

# DYNAMON NRG 1012

## Superplasticizer, hardening accelerating admixture for precast concrete

### DESCRIPTION OF THE PRODUCT

**Dynamon NRG 1012** is an admixture specially designed for the precast concrete industry.

### WHERE TO USE

Concrete with **Dynamon NRG 1012** has a high level of workability (consistency class S4 or S5, according to EN 206-1), and is consequently easy to apply when fresh. At the same time it provides excellent mechanical performances when hardened.

**Dynamon NRG 1012** is especially suitable for precast concrete and wherever there is the need for a strong water reduction and relatively high level of workability and mechanical strengths, in different consistency classes.

Its characteristics make it particularly suitable for manufacturing self-compacting concrete, by ensuring high workability and the accelerated development of mechanical strength.

For self-compacting concrete **Dynamon NRG 1012** can be used together with **Viscofluid SCC/10** or **Viscostar 3K**, viscosity modifying admixtures, in order to avoid the risk of segregation and ensure the mixture's homogeneity even with a very high slump-flow.

The main applications of **Dynamon NRG 1012** for concrete are as follows:

- to produce concrete with a high level of workability for manufacturing precast reinforced elements with a minimum compressive strength,  $R_{ck}$ , to cut the prestressed tendons, equal to  $35 \text{ N/mm}^2$  and with an excellent appearance;
- to produce concrete with a high level of workability for manufacturing prestressed reinforced concrete elements with an excellent appearance and a workability retention (30-45 minutes) even in warm climates;
- to produce concrete with a high level of workability for manufacturing cladding panels, having an excellent visual appearance.

### TECHNICAL CHARACTERISTICS

**Dynamon NRG 1012** consists of a water solution containing new generation acrylic polymers. The polymers efficiently and for a long time disperse the cement grains and facilitate rapid hydration within the concrete.

### APPLICATION PROCEDURE

**Dynamon NRG 1012** develops maximum dispersing action when added after the other mixture ingredients (cement, aggregates, mineral

TECHNICAL DATA (typical values)	
<b>PRODUCT IDENTITY</b>	
Consistency:	liquid
Colour:	amber
Density according to ISO 758 (g/cm <sup>3</sup> ):	1.06 ± 0.02 at +20°C
Main action:	increase workability and/or reduction of mixing water and acceleration of mechanical strength
Classification according to EN 934-2:	high range water reducing, hardening accelerating, superplasticizer, tables 3.1, 3.2 and 7
Classification according to ASTM C494:	type C and type F
Classification according to ASTM C1017:	type I
Chlorides soluble in water according to EN 480-10 (%):	< 0.1 (absent according to EN 934-2)
Alkali content (Na <sub>2</sub> O equivalent) according to EN 480-12 (%):	< 3.0
pH according to ISO 4316:	6 ± 1

addition or filler and at least 80% of the mixing water) and before **Viscofluid SCC/10** or **Viscostar 3K**.

### COMPATIBILITY WITH OTHER PRODUCTS

**Dynamon NRG 1012** admixture is compatible with other products for preparing special concretes, especially with:

- hardening accelerating chlorides-free admixtures from the **Mapefast** range reaching very high mechanical strengths at early age;
- **Viscofluid SCC/10** or **Viscostar 3K**, viscosity modifying admixtures for manufacturing self-compacting concretes;
- **Mapeplast SF**, silica fume based powder admixture for manufacturing high quality concrete (strength, impermeability, durability);
- **Expacrete**, expansive agent for manufacturing shrinkage compensated concrete;
- fly ash for manufacturing standard and self-compacting concrete;
- different types of limestone fillers for manufacturing self-compacting concrete;
- **DMA** and **Mapeform Eco** form-release agents, for releasing concrete from formworks;
- **Mapecure** curing emulsions product to protect form-released concrete structures from rapid water evaporation.

Our Technical Services Department is available to evaluate which admixture is the most suitable to manufacture freeze/thaw cycles resistant concretes, depending on the type of cement used.

### DOSAGE

#### Dosage by volume:

from 0.5 to 1.5 l per 100 kg of cement. Different dosages from those suggested must be previously tested through concrete trials, in addition to consulting MAPEI Technical Services Department.

### PACKAGING

**Dynamon NRG 1012** is available in bulk, 200 l drums, 1000 l tanks.

## **STORAGE**

**Dynamon NRG 1012** may be stored for 12 months in sealed containers and protect from frost.

Exposure to direct sunlight can provoke variations of the colour tone without altering in any way the performances of the product.

## **SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION**

**Dynamon NRG 1012** is not considered dangerous according to the European regulation regarding the classification of mixtures. It is recommended to wear gloves and goggles and to take the usual precautions taken for the handling of 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](http://www.mapei.com)**

**All relevant references for the product are available upon request and from [www.mapei.com](http://www.mapei.com)**

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