

**e<sup>5</sup> WRA 10 V**  
Water reducing and retarding admixture

# e<sup>5</sup> WRA 10 V

## Description

e<sup>5</sup> WRA 10 V is a water reducer and retarder, manufactured with high technology polymers, designed specially to interact with the cement particles and thus break their flocculating effect.

In this manner it helps to control the air content in the mixes. It allows water reductions higher than 5% complying fully with ASTM C-494 for type D admixtures.

## Benefits

- Increases the mechanical strength of concrete.
- Improves the rheological properties of concrete.
- Allows the adequate transportation of concrete mixed in warm climate.
- Reduces the permeability of concrete.
- Reduces the water/binding agents relationship.
- Increases the durability of concrete mixes.
- Helps to reduce air content in concrete mixes.

## Principal applications

e<sup>5</sup> WRA 10 V can be used to prepare the following concretes:

- Conventional concretes
- Pumpable concretes
- Structural concretes
- Concrete placed under water in combination with our admixture e<sup>5</sup> AWA (anti wash out admixture) and e<sup>5</sup> SP 2000.

## Technical information

Specific gravity 1.20

Physical appearance: dark brown liquid

## Directions for use

Lab testing with materials used on the job is recommended to allow all the necessary adjustments in the concrete mix, such as: appearance, workability, consistency, air content, yield, setting times and the admixture dosage.

It is then important to replicate the tests under real job conditions (humidity, temperature, time used to transport fresh concrete, etc.) in order to make the final adjustments.

Load all the materials: aggregates, cement and 80% of the mix water. Allow the components to mix 2 minutes, then add the established quantity of admixture with the remaining 20% of the calculated mix water. This will allow the calcium sulfate to form ettringite with the cement's tricalcium acetate, which will improve the performance of the admixture.

The dosages can vary from 4 to 9 cc/kg of cement and this will depend on the concrete's mix design to be used. An overdosage can cause a delay in the speed of hydration of the cement.

When used in combination with integral waterproofer, it is necessary to check the air content and the setting times in the concrete mix.

## Presentation

18L pails, 200 L drums and bulk

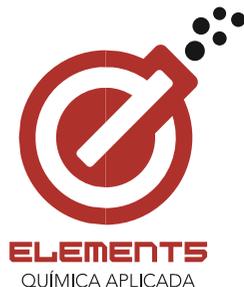
Useful life: 12 months in its original container

## e<sup>s</sup> WRA 10 L

### Cautions

- Admixture over dosage can cause retardation in the cement's speed of hydration and excessive air content.
  - Perform tests with other admixtures to check admixture synergies, specially with regards to air content and setting times.
  - This admixture is compatible with all admixtures. Check compatibility with air entrainers.
- When facing important variations in materials (different aggregates, cements, etc.), it is necessary to make the required adjustments in the dosages used.
  - Do not allow the product to freeze.
  - Keep the product in its original container.
  - Never add the admixture without prior initial cement hydration or with the aggregates, because this will lower the admixture's efficiency.

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