

Systematic Pipe Rehabilitation



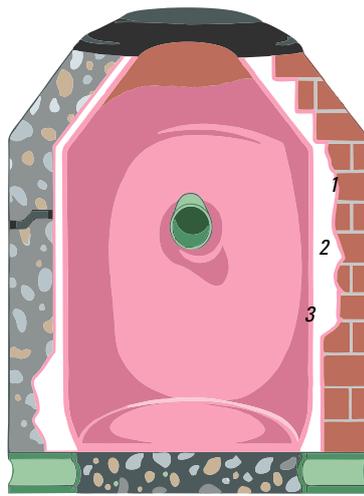
SpectraShield Liner Systems

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The product

The SpectraShield lining consists of a three-layer sandwich structure, on both outer sides a silicone-modified poly-urea layer and inside a polyurethane foam core. On site and under controlled conditions the temperature of the individual components is adapted, they are mixed and then applied by means of the high-pressure spray procedure to the surfaces to be coated. As to the colour of the surface there is the choice between pink or black. The result is a stable, extremely resistant and seamless lining. The reaction times of the resins being a matter of seconds guarantee that the rehabilitated object is ready for use right after the lining has been finished.



- 1 First barrier layer of silicone-modified poly-urea
- 2 Equalising layer of PU foam
- 3 Sealing layer of silicone-modified poly-urea

The field of application

The SpectraShield procedure has been developed for the rehabilitation of sewer shafts, pump stations and other structure work for wastewater. The processing temperature is between -7°C $+65^{\circ}\text{C}$. The procedure stabilises the existing structure, repairs bursts, cracks, eroded joints, and similar, forms a durable sealing against strongly pressing groundwater, prevents corrosion and protects the rehabilitated surfaces against mechanical, biological,

chemical influences and influences caused by the weather. The working temperature (temporarily) covers a very large range from -40°C to $+175^{\circ}\text{C}$. Due to the high adhesive strength of the used materials (3.40 N/mm^2 (concrete) / 56.00 N/mm^2 (brickwork)) and the stable layer design, the system can be applied to any commonly used surface, independent of the size and the geometry of the surface. All necessary proofs and tests have been carried out pursuant to the corresponding DIN standards and evidence has been provided.



Rehabilitation of the pump shaft



Process equipment - modular and autarkic

d Liner Systems

The technology

The processing of high-performance components requires the use of high-performance technology. Special dosage devices, the so-called reactors, heat up the components to strictly defined temperatures under an electronic supervision and transport them under high pressure through heated hoses to the respective coating gun. There the individual components are mixed in a mixing chamber and discharged to the outside through an "airless" (without the admixture of air) nozzle especially adapted to the materials. The result is a uniform fan-

like spray jet, with which the user can excellently line big surfaces and even elaborate fine details. Typical for D&S is that the complete process equipment is modular and autarkic and installed in a swap container. Together with the use of up to 100 m of heated high-pressure hoses the maximum degree of flexibility is guaranteed, so work can be performed in road areas in shafts easy to approach well as in winding structures difficult to access, e.g. in industrial sedimentation tanks inside buildings.

Rehabilitation of a sedimentation tank



The advantages

One advantage of the SpectraShield procedure is the long lifetime, and in addition it also stops infiltration and prevents corrosion. This system can be used for nearly any type of structure and surface, because it forms the shaft according to the shaft geometry and repairs the structure. The result is a seamless processing incl. all inlets and outlets, a high resistance to chemicals, even to biogenic sulphuric acid and industrial wastewaters. Moreover, there is an

extremely high adhesive strength on nearly all common building materials, a high abrasion resistance and tensile strength as well as ductility, even on a wet surface. The time spent for the lining is less than 1 hour in a standard shaft with a depth of 2 m, and the object can be used immediately after the rehabilitation process thanks to the short drying period (dry to touch after 15 – 35 sec.). Due to the colouring, the shaft is easy to inspect and to maintain.





- BlueLine Procedure
- Burst Lining
- Cement Mortar Lining
- Compact Pipe
- CP-ZA 2012-Top-Hat Profile
- DS-CityLiner
- DS - Hose Relining
- DynTec (close-fit-lining)
- Flexoren Relining
- House and Industry Liner
- Installation Procedures/ Large Profile Rehabilitation
- Manual Rehabilitation
- Partial In-Liner
- Pipe Relining (long pipe, short pipe and pipe run)
- Polyester Liner
- Robotics
- SpectraShield
- Superheated Steam Liner
- UV Liner
- and other procedures

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