

Mapefast HA

Hardening accelerator for concrete and mortar



PRODUCT DEVELOPED IN COIN
NORWEGIAN NATIONAL RESEARCH PROGRAM FOR CONCRETE INDUSTRY
PRODUCTS FOR DURABLE AND SUSTAINABLE CONSTRUCTIONS

PRODUCT DESCRIPTION

Mapefast HA is a liquid hardening accelerator for concrete and mortar to ensure higher early strength. Though the admixture is especially developed for cement based products in which fly ash is incorporated, it can be advantageous in all cement based products.

AREAS OF APPLICATION

- Concretes where high early strength and/or early stripping is required
- Casting at lower ambient temperatures
- Concretes and mortars containing fly ash

TECHNICAL PROPERTIES

Mapefast HA is a unique mix of different chemical components that yield considerably higher early strength in concrete and mortar, even at low temperatures. Most prominently this can be observed in concretes containing blended cements (as fly ash or slag). The hydration heat is liberated at an earlier stage, thus establishing strengths much quicker than standard concretes without **Mapefast HA**. In additionally the maximum temperature in the construction is not increased with the use of **Mapefast HA** (see figure 1). Through this it is ensured that the concrete reaches a mechanical strength necessary before stripping and also a strength that allows the concrete to freeze without permanently damaging the concrete. According to EN 13670 one must ensure that the concrete temperature does not fall below 0°C in any place before it has reached a compressive strength of 5 MPa.

By **Mapefast HA** this requirement is easier to fulfill, but during winter months the use of **Mapefast HA** should always be combined with active protection of the concrete after placing.

Mapefast HA does not contain chlorides that can initiate/cause corrosion of reinforcement.

Mapefast HA does not affect the slump value or air content of the fresh concrete, and does not significantly interfere with the concrete's workability retention.

COMPATIBILITY WITH OTHER PRODUCTS

Mapefast HA can be combined with other Mapei admixtures, e.g. superplasticisers in the **Dynamon** Series for improved workability, and **Mapeair** entraining agents for production of frost resistant concrete.

DOSAGE

Normal dosage in concrete is between 0.8 and 4.0 % by weight of cement. Higher dosages will only slightly improve the early strength. **Mapefast HA** is activated independent of the mixing procedure of the concrete. To achieve the best dispersion of the admixture within the mix, addition at the same time, or even together with the mixing water is recommended.

It is also possible to add **Mapefast HA** directly into the drum mixer, but then the minimum required mixing time is one minute per m³ of concrete in the drum, but never less than 5 minutes.

PACKAGING

Mapefast HA is available in 25 liter cans, 200 liter drums, 1000 liter IBC containers and in tank.

STORAGE

The product must be stored at temperatures between +8 and +35°C, and will retain its properties for at least one year if stored unopened in its original packaging. If the product is exposed to direct sunlight, colour variation may occur, but this will not affect the technical properties of the product.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.no

PRODUCT FOR PROFESSIONAL USE

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above - information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application: for this reason,

anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the technical data sheet, available from our web site www.mapei.no

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation. The most up-to-date TDS can be downloaded from our website www.mapei.no

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

All relevant references for the product are available upon request and from www.mapei.no

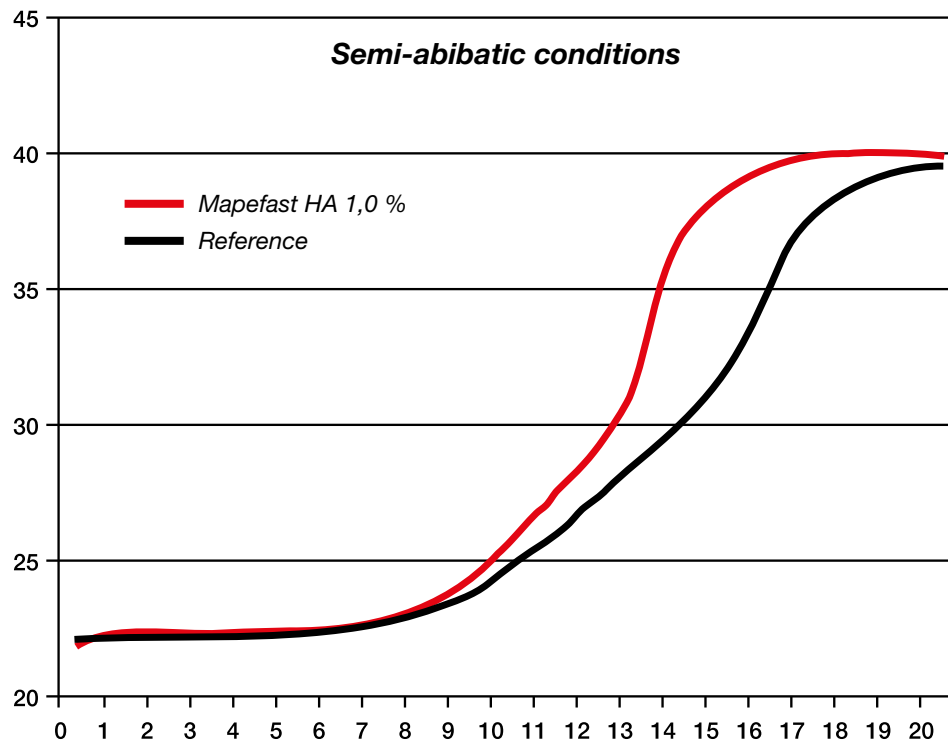


Figure 1. Logged temperatures in semi-adiabatic conditions. Concrete C30/37, CEM II A-V, 340 kg, 0.8 % Dynamon SX-N, slump 240 mm w/c-ratio 0.56

TECHNICAL DATA (typical values)		
PRODUCT IDENTITY		
Appearance:	liquid	
Colour:	translucent	
Viscosity (Brookfield Viscometer DV-1, LV1, 100rpm ved 20°C ± 2°C):	easy flowing; < 30 mPa·S	
Solids content, %:	27.5 ± 1.3	
Density, g/cm³:	1.10 ± 0.02	
pH:	11 ± 1	
Chloride content, %:	< 0.05	
Alkali content (equiv. Na ₂ O) %:	< 7.0	
Corrosion behaviour:	contain Sodium thiocyanate	
CONCRETE PROPERTIES		
(tests with actual constituents are necessary)	Reference	Added Mapefast HA
Cement kg/m³ (CEM II, A/V – 42.5 R):	340	340
Admixture dosage (% by weight of cement):	0	1.3
Water to cement ratio:	0.56	0.56
Air content:	1.6	1.5
Workability, mm: - slump, 5 min	230	240
Compressive strength (N/mm² cubes): - 18 hours (20°C) - 28 days	12.4 42.1	16.0 45.0

0.8 % Dynamon SX-N is added in both concretes

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