



The ombran MHP System

Reliable Rehabilitation of
Manholes and Sewers



ombran MHP System with DySC[®] Technology

Maximum durability by “Dynamic SynCristallisation”

A careful selection of the ingredients and an optimized w/c-ratio are the basics for use of cement-based mortars in sewer systems. The use of tricalciumaluminate-free (C3A-free) cements in order to achieve highly sulphate-resistant mortars is a requirement for this technology based on research in this field. Furthermore a significant factor for the chemical resistance of cement-based systems is the porosity and the pore size distribution in the mortar matrix.

The DySC[®] technology (Dynamic SynCristallisation) starts where conventional mortar systems reach their limits. The binder matrix of ombran MHP systems is compacted and reinforced by a complex corresponding process, “Dynamic SynCristallisation” (DySC[®]).

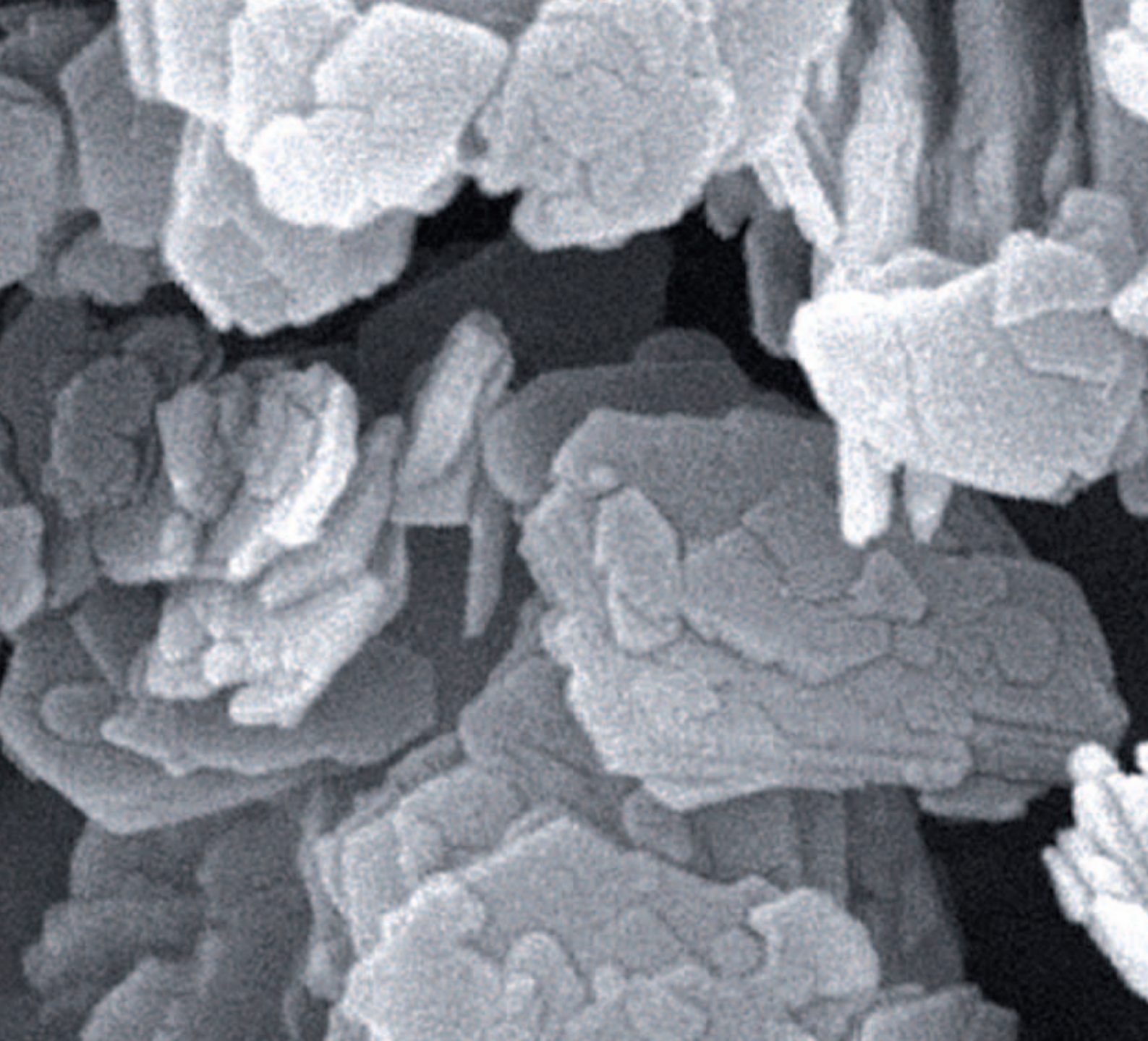
A product with the densest packing of spheres is created by using latent hydraulic and pozzolanic materials. The result: The porosities are reduced and the pore size distribution is optimized – to provide long-term protection for your sewer structures.

Your advantages

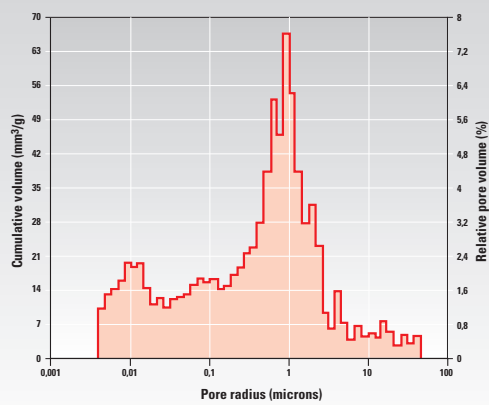
- Reduced porosities
- Optimized pore size distribution
- Ideal w/c-ratio
- Increased chemical resistance
- High resistance to hydrolysis

Whether for application by hand or by spraying, the ombran MHP system offers the right solution for each area of application.

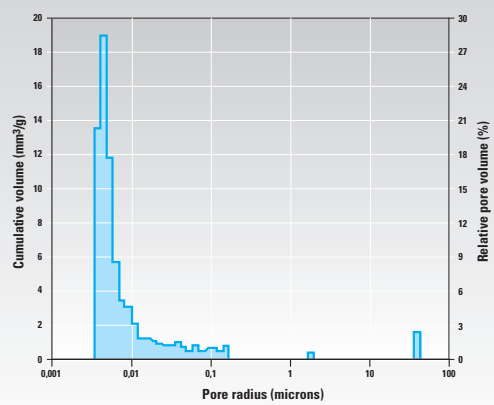
Cement-based construction materials are porous! The total porosity and the pore size distribution are determined as characteristic values by means of a mercury pressure porosimeter. This records the compaction pores (> 0.1 mm) and capillary pores (> 0.01 mm), but also the smaller shrinkage pores (< 0.01 mm) and gel pores (< 0.00003 mm). It is not possible for substances to be transported in the presence of water in the area of shrinkage pores and gel pores. However the larger compaction pores and capillary pores in cement-based construction materials allow harmful pollutants to penetrate. The following applies: the greater the proportion of compaction and capillary pores, the lower the resistance of the system to chemicals and hydrolysis.



Conventional coating



ombran MHP system with DySC® technology



Pore size distribution in a comparison



Secure Application by Hand when Reprofiling and Coating

ombran MHP / ombran MHP 15



ombran MHP mortars are dual performance systems! While conventional mortar systems consist of different products for reprofiling and coating, ombran handles such tasks with just one product system. Both work steps can be carried out with the same product in just one step. This means time savings and it simplifies logistics on site.

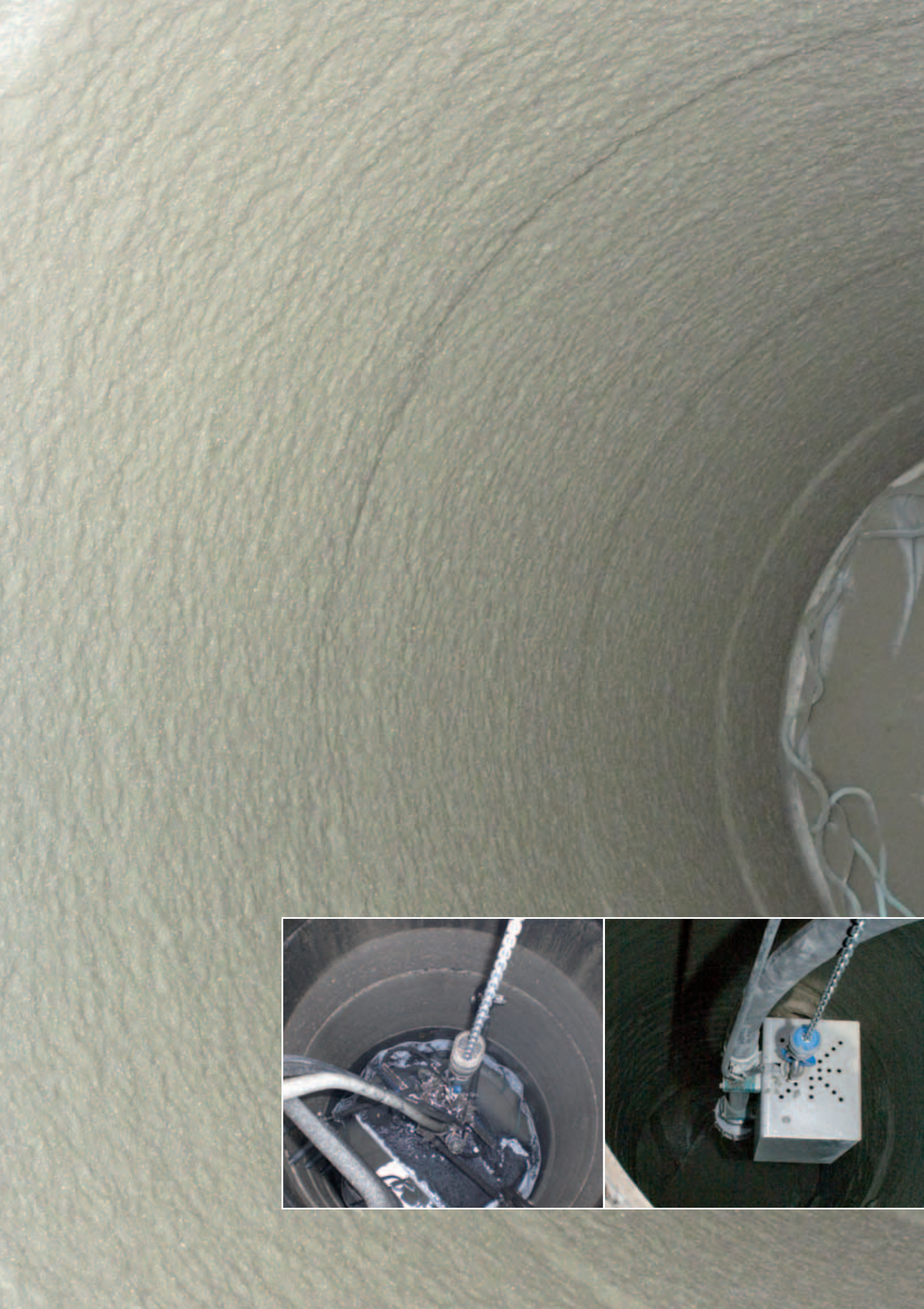
ombran MHP was developed especially for vertical surfaces and overhead areas in manholes and sewers. Floor areas and benching areas as well as drain channels are serviced with the faster ombran MHP 15. The performance characteristics of both systems range from an outstanding chemical and abrasion resistance to the ability to rapidly withstand exposure to water again.

Your advantages

- Easy application by hand
- Stable and non-sagging
- Simple curing
- Optimized workability combined with a rapid resistance against water exposure
- Open to water vapour
- High abrasion resistance

Through the combination of special cements with novel additives, the ombran MHP systems offer rapid resistance to water together with optimized workability times allowing for a fast back to service. The DySC® technology also makes it possible to create a dense mortar matrix, that could not be attained previously for hand application.





Economic Application by Spraying and Spinning

ombran MHP-SP

The application of cement-based products by spraying or spinning demands high requirements on the ability of the mortar to be pumped and also requires a longer workability time. Requirements that ombran MHP-SP fulfils ideally. The mortar is capable of being pumped easily with all common coarse mortar screw pumps. This allows both the coating of sewer manholes by spinning process and also the coating accessible sewage ducts by using the wet spraying process.

Your advantages

- Economic application
- Quick coating of large areas
- Highly compacted, dense mortar matrix
- Even surface finish
- High layer thicknesses per work step
- Long workability time while rapidly developing resistance to water
- Open to water vapour diffusion



The repair, reprofiling and coating of large areas in sewer systems can only be done effectively by using spraying or spinning methods. Manholes in particular can be coated economically and safely by using ombran MHP-SP and the unique MRT technology from HDT GmbH. Specially developed machinery and technique ensure perfect results in such cases. The MRT Blasting Unit achieves the best substrate preparation possible, safely. The coating is applied quickly and evenly with the MRT Spinning Unit.

The MRT Spinning Unit is a spinning head with automated control and hence the operative unit of the entire MRT system.

This saves up to 80% in time when compared to application by hand. Used in connection with the MRT-Control Unit, this allows the entire coating to be controlled automatically by an integrated path measurement system.

Information and supply from

HDT – Hochdruck-Dosier-Technik GmbH:

www.h-d-tec.de

ombran

Competence and quality

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

- Sewer rehabilitation
- Manhole rehabilitation
- Cured in place liner technology
- Systems for application via robots
- Injection systems
- Pipe covering and inner coatings

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