



MasterSuna SBS

Adding Value to Local
Fine Aggregates





MasterSuna SBS – Making fine aggregates contaminated with clay a useful raw material

The mineral composition of fine aggregate varies from region to region. Until now, fine aggregates contaminated with swelling clay were often regarded as unsuitable to produce high-quality concrete. This is where MasterSuna SBS, our solution for clay containing fine aggregates, comes into play.

Concrete producers save costs

The new MasterSuna SBS concrete admixture from BASF's Master Builders Solutions portfolio now enables fine aggregates containing swelling clay to be used in the production of high quality concrete. This in turn enables concrete producers to significantly reduce their costs. Given their availability, fine aggregates contaminated with swelling clay from local sources can be used thereby reducing, or omitting, the need to secure additional suitable fine aggregates from remote sources.

The economic value of the quarries increase

Owners of quarries can also benefit from the use of MasterSuna SBS. Historically, fine aggregates contaminated with swelling clay could only be utilized in less-demanding applications, if at all. However, MasterSuna SBS now makes it possible to use existing deposits to a much greater extent. Furthermore, the washing and pre-treatment of local fine aggregates can also be reduced thereby increasing the economic value of quarry.

Benefits at a glance:



Better utilization of local fine aggregate deposits



No shipments required from remote quarries



Washing and pre-treatment of local fine aggregates is reduced



Quarries increase in value



Reduced requirement for the development of new quarries



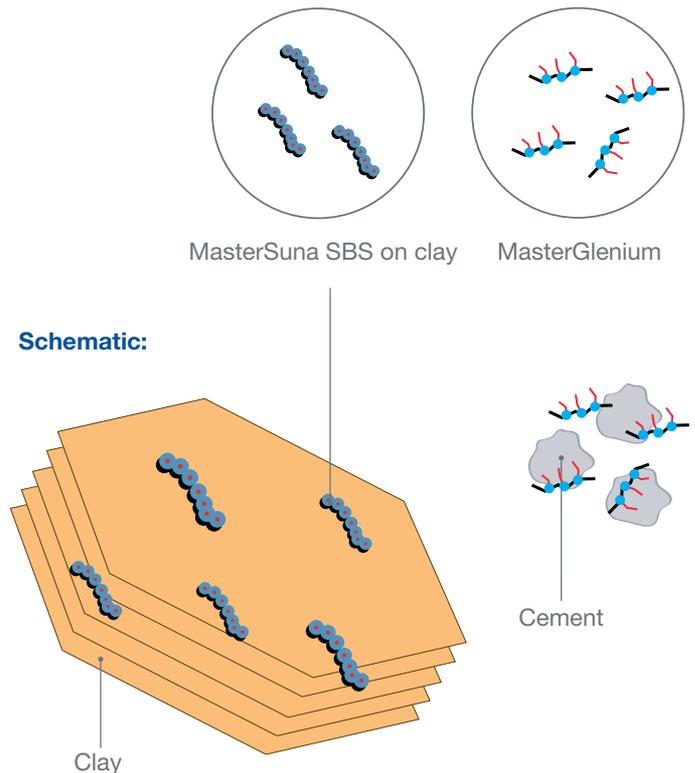
How MasterSuna SBS Works

The adverse impact of swelling clay

Fine aggregate deposits can be contaminated by swelling clay. When used in concrete production, this swelling clay can, on the one hand, impair the bonding of the concrete paste to the surfaces of aggregates. On the other hand, it can increase the water demand of the concrete. Often, this increased water demand cannot be compensated by an increase in the dosage of the water reducing admixture. Swelling clay can impact fresh concrete in yet another significant way. Their layered structure provides an extremely large inner surface that strongly adsorbs water reducing admixtures, rendering them ineffective.

No increase in water demand with MasterSuna SBS

MasterSuna SBS counteracts this effect. It saturates the inner and outer surfaces of the swellable clay to prevent the adsorption of the water reducing admixture molecules. This enables water reducing admixtures such as MasterGlenium or MasterPolyheed to perform in an optimal way. Combining MasterSuna SBS with MasterGlenium or MasterPolyheed provides optimal control over concrete workability and consistency retention, even when using critical fine aggregates.



Example: Typical data using fine aggregates contaminated with swelling clay in the production of F4 concrete, with or without the addition of MasterSuna SBS

	FINE AGGREGATE BLOCKER SOLUTIONS			
Fine aggregate 0/4 mm, methylene-blue value	1	2.5	2.5	4
MasterGlenium in wt% of m ³ concrete	0.60 %	1.40 %	0.60 %	0.60 %
MasterSuna SBS in percentage of weight of fine aggregate	–	–	0.20 %	0.30 %
Water/cement ratio	0.65	0.65	0.65	0.65
Consistency day (0)	F4	F3	F4	F4
Consistency d (90)	F4	F2	F4	F4
Compressive strength after 24 h	5 MPa	1 MPa	5 MPa	5 MPa
Compressive strength after 28 days	29 MPa	29 MPa	29 MPa	29 MPa



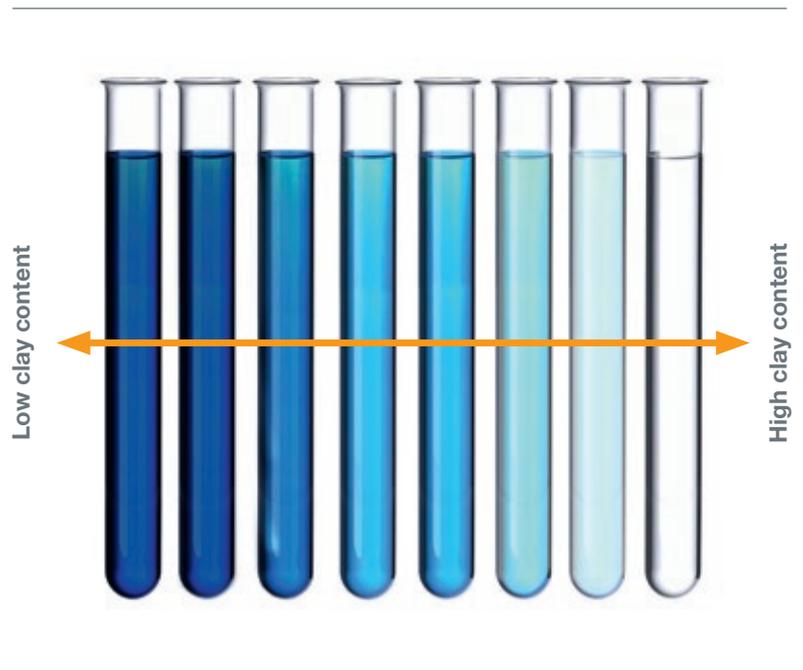
Assessing Fine Aggregate Quality

Using the methylene-blue test, our Master Builders Solutions experts can provide rapid information on clayey, adsorptive components, and thus on the quality of the fine aggregate. The results of the test form the basis for a systematic solution when using difficult fine aggregates.



The experts from
Master Builders Solutions
are happy to help you.

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Concrete with fine aggregates contaminated with swelling clay, without MasterSuna SBS



Concrete with fine aggregates contaminated with swelling clay, with MasterSuna SBS



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 world-wide. 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





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



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