



## MasterSeal 7000 CR 360° Protection for Extreme Conditions

MasterSeal 7000 CR is the waterproofing and concrete protection system with a unique combination of application and performance properties that meet the challenges of aggressive wastewater environments. The performance-proven MasterSeal 7000 CR system significantly extends the life cycle of concrete structures.

### Product benefits at a glance:



\*Specific chemical resistance\* refers here to the chemical resistance to BSA and also organic acids.

## Challenges in Wastewater Treatment: Dealing with Aggressive Environments

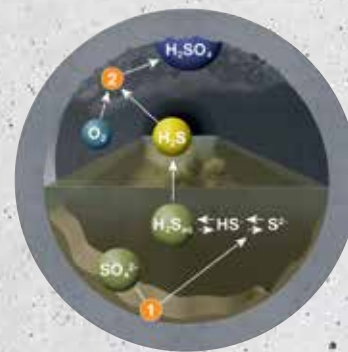
The concrete infrastructure of wastewater treatment systems is subject to complex physical and chemical corrosion processes.

### Biogenic sulfuric acid corrosion can lead to structural concrete damage

Biogenic sulfuric acid (BSA) corrosion is caused by bacteria from the genus Thiobacillus, which metabolizes hydrogen sulfide (H<sub>2</sub>S) and liberates sulfuric acid.

H<sub>2</sub>S is generated in wastewater systems where sulfur compounds are broken down as part of the general microbiological degradation process by anaerobic bacteria. Accumulation of H<sub>2</sub>S in the headspace promotes Thiobacillus colonization. Metabolization of H<sub>2</sub>S by Thiobacillus deposits sulfuric acid directly onto the concrete or iron surface being colonized. Chemical attack then takes place very quickly, deteriorating the concrete surface.

In addition to BSA corrosion in the headspace, chemical attack is also caused by the wastewater itself, either from the organic acids generated as oil and fat are broken down or from other contaminants.



The illustration above represents the different reactions involved in the process of biogenic sulfuric acid corrosion.



**Durable for a minimum of five years – proven under real conditions**

MasterSeal 7000 CR has been tested at the Fraunhofer Institute under conditions that simulate those of a real sewer during 5 years. The results of the test show no significant changes on the properties of MasterSeal 7000 CR.



## Master Builders Solutions from BASF for the Construction Industry

### MasterAir

Complete solutions for air-entrained concrete

### MasterBrace

Solutions for concrete strengthening

### MasterCast

Solutions for the manufactured concrete product industry

### MasterCem

Solutions for cement manufacture

### MasterEase

Low viscosity for high-performance concrete

### MasterEmaco

Solutions for concrete repair

### MasterFinish

Solutions for formwork treatment and surface improvement

### MasterFlow

Solutions for precision grouting

### MasterFiber

Comprehensive solutions for fiber-reinforced concrete

### MasterGlenium

Solutions for high-performance concrete

### MasterInject

Solutions for concrete injection

### MasterKure

Solutions for concrete curing

### MasterLife

Solutions for enhanced durability

### MasterMatrix

Advanced rheology control for concrete

### MasterPel

Solutions for water tight concrete

### MasterPolyheed

Solutions for mid-range concrete

### MasterPozzolith

Solutions for water-reduced concrete

### MasterProtect

Solutions for concrete protection

### MasterRheobuild

Solutions for high-strength concrete

### MasterRoc

Solutions for underground construction

### MasterSeal

Solutions for waterproofing and sealing

### MasterSet

Solutions for set control

### MasterSuna

Solutions for sand and gravel in concrete

### MasterSure

Solutions for extraordinary workability retention

### MasterTop

Solutions for industrial and commercial floors

### Master X-Seed

Advanced accelerator solutions for concrete

### Ucrete

Flooring solutions for harsh environments



Discover more about  
MasterSeal 7000 CR

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# MasterSeal 7000 CR

## The Solution for Extreme Challenges

With its unique combination of application and performance properties, MasterSeal 7000 CR is the right solution for waterproofing and protecting wastewater treatment concrete structures and sewers.



### Performance

MasterSeal 7000 CR's high resistance to abrasion and biogenic sulfuric acid corrosion are ideal to withstand the severe conditions that occur in pretreatment and aeration tanks, digesters, or sewers. Its dynamic and static crack-bridging abilities protect concrete from cracks thus prolonging the structure's life cycle.

### Application

The easy application of MasterSeal 7000 CR by spray or roller, as well as its compatibility with damp substrates, suit the conditions of wastewater facilities particularly well. Downtime – which is always critical when stopping a wastewater process – is also reduced because of its fast curing properties that allow contact with water only 24 hours after application at 20 °C.

#### MasterSeal 7000 CR fully bonds to:



Steel



Concrete (with primer MasterSeal P 770)

#### MasterSeal 7000 CR is suitable for:



Horizontal, vertical and overhead application



In- and outdoor application



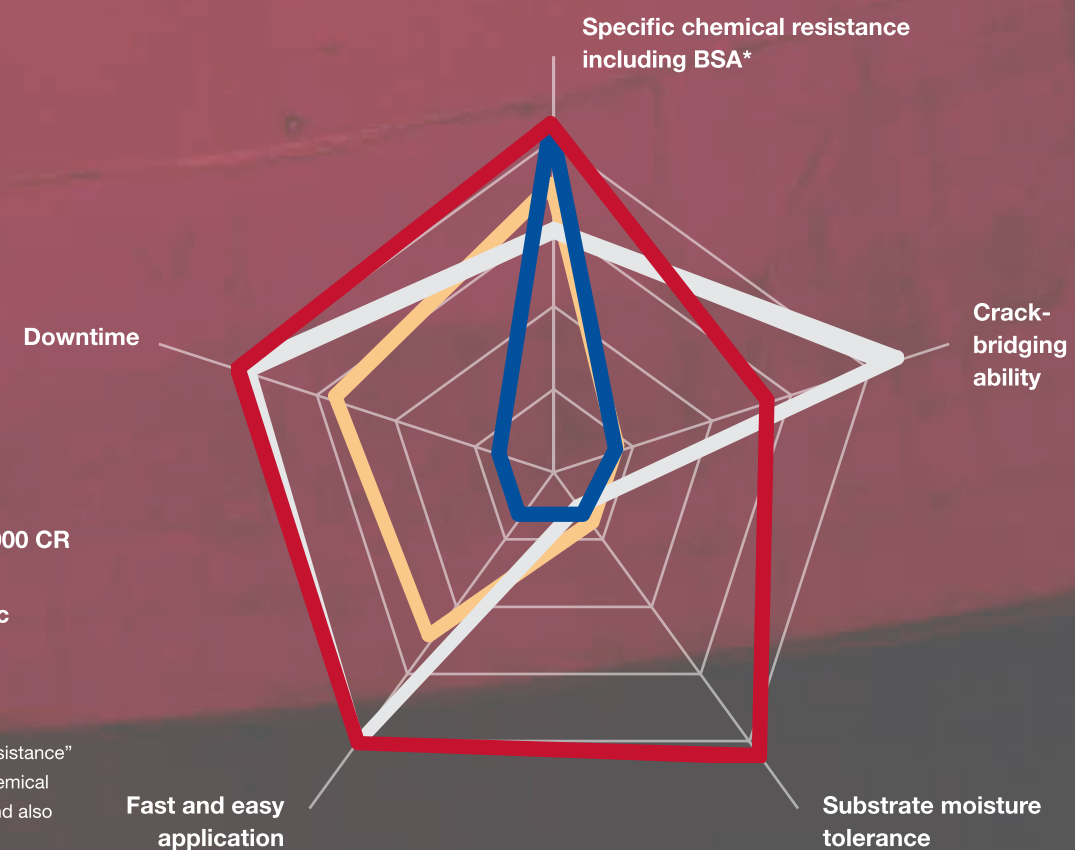
The two MasterSeal 7000 CR colors – red and grey – allow safe application even in environments with poor visibility.

1 Primer	2 Membrane
MasterSeal P 770	MasterSeal M 790
Thickness (approx.) 0.25 mm	Thickness (approx.) 0.7–0.8 mm
Consumption (approx.) 0.3 kg/m <sup>2</sup>	Consumption (approx.) 0.8–1 kg/m <sup>2</sup>



- MasterSeal 7000 CR
- Polyurea
- Epoxy Novolac
- Vinyl ester

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## Xolutec – a New Dimension in Durability

Our new and unique technology for durable solutions was developed to solve the problems of challenging technical environments.

Xolutec is an innovative and smart way of combining complementary chemistries. When the material is mixed on site, a cross-linked interpenetrating network (XPN) is formed, enhancing the overall material properties.

Xolutec can be designed in a wide variety of compositions to achieve unique characteristics. These can provide seemingly contradictory properties, such as attractive aesthetics and excellent abrasion or chemical resistance combined with effective crack-bridging.

By controlling the cross-linking density, the properties of Xolutec can be adjusted to suit the product performance required. For example, a formulation of materials with varying degrees of toughness and flexibility can be created.

Xolutec is very low in volatile organic components (VOC) and is quick and easy to apply with both spray and hand

application equipment, depending on the requirements. It cures rapidly, even at low temperatures thus reducing application time and enabling fast return to service with minimal downtime.

The technology is insensitive to moisture and tolerates a wide variety of site conditions, greatly expanding the application window while reducing the potential for delays and failures.

Long maintenance cycles and lower life cycle costs significantly reduce the total cost of ownership. Xolutec's extreme versatility and capacity to formulate a wide variety of solutions for specific requirements create a new dimension in material technology for the construction industry.

## Master Builders Solutions from BASF

The Master Builders Solutions brand brings all of BASF's expertise together to create chemical solutions for new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than a century in the construction industry. The know-how and experience of a global community of BASF construction experts form the core of Master Builders Solutions. We combine the right elements from our portfolio to solve your specific construction challenges.

We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We leverage global BASF technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make you more successful and drive sustainable construction.

#### Our comprehensive portfolio

- Concrete admixtures
- Cement additives
- Chemical solutions for underground construction
- Waterproofing solutions
- Sealants
- Concrete repair and protection solutions
- Performance grouts
- Performance flooring solutions

#### Fields of application:

