solidian·kelteks

solidian RESTORATION

Concrete repair & strengthening with non-metallic reinforcement

solidian-kelteks.com

DEVELOPED AND MADE IN EU

CERTIFIED
ISO 9001
ISO 14001

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Corrosion free & guaranteed durability of 100 years

Sewage & Water structures

- solidian carbon grid reinforcements are approved by the building authorities for the exposure classes up to **XC3, XD3 and XS3** and can be used without restriction
- Our carbon grid reinforcement is absolutely acid and sulfate resistant and fulfills the proof against biogenic sulfuric acid corrosion for the **new class XWW4 based on DIN 19573**
- The crack-width minimizing properties of our carbon mesh reinforcement solidian ANTICRACK **protect concrete and mortar** from the penetration of harmful substances/acids
- The use of our crack-width-limiting carbon mesh reinforcement solidian ANTICRACK is advantageous for **waterproof (WU) components** and sealing constructions against water-polluting substances **(LAU and JSG plants)**
- The use of crack-inhibiting carbon concrete as a thin top layer can enable the use of a long-lasting OS8 system instead of bridging OS11 to OS14 systems
- The BAW leaflet on hydraulic structures (MiTex) regulates the surface repair with textile-reinforced mortar and concrete layers – our solidian ANTICRACK is predestined for this!

Strengthening of the building structure

- Thin reinforcement layers with carbon mesh reinforcement can give the existing structure a completely new look while preserving, protecting and reinforcing it
- Reinforce your reinforced concrete structure with the CARBOrefit® process, which is approved in Germany, to restore or increase its load-bearing capacity
- With our European-approved CRM system based on EAD 340392-00-0104, you can reinforce concrete and masonry structures with suitable mesh and anchoring solutions
- Even with low layer thicknesses, you protect the structure from further corrosion and only apply a small additional load to the existing structure§ Maintain the building fabric while observing the requirements of monument protection

Logistics & Transportation

- Simple and easy processing of our grid reinforcement either in mat form or as roll material
- Roll material offers you advantages: individual cutting, low material usage due to less waste and overlapping, simpler logistics, lower transport costs, faster and easier installation and thus lower personnel costs, faster recommissioning of the repaired structure
- The rollability of the reinforcement makes it ideally suited for use in difficult and/or confined spaces, such as canals, shafts, overhead work

Cathodic corrosion protection

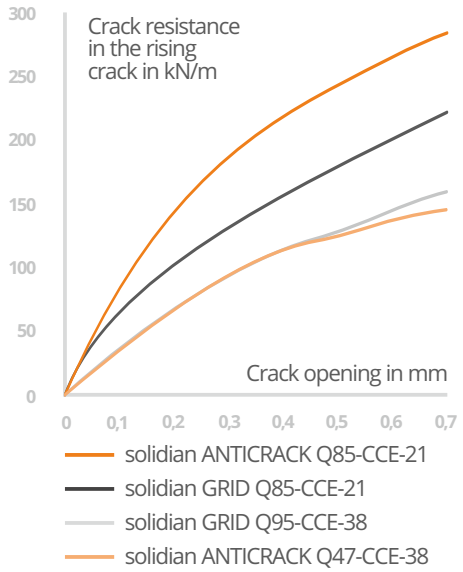
- Carbon reinforcements can serve as a conductive anode and be used as an alternative to titanium anodes as part of cathodic corrosion protection

In General...

- By repairing with a carbon concrete layer, the load-bearing capacity can be restored and increased and/or the usability ensured
- Carbon fiber grid reinforcement ensures a higher durability of the component
- Cost savings through less material usage and thus lower CO_2 emissions
- By implementing thinner layers, the clear room height or passage height can be maintained

solidian GRID & solidian ANTICRACK

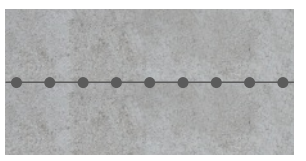
- Depending on the application, solidian ANTICRACK can be optimized in comparison to solidian GRID with regard to reducing crack opening and improving economic efficiency through sanding.



Early cracking from effluent hydration heat

Crack Force on fct, eff (3d)=0,65*fctm = 1,885

Steel reinforcement



Carbon reinforcement

Repairing

solidian ANTICRACK

- Reinforcement for concrete layersIncrease the mechanical resistance of the concrete surface
- Surface protection system (only OS8 instead of OS10 or OS11)
- Execution of sealing surfaces and waterproofing
- Reprofiling
- Cross-section supplementation
- Maximum crack width limitation
- Maximum compound

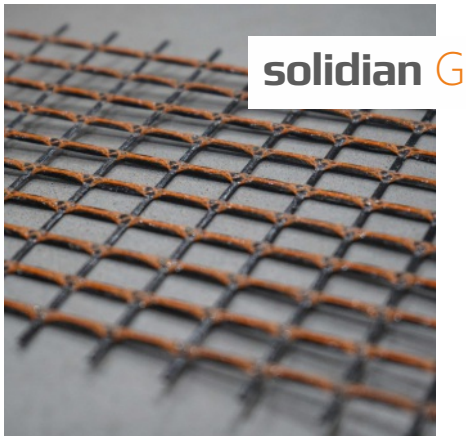
solidian eGRID

- Cathodic corrosion protection (CCP)
- Replacement of titanium anodes as part of a remediation system
- Uniform surface introduction of protective currents

solidian GRID

- Reinforcement for concrete layers
- Reprofiling
- Cross-section supplementation
- Good crack width limitation
- Approved product for the reinforcement of concrete (new construction)
- Planning according to DAfStb guideline

Strengthening



solidian GRID CarboRefit

- Procedure for reinforcing the supporting structure of concrete components with carbon concrete
- Restoration and/or increase of load-bearing capacity and durability
- Preservation of the existing appearance of historical buildings with monument protection
- Approval Z-31.10-182 (abZ/aBG)
- Lowest reinforcement thickness, e.g. compared to sprayed concrete additions
- Low additional dead weight
- FRILO design module

solidian WRAP

- Textile fabric made of carbon fibers
- As a subcomponent of a complete system
- Can be used with a suitable resin, e.g. for binding columns or other components to be reinforced

solidian ANTISEISMIC Grid

- System solution for earthquake and component strengthening
- Strengthening for masonry and concrete structures
- CRM system
- ETA-23/0383
- System components L-connectors, open-end connectors, corner

Seismic Retrofitting

Complete non-corrosive earthquake reinforcement developed by experts

CRM System

Strengthens new and existing masonry and concrete elements by increasing strength, ductility, and load-bearing capacity with the combination of grid, corner and connector.

CE marked under the EAD 340392-00-0104 CRM CE

FRCM System

Combines an anorganic matrix (cement or lime) with reinforcement grids (made out of carbon, basalt or AR glass) and connector for improved structural integrity under static and dynamic loads.

FRP System

Uses lightweight, high-strength materials to absorb tensile stresses and ensure a strong bond with reinforced elements.

Resilience you can rely on

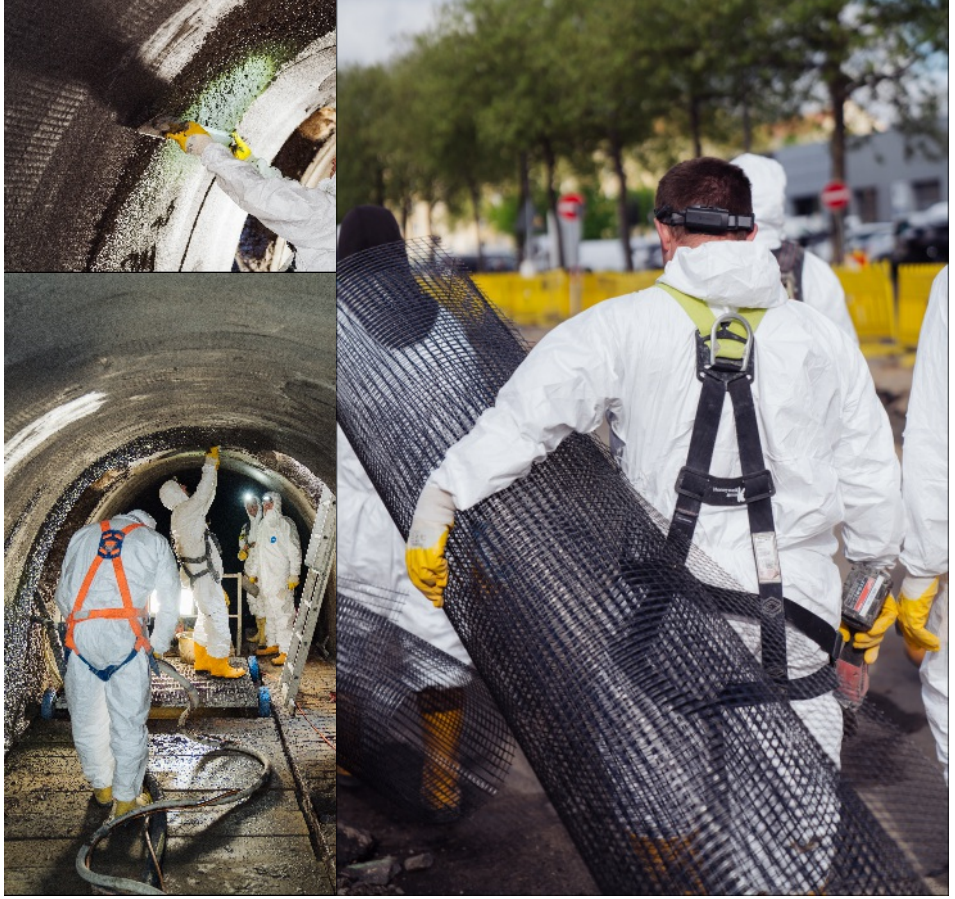
solidian ANTISEISMIC System is engineered for the renovation, restoration, and reinforcement of masonry and concrete structures. It provides optimal protection against seismic damage by enhancing structural strength, ductility, and load-bearing capacity.

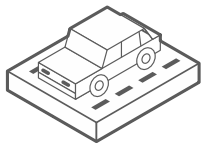
Our innovative R&D ensures reliable and high-quality solutions tailored to earthquake resistance. Using cutting-edge materials like carbon, AR glass, and basalt, the system delivers superior performance while maintaining easy installation and long-term durability.

Key Benefits

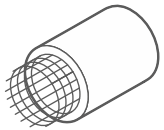
- Strengthens structural elements to resist seismic forces
- Increases ductility and load distribution
- Offers flexible and rigid reinforcement options for varied applications
- Lightweight, non-corrosive, and easy to install

Applications

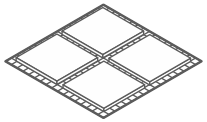




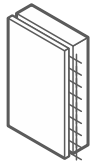
Underground & Parking Garages



Sewage Systems, Locks And Canals

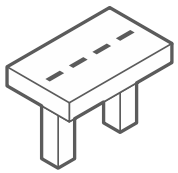


Floors & Tiles

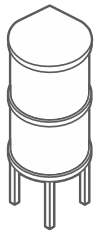


Facades

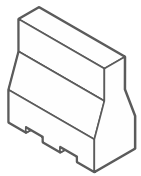
Seismic Retrofitting



Bridges



Silos & Containers



Retaining Walls

We Offer You

German national technical approval (abZ) and general construction technique permit (aBG) for solidian GRID

We offer an environmental product declaration (EPD) for solidian GRID and solidian REBAR.

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We are a member of CARBOrefit®

CARBOrefit® is a general building approval for reinforcement with carbon concrete. It offers a sustainable and resource-saving solution for securing existing structures and increasing the load-bearing capacity and longevity of buildings. Thanks to this approval,

CARBOrefit® can be used efficiently, cost-effectively and in a variety of ways. It thus supports the achievement of climate targets in the construction industry and helps to leave an intact environment for future generations.

build solid.

CERTIFIED ISO 9001 ISO 14001

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