prone to damage at pH values ranging below 3.5 or if the pH values vary greatly.

The ombran hybrid silicate technology protects your structures against such aggressive attacks. Special coating systems offer a high range of chemical resistance both in acid and alkaline pH value ranges. A trimerisation reaction produces a dense matrix that cannot be penetrated by harmful substances.

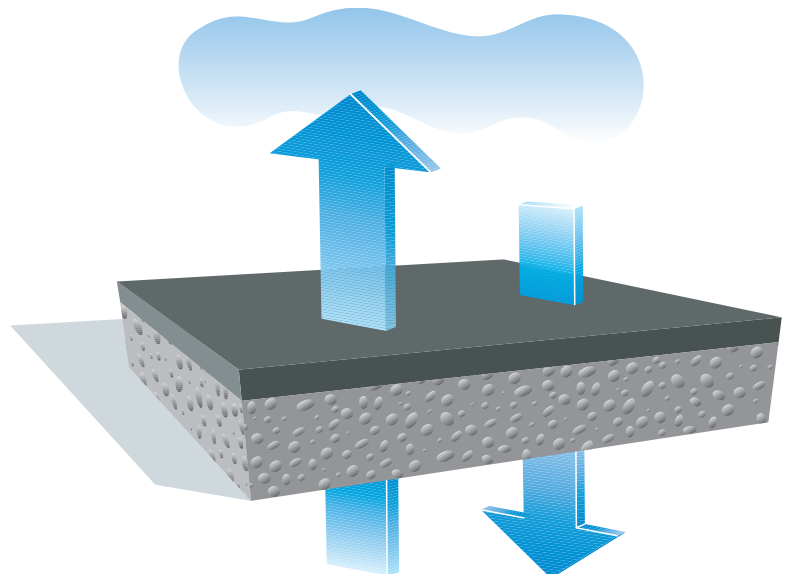
Water vapour diffusion

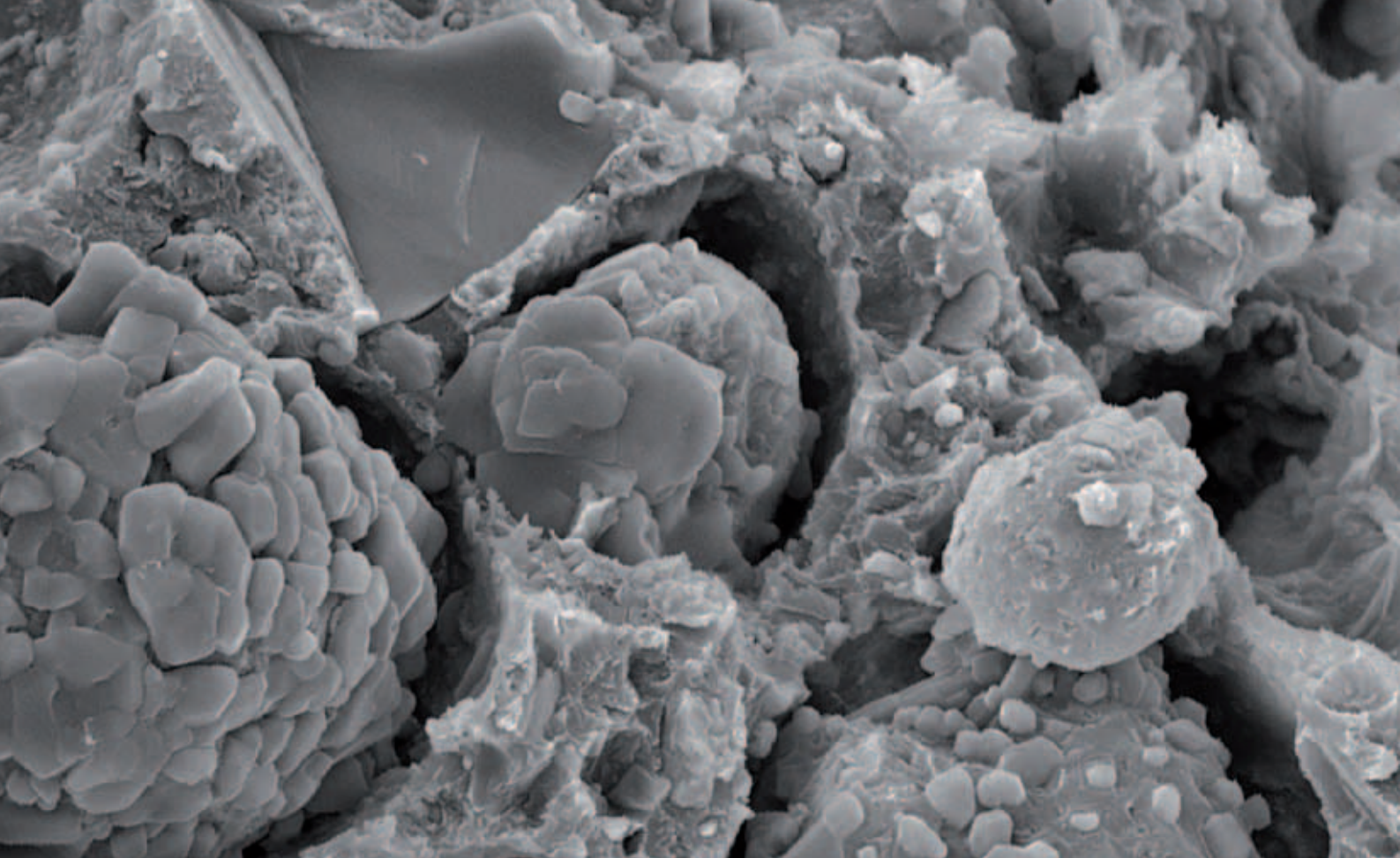
Concrete and masonry structures like sewers, manholes and pumping stations are in direct contact with the ground. Therefore back-bearing moisture penetration and rising dampness cannot be excluded. Systems that prevent water vapour from passing through, as epoxy resins do, prevent the natural transport of water vapour within the structure. This means that osmotic and capillary pressures may appear between the coating and the substrate below. The result is the formation of blisters followed by delamination from the substrate.

ombran coating systems, based on hybrid silicate technology permit water vapour diffusion and thus prevent coating damage arising from osmosis.

The diffusion capability of a material describes its ability to "be penetrated" with respect to certain media.

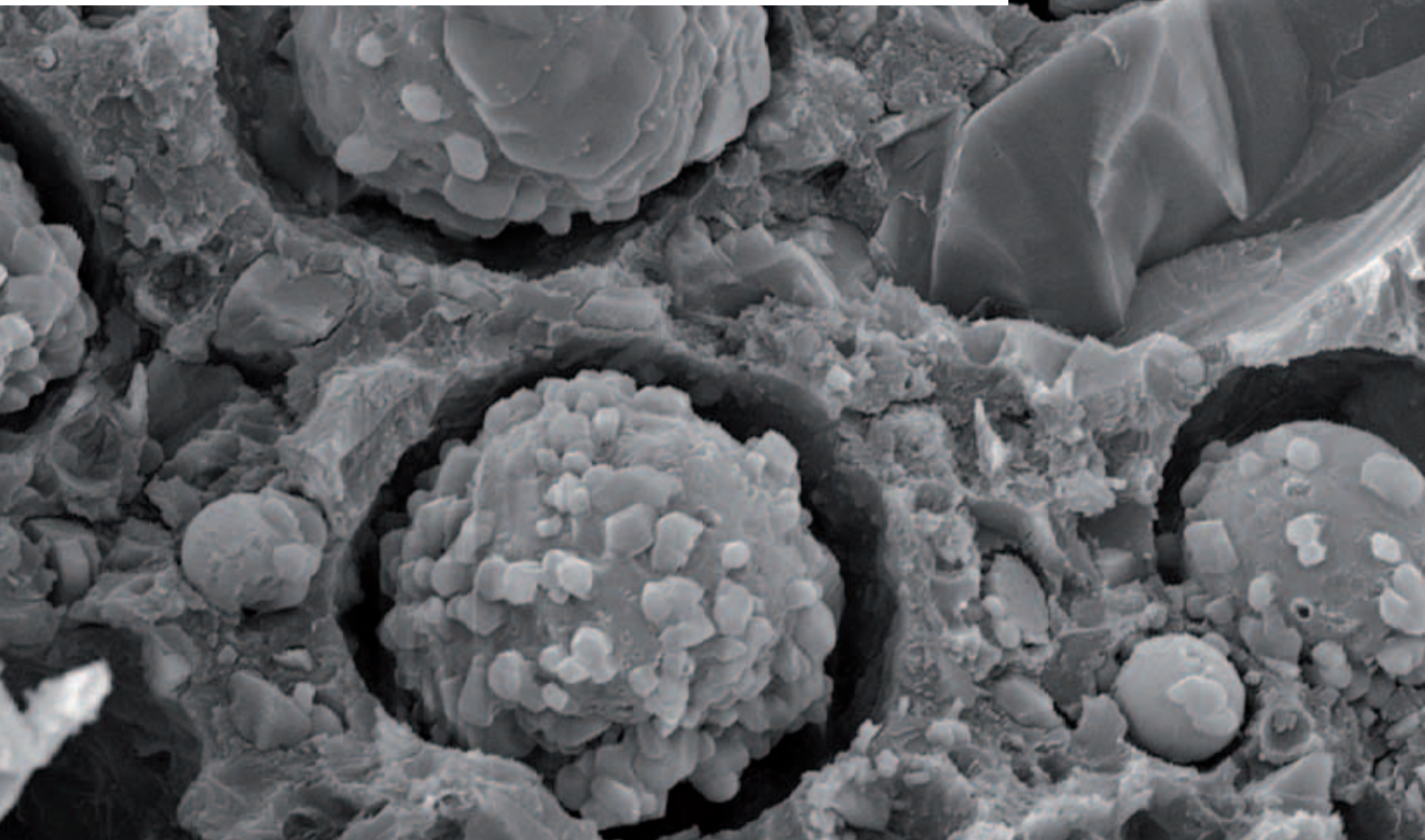
Water vapour diffusion thus stands for the penetration of gaseous water molecules and is an important performance factor when coating mineral substrates.





Trimerisation – the reaction

ombran hybrid silicate coatings are three-component coatings which, during its reaction process, lead to trimerisation - a three-dimensional fully cross-linked molecular structure. This produces a dense coating matrix that harmful substances cannot penetrate but which, however, has a marked ability to allow water vapour to diffuse. Hybrid silicate coatings exhibit a viscoplastic material behaviour once they are fully cured.





Reliable Rehabilitation of Separators and Grease Traps

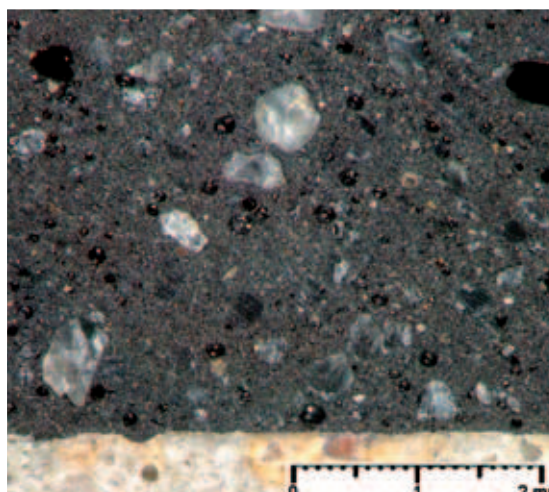
ombran FT

Renovation measures in separators and grease mean high demands on the planning and execution and also on the systems that are used there. Here the coating system plays a decisive role. Very often epoxy resin coating systems are used as factory-provided coating systems and are damaged after a short time showing blistering and delamination from the substrate. This is the result of osmotic pressures and the resulting embrittlement.

The ombran FT hybrid silicate coating is applied right here and offers long-term protection against the exposures that are encountered in separators and grease traps. In particular the water vapour diffusion capability of ombran FT permits the natural transport of water vapour within the structures and so acts against the formation of blisters. Thanks to the specific formulation of the hybrid silicate coating, it combines a high degree of mechanical resistance to impacts and scratching with a protective sealing against the ingress of a multitude of volatile liquids, fats, fatty acids and other aggressive media.

Your advantages

- High resistance to impacts and scratching
- Conductive
- High chemical resistance
- Very good adhesion to mineral substrates
- Easy and rapid application
- Can be repaired very easily
- Approved as a bund lining coating (DIBt)





Reliable Protection for Manholes and Sewers

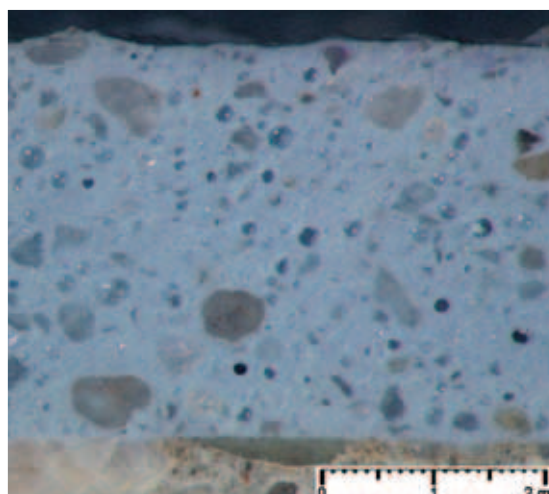
ombran CPS

One of the most frequent exposures encountered within the gas room of enclosed waste water structures is biogenous sulphuric acid corrosion (BSAC). It is possible to encounter pH values of < 1.0 here. Unprotected concrete and cement-based pointing mortars are not able to resist pH values of less than 3.5 on a sustained basis. The biogenous sulphuric acid destroys the cement matrix by attacking and dissolving it. The result is substance losses of several centimetres of concrete per year.

ombran CPS takes over where other coatings leave off. This system protects your manholes, sewers and pumping structures against attack from biogenous sulphuric acid corrosion. ombran CPS provides permanent resistance both in the acid (pH value ≤ 1.0) and alkaline (pH value ≥ 12.0) ranges. The capillary and compaction pores near the surface in mineral-based substrates are closed off without losing the ability to permit water vapour diffusion within the structures.

Your advantages

- Resistant to biogenous sulphuric acid
- Acid-proof
- Resistant to impacts and scratching
- Easy and rapid application
- Can be repaired very easily
- Allows water vapour diffusion



ombran

Competence and quality

With ombran you get comprehensive system solutions for the fields of sewers and manhole rehabilitation. The mature product systems have proven their value over decades through their high quality and good economy.

- Sewer rehabilitation
- Manhole rehabilitation
- Liner technology
- Systems for application via robots
- Injection systems
- Pipe covering and inner coatings

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