

# MasterSuna SBS 3024

Concrete admixture for controlling clay contaminated fine aggregates Sand Blocker Solutions

## Material Description

MasterSuna SBS 3024 is an innovative liquid concrete admixture developed to make consistently performing concrete.

MasterSuna SBS 3024 has been specially developed to facilitate the production of concretes containing challenging sands such as those containing swelling clays it will always need to be used in combination with a water reducer available from Master Builders Solutions.

## Using Challenging Sands in Concrete

The aggregates for concrete are defined in standard BS EN 206 and more specifically in BS EN 12620 and BS 8500. Among others, difficult sands can show varying levels of clay impurities.

These variations in clay contents often lead to challenges in manufacturing concrete of stable quality and performance. Consistence levels at a given water/binder ratio are hard to control in the presence of clay. Hence water demand, water reducer dosage and consistence over time, vary with the varying clay impurities.

## Innovative Sand Blocker Solutions

The Sand Blocker Solution is based on the innovative additive MasterSuna SBS 3024 in combination with a plasticizer / superplasticizer from the Master Builders Solutions range used in the concrete plant. The unique chemistry of MasterSuna SBS 3024 is characterized by a strong affinity to clay contamination present in concrete mixes. Dosed in combination with a plasticizer / superplasticizer MasterSuna SBS 3024 will neutralize the harmful effect of the presence of clays on consistence and consistence loss in concrete. The water demand and workability levels of the resulting concrete are controllable and stable.

In practice, the MasterSuna SBS 3024 dosage will be adjusted according to the requirements of the fine aggregate being used, this may be based on information provided by tests such as the methylene blue value of the fine aggregate. Thus, the water reducing admixture from the Master Builders Solutions range used in combination with MasterSuna SBS 3024 will remain effective and efficient to perform.

## Test Results

	Reference	Difficult Sand	Difficult Sand + MasterSuna
SE (10)	70	70	70
MB	0.5	2.5	2.5
Plasticizer*	0.6% MPolyheed	1.4% MPolyheed	0.6% MPolyheed
Additive*	xxx	xxx	0.5% MSuna SBS
Slump T0	160	140	170
Slump T90	120	30	130
	Usable	Not usable	Usable

\*in % by weight of cement

## Fields of Application

The recommended use of MasterSuna SBS 3024 is in the production of concrete of medium to high consistence, especially where medium to long consistence retention is needed. Its performance is adjusted to the needs of the concrete user.

Especially beneficial is the usage on sites where local but, problematic aggregate resources are available.

MasterSuna SBS 3024 may be used for the following concrete types:

- Ready mix concrete according to BS EN 206-1
- Site batched concrete produced on the construction site
- Concrete delivered by pumping
- Architectural concrete

## Characteristics and Benefits

The unique performance of MasterSuna SBS 3024, when combined with water reducing admixtures such as MasterPolyheed, MasterGlenium or MasterEase, permits the production and supply of concrete with low water/cement ratio able to maintain the desired consistency for more than 90 minutes, and without retardation or reduced early strength.

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MasterSuna SBS 3024 offers the following benefits when used in the production of concrete complying to BS 8500 with problematic sands

- Excellent compatibility with crushed aggregates
- Producing concrete with sands of high and/or variable methylene blue values
- Adaptable to different levels of overall clay impurities
- Improvement of concrete appearance and rheological properties

## Dosage

Field trials should be conducted to determine the optimum addition rates of MasterSuna SBS 3024. The typical dosage rate range of MasterSuna SBS 3024 is::

- *By Volume* - 0.50 to 0.90 litres per 100 kg of cement (binder) content.
- *By Weight* - 0.48 to 0.87 kg per 100 kg of cement (binder) content.

If required, the admixture may also be dosed based on the weight of fine aggregate being used in the concrete mix, this can be more effective when cement contents outside of the 280 to 400kg/m<sup>3</sup> range are being used.

The dosage rates given above are for typical usages, they are not meant as absolute limits, as other dosages may be utilised in special cases according to specific job conditions. If required consult our Technical Services Department for advice. Trial mixes should be carried out to ensure optimum dosage and effect. Intended dosage rates in excess of those stated above, must be verified by either production, or laboratory trials, prior to use.

## Effects of Overdosing

A severe over dosage of MasterSuna SBS 3024 may result in the following:

- Increase in air entrainment.
- Increase in workability.

## Application Procedure

MasterSuna SBS 3024 is a liquid ready-to-use admixture to be added to the concrete during the mixing process. The best results are obtained when the admixture is added after all the other components are already in the mixer, *and before the introduction of the main water reducer or superplasticiser.*

MasterSuna SBS 3024 should never be added to dry cement, and optimal performance is achieved if added after at least 80% of the target mixing water has been introduced to the dry materials. The water content is adjusted to obtain the desired consistence.

## Compatibility

MasterSuna SBS 3024 can be used with all types of EN 197 Cements. For use with other special cements, contact our Technical Services Department.

Although MasterSuna SBS 3024 is designed to work in combination with another admixture, it should not be pre-mixed with other admixtures. The other admixtures being used in concrete containing MasterSuna SBS 3024 must be measured and dispensed separately.

When complimentary admixtures are required it is important that trials are performed, prior to any supply, to determine the respective dosages of any complimentary admixture, and the suitability, in the fresh and hardened state, of the resultant concrete. In these circumstances we recommend that you consult our Technical Services Department for further advice.

MasterSuna SBS 3024 is compatible and recommended for use with:

- All admixtures from the MasterPolyheed, MasterGlenium, MasterSure or MasterEase ranges.
- Viscosity modifying agent MasterMatrix to produce Smart Dynamic or Self Compacting Concrete.
- Air entraining agent MasterAir to improve frost/thaw resistance. Where this application is required, it is necessary to verify that the admixture combination is capable of producing concrete conforming to the requirements of BS EN 934- 2, Table 5.



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If the concrete also incorporates micro fibres, macro synthetic fibres, or steel fibres, we strongly recommend that the plastic and hardened properties of the intended mix design are evaluated before supply.

MasterSuna SBS 3024 is not compatible with the MasterRheobuild range of products.

## Packaging

MasterSuna SBS 3024 is supplied in Bulk, 1000-litre IBC's and 15-litre containers.

## Contact Details

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Product Data	
Appearance:	Amber liquid
Specific gravity @ 20°C:	1.04 ± 0.02 g/cm <sup>3</sup>
pH-value:	5.0 ± 1.0
Solids content (%):	20.0 ± 1.0
Logistics	
Shelf life:	12 months if stored according to manufacturer's instructions in unopened container.
Storage conditions:	Store in original sealed containers and at temperatures between 5°C and 30°C. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.
Handling and transportation:	Refer to MasterSuna SBS 3024 Safety Data Sheet
Disposal:	Refer to MasterSuna SBS 3024 Safety Data Sheet

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## Disclaimer

MasterSuna SBS 3024, Master Builders Solutions UK Ltd, Version 2

### Health and Safety

\*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

### Spillage

Chemical products can cause damage; clean spillage immediately.

### DISCLAIMER

"Master Builders Solutions UK Ltd" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.