

CEMENTIUM[®] 4101 SW

Cement additive engineered for enhancement of slump and workability in mortar and concrete. Chloride free.

Description of Product

CEMENTIUM 4101 SW belongs to BASF's range of Performance Enhancers. These products, in addition to acting as grinding aids, improve specific cement properties thanks to the activity of their functional groups. They act in the modification of clinker characteristics and in the enhancement of its hydraulic properties.

CEMENTIUM SW products are specifically designed to increase slump and workability in mortar and concrete. In addition, CEMENTIUM SW acts as a grinding aid and can improve cement strength. Typical slump improvement is 10-50% vs. plain control. However, product performance is strongly dependent on raw material properties, grinding equipment characteristics, process conditions and cement type. To best benefits from cement additives, mill and separator process parameters may need to be adapted.

Cement additives improve the flow characteristics of the cement through the mill and in subsequent handling: the so called "pack-set".

Fields of Application

CEMENTIUM 4101 SW has been developed for application in the cement grinding process:

- Ball mills (main application)
- Vertical mills
- Other cement grinding systems

Features and Benefits

CEMENTIUM 4101 SW offers the following benefits to cement production:

- **Product differentiation** and fulfilment of **applications requirements** through slump and workability improvement in mortar and concrete. Concrete produced with cement treated with CEMENTIUM 4101 SW shows enhanced rheological properties leading to better handling, easier pumping, and faster placing in formworks.
- **Cost reduction and higher production efficiency** due to lower unit grinding energy, capacity increase, and flexibility to satisfy peak market demands. Fewer plant stops and faster cement conveyance.

Application Procedure

CEMENTIUM 4101 SW is a liquid, ready-to-use cement additive to be metered onto the clinker mill feed or directly into the mill.

Technical Data

Appearance	Liquid, slightly turbid, brownish colour
Specific gravity @ 20°C	1,024 – 1,064 t/m ³
pH-value @ 20°C	Slightly basic
Chloride ion content	Chloride free

Dosing

The recommended dosage rate is between 500 and 1,500 g per ton of cement (0.05-0.15% mass). Other dosages may be required in specific situations. Lab tests or plant trials are recommended to determine the optimum dosage. For further questions please consult our Technical Services Department.

Adequate, calibrated dosing equipment with adjustable flow rate and appropriate dosage range is required for to obtain the maximum performance of the product.

Compatibility

CEMENTIUM 4101 SW is compatible with all types of cements.

Standards

CEMENTIUM 4101 SW fulfils the European cement standard EN 197.1.

Packaging

CEMENTIUM 4101 SW is available in bulk, 1'000 l containers and 208 l drums.

Storage

It is recommended to store CEMENTIUM 4101 SW at temperatures above 5°C and protect it from freezing. Tubes and pipes shall possibly be isolated. If phase separation occurs, product must be mixed before dosing. If stored in unopened containers according to manufacturer's instructions, the shelf life is minimum 12 months.

Handling and transportation

No special requirements must be observed while the product is used. Protective gloves and glasses are recommended. Do not eat, drink or smoke during application. CEMENTIUM 4101 SW is non-flammable, non-toxic, non-irritant, and is not subject to special transport requirements. CEMENTIUM 4101 SW can be diluted with water. Please refer to the MSDS for more detailed information.

Technical service

BASF assists customers in all phases of cement additives implementation in cement manufacturing by following a well structured process. This starts with the assessment of the customer's needs and the technical limitations, continues with lab and field grinding trials, and ends with a comprehensive performance evaluation of the added value of cement additives.

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