

Antifreeze N

Chloride free admixture that depresses the freezing point of water in concrete and mortar



AREA OF USE

Antifreeze N is an accelerating and frost-preventing admixture for bricklaying and pouring concrete at temperatures below freezing. The product is based on sodium nitrates in solution.

PROPERTIES

The chemical reaction between cement and water, the hydration, continues as long as there is free water in a mortar/concrete.

Antifreeze N primarily works as a freezing point depressant for the mixing water, which means that the strength continues to increase at temperatures below freezing. The hydration process itself also produces heat, helping to make it possible to work with mortar and concrete to which **Antifreeze N** has been added right down to temperatures of minus 10 - 15 °C.

Antifreeze N is particularly suitable where the night-time temperatures are significantly lower than daytime temperatures.

Antifreeze N makes the fresh mass more frost resistant. The required minimum strength, which is often set at 5 N/mm², is much easier to achieve if **Antifreeze N** is added, but normal procedures for bricklaying and pouring concrete at temperatures below freezing must be followed even when **Antifreeze N** is used. This means that the substrate must be completely free of snow and ice, and that the surface temperature should be above 0 °C.

You should also cover and/or insulate the fresh mass, to speed up setting and to prevent it from drying out.

INSTRUCTIONS

Antifreeze N is added in the quantities that correspond to the maximum temperature exposures described below.

Antifreeze N is added together with or at the same time as the mixing water directly into the mixer.

Antifreeze N can also be added later.

When calculating the concrete/mortar's mixing proportions and final strength, the water content of the **Antifreeze N** (58 %) must be included.

The use of a superplasticizing admixture within the **Dynamon** range to reduce the concrete's water demand will compensate for loss of compressive strength that might follow the use of **Antifreeze N**.

PACKAGING

Antifreeze N is available in 5 liter cans, 25 liter cans, 200 liter drums and 1000 liter IBC tanks.

STORAGE

The product can be stored down to -10 °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

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

State:	liquid
Colour:	transparent
Viscosity:	< 10 mPa·S
Dry solids content:	42.0 ± 2.0
Density, g/cm³:	1.33 ± 0.03
pH:	8.5 ± 1.0
Chloride content, %:	< 0.05
Alkali content (Na ₂ O-equivalent, %):	< 17.0
Corrosion behaviour:	Contain Sodium nitrate

DOSAGE

RECOMMENDED MINIMUM DOSAGE OF ANTIFREEZE N

Temperature in surroundings	CONCRETE		DRY MORTAR
	Addition (% of cement weight)		For 10 litres mixing water
	W/C > 0.45	W/C < 0.45	Litres water + kg Antifreeze N
-5 °C:	5	4	9.5 + 0.7
-10 °C:	7	5	8.9 + 1.4
-15 °C:	12	10	8.4 + 2.1

For concrete: dosage can be reduced by 1 % if rapid cement is used.

For 10 litres mixing water for dry mortar; less than 10 litres water is to be measured. **Antifreeze N** contains 42 % active material and 58 % water, so amount of water in **Antifreeze N** + water addition is becoming 10 litres all together.

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

Antifreeze N