



# CONSOL P213 ESP

## High Performance Superplasticizer

### DESCRIPTION

**CONSOL P213 ESP** is a superplasticizer for concrete and mortar. It is particularly developed for the production of high flow concrete with exceptional flow retention properties.

**CONSOL P213 ESP** complies with ASTM C494/C494M-19 for type F admixtures.

### RECOMENDED FOR

**CONSOL P213 ESP** is especially suitable for concrete mixes with prolonged transportation time and long workability, powerful water reduction and excellent flowability.

**CONSOL P213 ESP** is suitable for the production of both precast concrete and ready mix concrete. **CONSOL P213 ESP** facilitates extreme water reduction, excellent flowability with the same time optimal cohesion and highest self-compacting behavior.

**CONSOL P213 ESP** is mainly used for the following applications:

- Concrete with a very high water reduction (up to 40%)
- High performance concrete
- Concrete in summer and with a prolonged transportation and workability time
- Watertight concrete
- Precast concrete
- Ready mix concrete
- Self compacting concrete
- High strength concrete
- Mass concrete

### BENEFITS

**CONSOL P213 ESP** as a powerful superplasticizer acts by different mechanisms. Through surface adsorption and steric effects separating the binder particles the following properties are achieved:

- Extremely powerful water-reduction, resulting in high density, high strength and reduced permeability.
- Excellent plasticising effect, resulting in improved flowability, placing and compacting behavior. Therefore suitable for the production of self-compacting concrete.
- Improved shrinkage and creep behavior.

- Reduce rate of carbonation of the concrete.
- Improved watertight behavior.

**CONSOL P213 ESP** does not contain chloride so other ingredients promoting corrosion of steel reinforcement. It is therefore suitable for reinforced and prestressed/steel.

### PRODUCT DATA

#### Form

Liquid

#### Appearance

Brown

#### Packaging

200 litres sealed drum.

1000 litres IBC's or tanker delivery on request.

#### Storage

Dry, shaded place. Protect from direct sunlight and frost.

#### Shelf- Life

**CONSOL P213 ESP** can be stored for 12 months if stored as recommended in unopened original containers.

### TECHNICAL DATA

#### Chemical Base

Modified polycarboxylate in water

#### Density

Specific density: 1.07 ± 0.02 kg/L (at 25 °C)

### INSTRUCTION FOR USE

#### Dosage

For flowing and self-compacting concrete 0.6 – 1.5% by weight of cement.

Site trials are advisable to determine optimum dosage rates.

For more specific requirements, please contact our Technical Service Department.



### Dispensing

**CONSOL P213 ESP** is added to the gauging water or added with it into the concrete mixer.

To take advantage of high water reduction, a wet mixing time of at least 60 seconds is recommended.

To avoid excess water in the concrete, final dosage must start after 2/3 of wet mixing time only.

### Application

**CONSOL P213 ESP** is a liquid admixture to be added to the concrete during the mixing process. The best results are obtained when the admixture is added after all the other components are already in the mixer and after the addition of at least 80% of the total water.

### Cleaning Tools

Clean all tools and application equipment with water immediately after use.

Hardened/cured material can only be mechanically removed.

### Notes on Application Limits

If frozen and/or if precipitation has occurred, **CONSOL P213 ESP** maybe used after thawing slowly at room temperature and after intensive mixing.

### Protective Measure

Upon contact with skin, wash off with water and soap. In case on contact with eyes or mucous membrane, rinse immediately with clean water and seek medical attention with out delay.

### PRECAUTIONS

Health: **CONSOL P213 ESP** does not contain any hazardous substances requiring labeling. It is safe for use with standard precautions followed in the construction industry, such as use of hand gloves, safety goggles, etc. For detail health, safety and environmental recommendations, please consult and follow all instruction on the Material Safety Data Sheet.