



solidian

build solid.

CARBON CONCRETE FOR ROAD SALT STORAGE

Today, de-icing salt is (still) considered an indispensable solution for making roads and sidewalks quickly passable or walkable. However, it contains high levels of chloride and promotes the corrosion of many materials.

This also applies to the reinforcement used in concrete walls and floors of salt storage halls and bunkers and in floor slabs and foundations of brine production plants. Future damage and repair measures due to corrosion of the reinforcements are thus predetermined.

solidian reinforcements, on the other hand, are durable, conserve resources and enable economic solutions - because they do not rust!



solidian

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Refurbishment of a salt storage bunker in Höchst, Germany

Refurbishment of a salt storage bunker in Höchst, Germany - courtesy by Massenberg GmbH

No matter whether de-icing salt is to be stored or brine is to be produced with it. In addition to the plant technology, the halls, bunkers, salt dissolving, mixing and tank facilities usually consist of a floor slab, foundations and enclosing walls made of concrete. Wood is used for a roof structure. The use of these building materials is due to the chloride-containing environment associated with the storage of de-icing salts and the production of brine.

The additional mechanical stress caused by loading with e.g. wheel loaders and trucks also has a lasting effect on a permanently intact surface of the concrete floor and walls. Chloride-containing moisture penetrates the possibly damaged concrete and hits reinforcing steel. The result: corrosion of the reinforcement and costs for repair measures to maintain stability and serviceability.

Chlorides The salt in the soup?

Wood and also concrete are resistant to the chloride-induced corrosion process. However, since corrosion sets in with steel despite all available protective measures, this material is hardly ever used as a building material in roofs or columns nowadays. Similar corrosion behavior can be seen in steel used in concrete. The embedded, moist de-icing salt is an aggressive medium against reinforced concrete.



Mechanical stress from loading

Focus on economic efficiency

Stainless steel reinforcements are expensive - as are the surface protection systems that always need to be repaired. Structures that combine surface protection systems and a floating protective layer of concrete or asphalt against mechanical stresses can also sometimes generate downstream costs.



Fast installation thanks to large-format **solidian** reinforcement mats

solidian reinforcement does not rust, has a significant higher load-bearing capacity of reinforcing steel, and can finely distribute and keep crack widths extremely small, so that high-maintenance and less robust surface protection systems may well be avoided. Consider not only the cost of construction, but also the cost to maintain your structure over the years. Our contribution to reducing your costs over the life of the structure is a reinforcement that does not rust.



Floor refurbishment with **solidian** Remat glass - reinforcing mats made of glass fiber reinforcement



solidian REBAR

solidian REBAR, made of carbon or glass fibers and special epoxy resins, have excellent properties in terms of load-bearing capacity and resistance to aggressive media such as salts, oils and other corrosive substances.

solidian REBAR

- do not corrode
- are walkable
- are an optimal choice for extreme requirements



Non-rusting, despite aggressive environmental influences



Chloride resistance enables reduction of concrete cover



Resource-saving due to the lower use of concrete and primary energy compared to reinforced concrete solutions



Recyclable and also a relevant contribution to reducing CO₂ emissions



Low weight of the reinforcements



Easy handling due to low dead weight and walkability



4-5 times slimmer and lighter structures compared to reinforced concrete solutions



Economical due to less material usage, less maintenance and longer service life

solidian REMAT are made from our corrosion-free and extremely resilient **solidian REBAR**. The rebars are connected to each other by durable and solid intersections that form a walkable mesh.

solidian REMAT

- does not corrode
- combine the outstanding mechanical properties of **solidian REBAR**
- are walkable
- are variable in cross section and grid width



solidian REMAT



solidian GRID is solidian's contribution to the future of construction: carbon concrete. The composite of carbon or glass fibers and special epoxy resins, produced with innovative cutting-edge technology, has many advantages over classic steel reinforcement, including resistance to aggressive media such as salts, oils and other corrosion-promoting substances.

solidian GRID

- does not corrode
- is an optimal choice for extreme requirements

solidian ANTICRACK has excellent bond behavior in concrete. The mesh requires only a small concrete cover of a few millimeters. As a result, it can be laid close to the surface and is also particularly effective in reducing crack widths. The structure of the grid produces a fine crack pattern and acts against spalling close to the surface - while fully utilizing the load-bearing capacity of a carbon reinforcement.

solidian ANTICRACK

- does not corrode
- reduces crack widths
- produces a fine crack pattern
- acts against spalling near the surface



Very high load capacities for carbon reinforcements



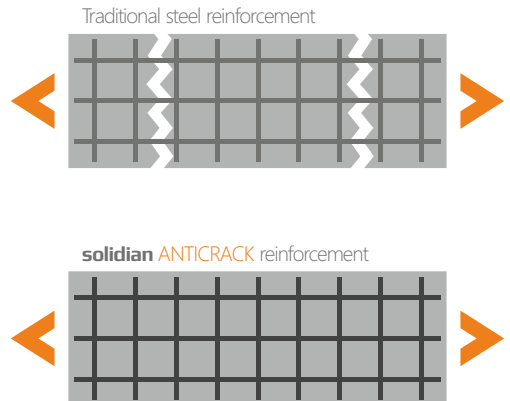
Extremely long service life



Finer crack distribution possible than in reinforced concrete construction

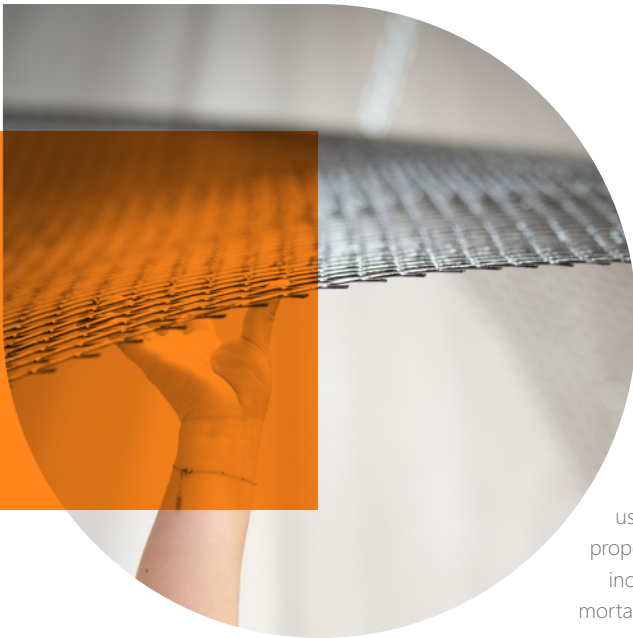
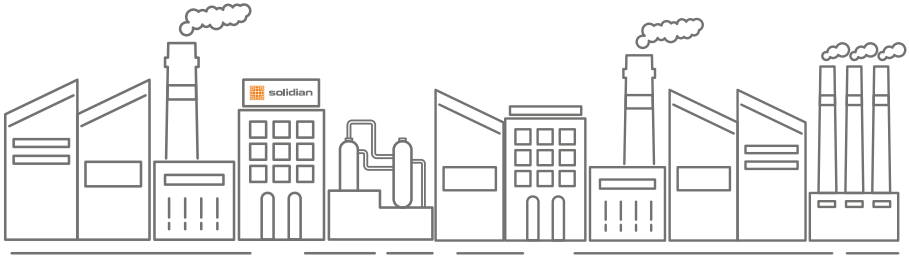


Elimination of surface protection systems and thus reduction of recurring costs



About **solidian**

Always one step ahead: with innovative products we can offer you perfect solutions for your needs



solidian has made a name for itself as a leading company that provides a wide range of solutions to improve construction structure.

We made a commitment to clients to provide them with customer service, technical support and being the leader in providing global innovative fiber material solutions.

We use advanced technologies to produce special solutions according to your needs. Our functional grids are used to optimize product and processing properties in a wide variety of applications – including concretes, UHPC, cement-based mortars, adhesives, and dry-mix compounds.

discover our
industry-leading
reinforcements & systems

build solid.

Other Products



check out our NEW website for more products and innovative solutions

solidian.com/products



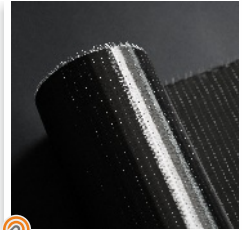
solidian FLEX GRID

Advanced production technology allows us to fulfill special market demands for both rigid and flexible reinforcements, according to application or customer needs. Hi-tech flexible reinforcements made of Carbon, Basalt or Glass.



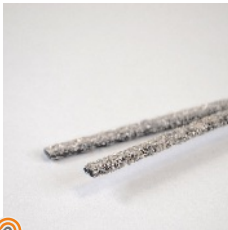
solidian SPACERS & TIES

Our range of accessory products for **solidian** reinforcement helps you to install our reinforcement products quickly and safely. Tools and installation aids complete the range. We do not only think holistically, but also act accordingly!



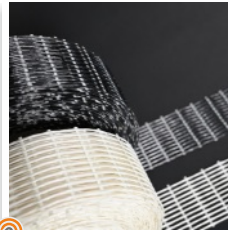
solidian WRAP

The **solidian Wrap** carbon is designed for structural reinforcement applications. Lightweight, flexible, high-strength fiber can be used on different surfaces like circular columns and other arched surfaces.



solidian WALL CRACK ANCHOR

The simple connection of masonry parts to an effective bond, which can be achieved with little effort, is the main focus of the carbon-based **solidian Wall Crack Anchor**.



solidian BRIKSY

High-tech, non-corrosive, AR glass or Carbon fiber reinforcement brick mesh on a roll for efficient crack control specially designed for any wall width.



solidian OPEN END

Non-corrosive Carbon, Basalt, or AR-Glass connector with Single or Double Open End suitable for construction reinforcement in masonry, arches and vaults. Perfect for reinforcement of buildings in earthquake-affected areas.

