

PROTECT HWR-90

Item No 2590/D

Mass hydrophobization for high-quality manufactured concrete products

FIELDS OF APPLICATION

PROTECT HWR-90 is a highly efficient integral hydrophobic admixture suitable for the production of high quality manufactured concrete products with reduced water absorption, e.g., paving stones, paving flags and manufactured concrete products that are surface coated. The product is applicable in face or core concrete as well as in wetcast production.

PROTECT HWR-90 generates a hydrophobic concrete structure that may lead to the following advantages:

- Reduced capillary water absorption of concrete
- Reduced total water absorption of concrete
- Increased durability of concrete
- Reduced efflorescence
- Improved resistance to freeze-thaw damages
- Enhanced visual appearance
- Contributes to ecological sustainability due to long-term performance of concrete

DOSAGE

Recommended dosage range 0.5 – 2.0 mass-% of cement content;
is equivalent to 5- 20 ml per kg cement.

WORKING PRINCIPAL

PROTECT HWR-90 reacts with the cement matrix during the hydration process and thereby generates a hydrophobic concrete texture. This hydrophobic effect reduces the capillary suction and decreases concrete's water absorption abilities considerably. Due to these properties the occurrence of efflorescence is minimised, and the durability of concrete is increased.

TECHNICAL DATA

Homogeneity	homogenous
Colour	white
State	liquid
Density	$0.96 \pm 0.02 \text{ g/cm}^3$
pH value	8.0 ± 1.0
Workability	from +1 °C
Shelf life	approx. 1 year from date of production if stored properly
Storage conditions	Store in unopened, original sealed packaging between +5 °C and +25 °C. Protect from frost and insolation.

PROCESSING INDICATIONS

PROTECT HWR-90 should be added either with the mixing water (recommended after 75% water added) or to the ready-mixed concrete batch.

The mixing time should be at least 1 minute.

Using more than one admixture in the same concrete mixture requires suitability and preliminary tests in order to ensure the required combination of its effects is attained.

Changes in cement sort, water/cement ratio etc. might lead to colour variations in concrete.

COMPATIBILITY

PROTECT HWR-90 is suitable for designs containing OPC or SRC cement, micro-silica, or silica fume, fly ash (PFA) and ground granulated blast furnace slag (GGBS).

When using other Ha-Be admixtures in the same concrete mixture, the products should be added separately and must not be blended prior to addition! Using more than one admixture requires suitability and preliminary tests in order to ensure the required combination of its effects is attained.

PACKAGING

- 30 l can
- 200 l barrel
- 1000 l container

HEALTH & SAFETY

This product is classified as hazardous according to the current regulations. Refer to the corresponding Material Safety Data Sheet for further advice.

REMARKS

This information describes the application- and processing possibilities of a product and its operation principles under regular conditions. Having no influence on the further application and processing, especially in conjunction with other construction materials, the given indication is neither a warranty in respect of the product's properties or its fitness for a particular purpose nor a full instruction of use. This information, any other recommendation or verbal advice are not binding and do not infer to any liability or legal demand.

Due to continuous further development, the most recent Technical Data Sheet is valid and will be supplied on request. All orders are accepted subject.

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SUITABILITY- AND PRE-TESTS ARE NECESSARY BEFORE APPLYING THE CONCRETE ADMIXTURE!