



MasterSeal 7000 CR

360° Protection for
Extreme Conditions





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.

MasterSeal 7000 CR fully bonds to:



Steel



Concrete (with primer MasterSeal P 770)

1 Primer
MasterSeal P 770
Thickness (approx.)
0.25 mm
Consumption (approx.)
0.3 kg/m²

2 Membrane
MasterSeal M 790
Thickness (approx.)
0.7–0.8 mm
Consumption (approx.)
0.8–1 kg/m²

MasterSeal 7000 CR is suitable for:



Horizontal,
vertical and
overhead
application



In- and outdoor
application



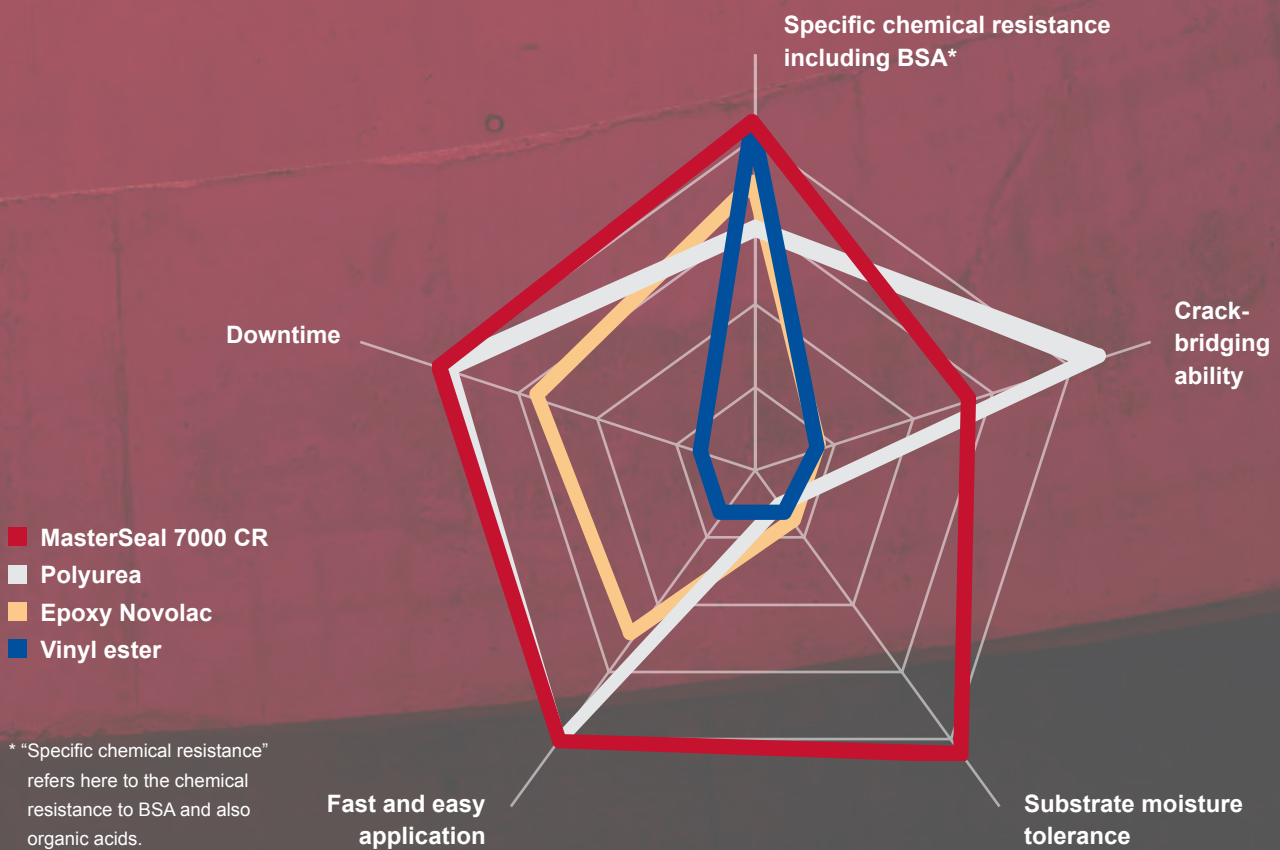
The two MasterSeal 7000 CR colors – red and grey – allow safe application even in environments with poor visibility.





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.





Xolutec® – Durability by Design



MasterSeal 7000 CR is powered by Xolutec® – our unique technology developed for improved durability, to solve the problems of demanding environments.

Xolutec® is the result of our development work on advancing PU and PUA materials. The goal was to solve the problems of concrete and steel in demanding environments.

Xolutec® – developed by Master Builders Solutions experts – uniquely combines complementary chemistries. Optimization of the inter phase interactions between the highly crosslinked resin blocks and the separately cured inorganic elements, creates a high-density organic-inorganic material with outstanding characteristics. This network allows the enhancement of various characteristics. Xolutec® enables a wide variety of solutions with enhanced durability.

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

The Master Builders Solutions brand brings all of its 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 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 Master Builders Solutions 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:

Urban and industrial
wastewater treatment in both
in- and outflow areas

Secondary
containment in
industrial plants

Biogas plants

Sewage effluent
pipes



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

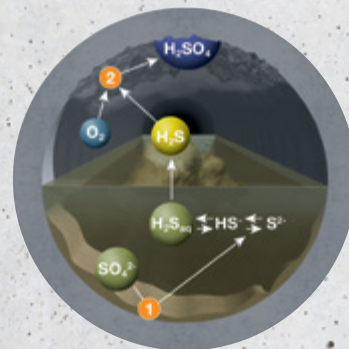
The concrete infrastructure of wastewater treatment systems is subject to complex physical and chemical corrosion processes.

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 (H₂S) and liberates sulfuric acid.

H₂S is generated in wastewater systems where sulfur compounds are broken down as part of the general microbiological degradation process by anaerobic bacteria. Accumulation of H₂S in the headspace promotes *Thiobacillus* colonization. Metabolization of H₂S 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 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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