

# Dynamon SX 542

**Modified acrylic super-plasticiser for concrete characterised by low water/cement ratio, high mechanical strength and very long slump retention**

## DESCRIPTION

**Dynamon SX 542** is a chloride-free superplasticizing admixture based on a modified acrylic polymer.

The **Dynamon SX 542** system is based on DPP (Designed Performance Polymer) technology, a new chemical process which, through total monomer design (exclusive know-how of MAPEI), allows the characteristics of the admix to be modulated according to the specific performance requirements of the concrete employed.

**Dynamon SX 542** conforms to IS9103:1999, ASTM-C494 Type F & G and to EN 934-2.

## WHERE TO USE

Thanks to its high workability (S4 or S5 consistency class according to EN 206-1), concrete made with **Dynamon SX 542** is easy to lay while fresh and offers very high mechanical performance when hardened.

**Dynamon SX 542** is an admixture with superior performance compared with conventional naphthalene sulfonate or melamine sulfonate super-plasticisers and first-generation acrylic admixture regarding their capacity to reduce the amount of water and their workability.

**Dynamon SX 542** is particularly suitable for applications where the amount of water must be

drastically reduced combined with an acceleration in strength after short curing times and long workability times for various consistency classes.

Its performance also makes it particularly suitable for self-compacting concrete, in that **Dynamon SX 542** guarantees high fluidity in cementitious conglomerates. When producing self-compacting concrete, the use of **Dynamon SX 542** must be combined with **Viscostar 3K** or **Viscofluid SCC/10** admixtures which are used to modify viscosity, to avoid the risk of segregation and to guarantee that the mix is homogenous, even with very high slump-flow.

**Dynamon SX 542** enhanced ready mixed concrete has the following properties:

- high mechanical performance with long maintenance of consistency class;
- waterproof and durable structures, according to the exposure classes provided by the EN 206-1 standard;
- with concrete nominal strength class in the range above 40 N/mm<sup>2</sup>;
- self-compacting. Thanks to its properties of free flow and resistance to segregation, when **Dynamon SX 542** is used in combination with **Viscostar 3K** or **Viscofluid SCC/10** admixture to modify viscosity, self-compacting concrete which

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

Appearance:	liquid
Colour:	brown transparent
pH:	7.0 ± 1
Density according to ISO 758 (g/cm <sup>3</sup> ):	1.120 ± 0.03 at +25°C
Classification according to UNI EN 934-2 and IS 9103, ASTM C494:	Set long retarding, high range water-reducing, super plasticizer, tables 11.1 and 11.2
Water-soluble chloride content according to EN 480-10 (%):	< 0.1 (absent according to EN 934-2)
Alkali content (equivalent Na <sub>2</sub> O) according to EN 480-12 (%):	< 2.5

may be laid without vibrating and with high pouring speeds may be produced.

### HOW TO USE

**Dynamon SX 542** develops its maximum dispersion action when it is added after all the other components in the mix (cement, aggregates, minerals or fillers and at least 80% of the mixing water) and before adding **Viscostar 3K** or **Viscofluid SCC/10**.

### COMPATIBILITY WITH OTHER PRODUCTS

**Dynamon SX 542** admixture is compatible with other products used to manufacture special concrete, and especially with:

- **Dynamon HAA** hardening accelerator admixture, to reach very high strength values after short curing cycles;
- **Viscostar 3K** and **Viscofluid SCC/10** viscosity modifiers to make self-compacting concrete;
- **Mapeplast SF** admixture in powder form, made from micro-silica to produce "top quality", high-strength concrete with good waterproofing and durability properties;
- **Expancrete** expansive admixture, to produce compensated-shrinkage concrete;

- Fly-Ash to produce conventional self-compacting concrete;
- Lime and other types of fillers for self-compacting concrete and all other types of concrete which require the addition of this component;
- **DMA 1000**, **DMA 2000** and **DMA 3000** stripping agents used to strip form-work from concrete;
- **Mapecure E** and **Mapecure S** curing agents to protect concrete structures without form-work against quick evaporation of the mixing water (floors). Refer to the MAPEI Technical Assistance Department for advice when producing concrete resistant to freeze/thaw cycles, to assess the most suitable aerating agent according to the type of cement used.

### CONSUMPTION

#### Dosage in weight:

from 0.5kg to 2.0kg per 100 kg of cement.  
 – for self-compacting concrete - from 0.8kg to 2.5kg per 100 kg of fine particles (max 0.1 mm diameter).  
 Different dosages from the suggested ones must be previously checked by concrete trials and, in any case, after consulting MAPEI technical assistance.

### PACKAGING

**Dynamon SX 542** is available in 250 kg

drums and in IBC/Bulk.

### STORAGE

12 months, protected from frost.

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

**Dynamon SX 542** is not considered dangerous according to the European regulation regarding the classification of mixtures. It is however recommended to use gloves, eyes protection and take the usual precaution taken when handling chemical products.

For further and complete information about a safety use of our product please refer to our latest version of the 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.in](http://www.mapei.in) and [www.mapei.com](http://www.mapei.com)**

