

# Microfine 20

CEM II/A-V 52,5 N



## APPLICATIONS

Microfine 20 is a micro cement with excellent penetration characteristics ideal for extremely demanding injections in rock and soil applications. The unique combination of the special grinding process and the selected clinker produce a cement with an excellent penetration capacity, that makes it ideal to meet the requirements for demanding injections. Microfine 20 is chromate reduced.

## INJECTION CHARACTERISTICS

Microfine 20 makes it possible to manufacture injection grout with extremely good flowing properties even at low water cement ratios. Test results show excellent stability, flow and filtering characteristics at temperatures of 20 °C and 8 °C. The temperature of the grout should be at least 5 °C before injecting in order to achieve the desired rheology, penetrability and strength development.

## STANDARDS AND INSPECTION

Microfine 20 complies (with the exception of setting time) with the requirements in SS-EN 197-1 part 1: *Composition, Specifications and Conformity Criteria for Common Cements*.

## QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEM

Production and sales are covered by Cementa's quality system in accordance with ISO 9001. The system indicates quality supervisors, routines for in-house inspection, and documentation routines. The buyer is fully entitled to make sure that the seller implements quality routines in accordance with the system. Cementa is also environmentally certified in accordance with ISO 14001 and continuously works for the environmental improvement of products and production. Both systems are certified by DNV, Det Norske Veritas.

The certificate for the quality system is; No. 2001-SKMAQ-1632 and for the environmental management system is No. 2001-SKM-AE-480.

## MANUFACTURING

Microfine 20 is manufactured at Cementa's Degerhamn plant. The grinding is done in mills specially developed for Ultrafine cement.

## PACKING AND DISTRIBUTION

Microfine 20 is supplied in 20 kg sacks and in big bags. The 20 kg sacks are supplied in unit loads of 48 sacks on pallets completely enclosed in plastic. Microfine 20 is packed and supplied direct from the plant in Degerhamn Sweden.

## STORAGE

Microfine 20 is more sensitive than normal cement.

Storage in environments with damp air or direct contact with ground moisture damages the cement very quickly causing negative effects on rheology, penetrability and strength development. Unbroken bags or sacks can be stored, regardless temperature, without risking the quality and performance of the product. However, the reduction of chromate means that it successively loses its effect and Microfine 20 should therefore not be stored for longer than six months.

Additives used together with Microfine 20 should be stored and used in accordance with the manufacturer's recommendations.

## SETTING TIME AND BET SPECIFIC SURFACE AREA

	Specific surface area guideline value (m <sup>2</sup> /kg) BET
Microfine 20	2062

The specific surface area of microcement is normally determined using the BET method (nitrogen absorption). The product has a very high specific surface area and difficult to determine using the traditional Blaine method.

## PARTICLE SIZE DISTRIBUTION

Microfine 20 has a particle size distribution where 95 percent of the material is less than 20 µm.

## CHROMATES

Portland cement normally includes small quantities of chrome compounds of both the sparingly soluble and soluble types. The latter are considered to be able to contribute to hypersensitivity to chrome and cause eczema in persons already allergic.

Since 1983, therefore, CEMENTA has produced cement with a reduced chromate content. Nevertheless persons with a developed hypersensitivity to chrome should avoid all contact with cement.

## PHYSICAL PROPERTIES

Compact density	approx 3,000 - 3,100 kg/m <sup>3</sup>
Bulk density	approx 800 - 1,500 kg/m <sup>3</sup>

## CHEMICAL PROPERTIES

The chemical composition is obtainable upon request.

SO <sub>3</sub>	max. 4,5 % by weight
Chlorides, calculated as Cl	max. 0,1 % by weight

## HEALTH RISKS

Cement should be stored out of reach of children. It is dangerous if consumed. If cement gets into the eyes it can lead to serious eye injuries. Moist cement forms calcium hydroxide which is an irritant to the skin.

For detailed information and safety instructions please see the *Material Safety Data Sheet*.

## CEMENTA AB

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