

# MB-Mat

Advanced Rheology Control  
for Concrete



# Master Builders Solutions

As Master Builders Solutions, we are a leading global producer of responsible solutions for the construction industry, focussed on delivering our vision: **Inspiring people to build better.**

We provide value-added technology and market-leading R&D capabilities to improve the performance of construction materials and to enable the reduction of CO<sub>2</sub> emissions in the production of concrete. The comprehensive portfolio under the Master Builders Solutions brand encompasses concrete admixtures, cement additives, and solutions for underground construction.

We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide, leveraging global 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.

Founded in 1909, Master Builders Solutions operates 35 production sites globally, supporting you in mastering your building challenges of today and tomorrow – for a decarbonised future.



# Why Do We Need MB-Mat in Concrete Construction?

Reaching the right balance between fluidity and resistance to segregation – apparently opposing properties – is essential in concrete construction. However, with increasing fluidity in the mix, the tendency of concrete to sediment and separate increases. In this regard, the high dispersing power of superplasticizers may lead to an even

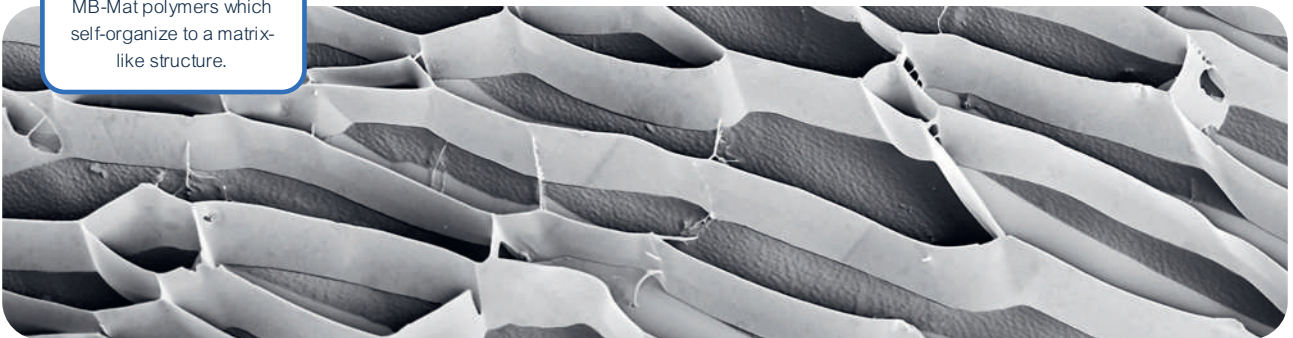
higher sensitivity of a concrete mix towards bleeding and segregation, thus resulting in severe damage potentials.

**Structural:** Reduced strength development

**Aesthetics:** Chalking surfaces

**Durability:** Increased porosity/capillarity

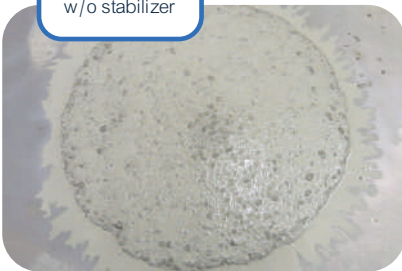
MB-Mat polymers which self-organize to a matrix-like structure.



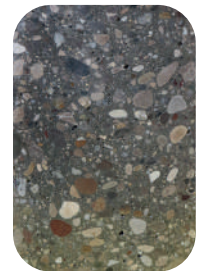
Developed by the experts from Master Builders Solutions, MB-Mat products are customized viscosity-modifying agents (stabilizers and VMA) by which the right balance between high fluidity and high segregation resistance can

be obtained. They are ready-to-use, organic polymers specially dedicated for producing concrete with enhanced viscosity and controlled rheological properties.

w/o stabilizer



with MB-Mat



## Your benefits



Higher dosage efficiency compared to mineral fillers: economic benefit



Tolerates water and raw material deviations: improved robustness



Individual adjustment of rheological properties possible: total control of flow properties



Excellent stabilization of aggregates: neither sedimentation nor bleeding

# MB-Mat

## Dedicated Portfolio of Viscosity Modifying Agents

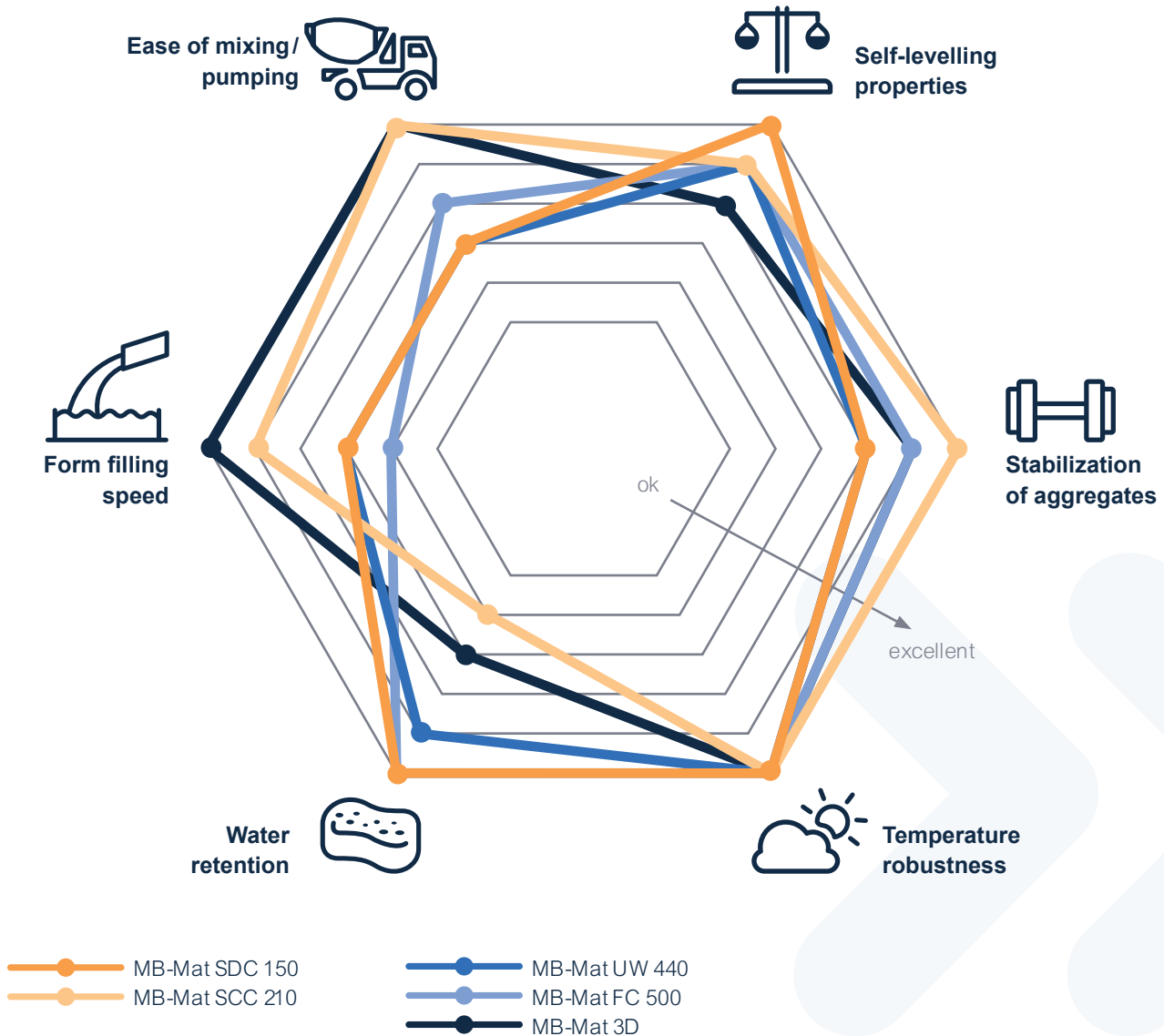
MB-Mat products are composed of water-soluble copolymers which form complex molecular aggregates and polymer entanglement, thereby changing the viscosity of the water and influencing the rheological properties of the concrete mix. The single products are perfectly fitting to every-day challenges and convince by their many advantages in all fields of applications.

Application	Product	Main Benefits
 <p>Smart Dynamic Concrete &lt; S6</p>	MB-Mat SDC 150 (liquid)	<ul style="list-style-type: none"><li>▪ Excellent self-levelling</li><li>▪ Self-healing properties</li><li>▪ Prevents segregation and bleeding</li><li>▪ Can be used with all types of cement</li><li>▪ Does not affect setting time</li><li>▪ Mixes are less sensitive to changes in water demand</li></ul>
 <p>Self-Consolidating Concrete &gt; S6</p>	MB-Mat SCC 210 (powder)	<ul style="list-style-type: none"><li>▪ Easy mixing and pumping</li><li>▪ Excellent sedimentation stability after placement</li><li>▪ Increased viscosity and thixotropic properties: High viscosity at rest and low viscosity during mixing and pumping</li><li>▪ Reduced segregation, even with highly fluid mix</li><li>▪ Enhanced pumping and finishing</li></ul>
 <p>Underwater Concrete</p>	MB-Mat UW 440 (powder)	<ul style="list-style-type: none"><li>▪ Excellent anti wash-out properties</li><li>▪ Minimal or no effect on water demand</li><li>▪ Reduces or eliminates concrete bleeding</li><li>▪ Virtually eliminates segregation even with highly fluid, high water-cementitious ratio mixes</li><li>▪ No effect on set time</li></ul>
 <p>Foundation Concrete</p>	MB-Mat FC 500 (powder)	<ul style="list-style-type: none"><li>▪ Excellent water retention properties</li><li>▪ Prevents segregation and bleeding</li><li>▪ Polymer network effectively counteracts absorbent or cohesive substrates</li><li>▪ Very good workability, irrespective of mixing intensity or head of pressure</li><li>▪ Optimum temperature stability</li></ul>
 <p>3D Printing of Concrete</p>	MB-Mat 3D (liquid)	<ul style="list-style-type: none"><li>▪ Easy mixing and pumping</li><li>▪ Excellent sag resistance after placement</li><li>▪ Strong thixotropic properties for immediate stability</li><li>▪ Strong reduction of rebound</li></ul>

# See the Difference

## Value Proposition of MB-Mat Technologies

Concrete containing MB-Mat exhibits superior stability and controlled bleeding characteristics, thus increasing resistance to segregation and facilitating placement. Depending on the application MB-Mat products may be customized showing a defined rheological profile and fit purpose properties.



### Contact us!

For recommendations regarding compatibility with other chemicals or building materials, please consult your local Master Builders Solutions Technical Advisor.



# Master Builders Solutions for the Construction Industry

## **MB-Air**

Complete solutions for air entrained concrete

## **MB-Cast**

Solutions for the manufactured concrete product industry

## **MB-Ease**

Low viscosity for high performance concrete

## **MB-Fin**

Solutions for formwork treatment and surface improvement

## **MB-Fib**

Comprehensive solutions for fiber reinforced concrete

## **MB-Glen**

Solutions for high performance concrete

## **MB-Life**

Solutions for enhanced durability

## **MB-Mat**

Advanced rheology control for concrete

## **MB-Pel**

Solutions for hydrophobization, anti-efflorescence and surface protection

## **MB-Poly**

Solutions for mid-range concrete

## **MB-Pozz**

Solutions for water-reduced concrete

## **MB-Build**

Solutions for high strength concrete

## **MB-UGC**

Solutions for underground construction and surface improvement

## **MB-Set**

Solutions for set control

## **MB-Sur**

Solutions for extraordinary workability retention

## **MB-Seed**

Advanced accelerator solutions for concrete

## Quantified sustainable benefits. Advanced chemistry by Master Builders Solutions®.

Let the numbers do the talking: We have portrayed some of our most eco-efficient product solutions for concrete and precast production, construction, civil engineering, and flooring.

[sustainability.master-builders-solutions.com](https://sustainability.master-builders-solutions.com)



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