ROCLAND

# Roc HP

## Micro silica based additive

## Description

**Roc *HP* is a mass additive that allows fabricating concrete for high performance slabs with exceptional durability:**

- **Concrete slabs for the food industry.**
- **Concrete slabs for rapid commissioning.**
- **Concrete slabs for aggressive environments.**
- **Slabs facing high dynamic stresses.**

**Qualities of a high performance slab:**

- **High mechanical strength at short term: about 40 MPa at 2 days and 20 °C**
- **An excellent compressive strength: > 60 MPa at 28 days.**
- **Improved ductility and response to stress in the case of a concrete-steel composite.**
- **Very low permeability to water.**
- **Excellent resistance to chemical aggressions.**
- **Improved behaviour in cracking.**
- **Better résistance to abrasion.**

## Physical properties

- **Roc *HP*** is composed of micro silica and special additives

It is highly recommended to use Portland cements CPA-CEM I 52.5 PM or PM ES, whose minimum dosage should be 350 kg/m3.

- **Roc *HP*** allows the fabrication of slabs highly cohesive in fresh condition; this is an advantage for casting fluid concrete without segregation.

- **Roc *HP*** increases the compactness of hardened concrete through pouzzolanic reactivity. The concrete produced has very low permeability to liquids and gases. It allows obtaining concrete with high mechanical strength.

- **Roc *HP*** contains necessary additives for an easy application of concrete.

**We recommend against the use of supplementary additives.**

## Consumtion

**Roc *HP*** is used normally at the rate of 15 to 30 kg/m3 of concrete.

## Conditionnement

- 20 kg kitThe product can be stored during one year in its original packing, in a closed room sheltered from humidity and frost.

**Note :**
**Whilst all reasonable care is taken in compiling technical data on the company's products, all recommendations or suggestions regarding the use of such products are made without guarantee since the conditions of use are beyond the control of the company. It is the customer's responsibility to satisfy himself that each product is fit for the purpose for which he intends to use it and that the actual conditions of use are suitable.**

## Application

The beneficial effects of **Roc *HP*** are possible provided a minimum dosage of 350 kg/m3 is respected with a suitable granular composition and a W/C ratio of 0.45. **Roc *HP*** should be preferably mixed dry with other constituents before the introduction of mixing water. After adding water, a mixing of at least 1 mn 30 s is necessary for allowing a uniform mixing of the different constituents. If a proportionating unit is used, the totality of **Roc *HP*** should be introduced in the mixing truck along with a part of the mixing water. Mix for one minute and add the aggregates and the remaining portion of water as usual. Mix until a material of homogenous consistency is obtained.

## Instructions for use

### Concrete used in aggressive environments

**Roc *HP*** brings exceptional durability in many aggressive environments.

- Agricultural sector: silaging, storage of fertilizers
- Industrial sector: chemical and food industries
- Service Stations: oil, fuel...
- Concrete in the presence of aggressive water: marine, environment, mountain concrete facing pure water and de-icing salts used on roads.

### Alkali-reaction

The addition of micro silica reduces significantly the inherent risk of concrete expansion due to alkali-reaction. **Roc *HP*** prevents this reaction.

### High performance concrete

The addition of **Roc *HP*** allows increasing the mechanical strength in compression, traction and modulus of elasticity. Long-term shrinking and creep in high-strength concrete are much lower than in the case of a traditional concrete.

## Health and safety

Non-regulated product, not dangerous. Consult our safety datasheet.

**Note**

Careful curing by spraying with **Roc *Cure*** or ***ECOCURE17*** is essential especially in hot weather or in the presence or air currents (refer technical datasheet).

Z.A. Les Monts du Matin
Rue des Lauriers
F-26730 La Baume d'Hostun
France
Tél. : + 33 (0)4 75 48 37 50
Fax : + 33 (0)4 75 48 30 03
www.rocland.eu

PLACEO

2011/EN/HP/v.1