CASEA
WORKING FOR THE FUTURE

Technical data sheet.
Durocast 10

Product description

Durocast 10 is a highly hardened and tempered hard stone moulding plaster for slip casting of 3.5 to 7.0 bar in sanitary facilities and for the production of prototype moulds in the porcelain industry. It can be processed in an uncomplicated manner and ensures quick and mobile use of the moulds.

> Technical data and specifications

Water-gypsum factor	0.29
Gypsum/Water ratio	3.45 kg/l
Initial setting time	20 min
Final setting timer	25 min
Linear expansion	0.12 %
BRINELL hardness	180 N/mm²

The begin of the hardening process and the expansion can be adjusted to the respective technical requirements.

> Logistics and safety notes

Commercial form	bag, big bag and bulk
Shelf life	given dry storage, it can be stored for at least 6 months
Safety notes	see safety data sheet no specific hazards arising from Durocast 10

Information

This technical data sheet is intended to give advice to the best of our knowledge; it replaces any previous technical data sheets. The contents of this technical data sheet are not legally binding.

Processing and processing time

Durocast 10 requires special and exact handling and processing, starting from mould making via mould manufacturing through to the use of the moulds.

Mould making

In order to achieve the required permeability for the slip fluid and release air during subsequent use of the mould, a fabric hose system in the form of the product to be manufactured must be inserted in the equipment at a distance of 2 - 2.5 cm to the mould mirror.

Via this hose system, the mould is ventilated during the curing of the gypsum-based plaster, the slip fluid is sucked off on the mould press and the product is pressed from the mould by means of compressed air.

Manufacturing the gypsum mould

The temperature of Durocast 10 and the mixing water should be between 20 and 25 °C. The Gypsum to Water ratio is between 3.1- 3.45: 1. The gypsum must be added quickly to the water, however, it must not be poured. Automatic adding via an auger has proven itself. The addition period should not exceed 3 minutes. Now, the gypsum must soak again for 3 minutes in order to ensure that any still existing clumps are also soaked well.

The stirring time depends on the agitator and speed used. It should be at least 10 minutes. A stirring speed of 600 - 900 U/min is recommended. Stirring under vacuum is advantageous. If possible, the mixture should be stirred for another 4 minutes without vacuum at reduced speed. Casting should be carried out as quickly as possible in order to avoid different curing stages of the gypsum in the mould. Immediately after the casting has been completed, the temperature must be measured.

When the stiff-plastic consistency has been reached, the gypsum-based plaster must be screeded flush with the edge. If it takes longer than 5 minutes to screed the gypsum-based plaster after casting, the stirring time must be extended accordingly.

After a temperature difference of 8 °C (measured in the gypsum-based plaster) has been reached, ventilation must be started. This is carried out by means of the hose system. The ventilation pressure must continuously be increased by 0.5 bar per 30 seconds. After 2.5 bars have been reached, the mould must be lifted off smoothly from the equipment without canting. During this process, ventilation must not be interrupted. The mould must be positioned in such a way that the escaping water can drain off. The final ventilation pressure is approx. 6 bar. This pressure must be maintained for at least 2 hours. Then, the mould has been finished.

For storage, a level surface is recommended. Bottom and top moulds should be assembled.

Dry start-up must be avoided.

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