

DYNAMON NRG 1024

Hardening-accelerating, super-plasticising admixture with fine integrating properties for the pre-cast industry

DESCRIPTION OF THE PRODUCT

Dynamon NRG 1024 is a highly efficient super-plasticiser used to make high quality concrete for use in the pre-cast sector characterised by its low fine aggregate content.

WHERE TO USE

Due to its physical and mechanical properties, **Dynamon NRG 1024** improves the performance characteristics of concrete during the casting phase and improves its strength and setting properties during the hardening stage.

Dynamon NRG 1024 is particularly recommended for producing concrete that requires low water content, workability characteristics compatible with the production processes adopted in pre-cast plants and a rapid development of early strength to speed up the manufacturing times.

The properties of **Dynamon NRG 1024** make it particularly suitable for the production of conventional and self-compacting concrete. In such cases, **Dynamon NRG 1024** may be used in combination with viscosity modifying admixtures, such as **Viscofluid SCC/10** or **Viscostar 3K**, to provide more stability to concrete mixtures, even with higher slump.

Dynamon NRG 1024 is strongly recommended in pre-cast concrete plants, especially for the production of concrete elements such as:

- pre-stressed beams;
- infill wall panels;
- pre-cast segments and blocks;
- predalles.

TECHNICAL CHARACTERISTICS

Dynamon NRG 1024 is an admixture made from a new generation of modified acrylic polymers in water solution with zero formaldehyde and added viscosifying agents with the capacity of increasing cohesion in weakly bound mixes. The special molecular structure of the polymers used in the product allows the cement particles to be dispersed efficiently to obtain a highly plastic mix.

Dynamon NRG 1024 helps reduce the risk of segregation and allows the mix to maintain the same consistence for a long time without affecting the hydration process of the cement. The mechanical strength of concrete admixed with **Dynamon NRG 1024**, are always guaranteed at early ages.

Dynamon NRG 1024 also has the capacity to control the total amount of air entrapped into the concrete. Low air content reduces permeability and improves durability and fair face of concrete.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	liquid
Colour:	amber
Density according to ISO 758 (g/cm³):	1.06 ± 0.02 at +20°C
Main action:	increase in workability and/or reduction of mixing water and acceleration in the development of mechanical strength
Classification according to EN 934-2:	high-efficiency water-reducing agent, super-plasticiser and hardening accelerator according to tables 3.1, 3.2 and 7
Classification according to ASTM C494:	type C and type F
pH according to ISO 4316:	6.0 ± 1.0
Water-soluble chloride content according to EN 480-10 (%):	< 0.1 (absent according to EN 934-2)
Alkali content (equivalent Na₂O) according to EN 480-12 (%):	< 2.5

HOW TO USE

The product is supplied ready to use. **Dynamon NRG 1024** develops its maximum dispersion effect when it is added after all the other components in the mix (cement, aggregates, mineral additives, etc.) or at least after a part of the mixing water.

After adding **Dynamon NRG 1024** it is strongly recommended to extend the mixing time by at least two minutes to enable all the components to be distributed evenly throughout the mix.

COMPATIBILITY WITH OTHER PRODUCTS

Dynamon NRG 1024 is compatible with other MAPEI S.p.A. products used in the production of special concrete and particularly with the following:

- chloride-free, hardening accelerating admixtures from the **Mapefast** range to achieve very high performance at early ages strength;
- **Viscostar** and **Viscofluid** ranges of viscosity modifiers used for making self-compacting concrete;
- **Mapeplast SF** silica fume-based powdered admixture used in the production of highly durable concrete and mortar;

- **Expancrete** expansive agent used in the production of shrinkage-compensated concrete;
- fly-ash and lime-based fillers used for making conventional and self-compacting concrete;
- release agents from the **Mapeform Eco** and **DMA** ranges for instant or delayed demoulding;
- curing agents from the **Mapecure** range to prevent rapid evaporation of mixing water from concrete;

When manufacturing concrete resistant to freeze/thaw cycles our Technical Services Department is available to advise on the most suitable product from the **Mapeair AE** range according to the type of cement used.

DOSAGE

Dosage in volume:

from 0.5 to 1.5 litres every 100 kg of cement for conventional concrete. Different dosages from those suggested recommended above must be tested beforehand on concrete and, in all cases, only after consulting MAPEI S.p.A. Technical Services Department.

PACKAGING

Dynamon NRG 1024 is available in bulk quantities, 200 litre drums and 1,000 litre tanks.

STORAGE

Dynamon NRG 1024 may be stored up to 12 months in sealed containers protected from freezing weather. If exposed to direct sunlight the product may change colour without affecting its performance characteristics.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Dynamon NRG 1024 is not considered hazardous according to the current regulations regarding the classification of mixtures.

It is recommended to wear protective gloves and goggles and to take the usual precautions for handling chemicals. For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

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 website www.mapei.com

**All relevant references
for the product are available
upon request and from
www.mapei.com**

**Dynamon
NRG 1024**



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