



**ELEMENTS**<sup>®</sup>  
QUÍMICA APLICADA

**e<sup>5</sup>**  
**WRA 10 ++ 0**

**WATER REDUCER AND  
RETARDANT ADMIXTURE**

## DESCRIPTION

**e<sup>5</sup>WRA 10 ++D** is a water reducing and retarding admixture made with high tech dispersants. It's specially designed to break the flocculating effect of cement particles as they enter in contact with water. With its special formula, it helps to achieve a better cement hydration. This is evidenced by considerably higher mechanical strengths of concrete at all ages.

El **e<sup>5</sup> WRA 10 ++D** allows water reductions up to 5%.

It widely complies with the requirements for a type D, ASTM C-494 and NMX-C255ONNCCE admixture.

## BENEFITS

Using **e<sup>5</sup>WRA 10 ++D**:

- Significantly Increases the mechanical strength of concrete.
- Improves the rheological properties of concrete.
- Reduces concrete's permeability.
- Reduces the water/binding materials ratio.
- Adequate for the production of concretes in warm climates.
- Increases the durability of the mixes.
- Reduces the per m<sup>3</sup> manufacturing cost.
- It's compatible with all admixtures.

## TECHNICAL INFORMATION

- Specific gravity: 1.22
- Physical appearance: Dark brown colored liquid

## PRESENTATION

- 19 L pail
- 200 L drum
- Bulk

Useful life : 12 months in its original container

## PRINCIPAL APPLICATIONS

**e<sup>5</sup> WRA 10 ++D** can be used when mixing the following concretes:

Conventional concretes.  
Pumpable concretes.  
Structural concretes.

## DIRECTIONS FOR USE

For better results lab testing is recommended with the job materials. This allows making all the necessary adjustments in the concrete mix. These can be: appearance, workability, consistency, air content, yield, setting times and the admixture dosage.

Then it is important to repeat these tests under real job conditions (moisture content, temperature, time to haul fresh concrete, etc.), for the purpose of making the final adjustments. Add **e<sup>5</sup> WRA 10 ++D** along with 80% of the mix water during the production of concrete. Load aggregates and cement according with the established order.

Once all the materials have been loaded, including 20 % of the remaining water of the mix. Allow these materials to mix during two minutes for each m<sup>3</sup> of concrete at mixing speed.

Do not add the admixture to the materials without its prior hydration.

Dosages can vary between 4 to 11 mL/kg of cement. This will depend on the mix design of the concrete to be mixed.

An overdosage to that established can result in a delay in the speed of cement hydration and undesired air contents.

When using this admixture in combination with integral waterproofers, it is necessary to check the air content and setting times in the concrete mix.

Consult your **Element5 Integral Solutions Advisor** for the preparation of durable concretes along with economic benefits.

For any questions on the use of the product, please contact the **Element5 Technical Support Department**.

## CAUTIONS

- Do not allow freezing of the product.
- Always keep the product in its original container.
- Never add the admixture to aggregates or to the cement without its prior initial hydration, as these will reduce the admixture's efficiency.
- In the event of any important variation in materials (change of aggregates, cement or weather conditions etc.), it is necessary to perform the required adjustments in the dosages used.
- Admixture overdosage can cause delay in the speed of cement hydration and excess in the air content.

- Always keep the product sealed in its original container, far away from elements that may contaminate it. Do not damage the product containers used, As this can cause overflow of the product. Consult the MSDS before handling the product.

**Element5 Química Aplicada S.A. de C.V. guaranties that the product meets the stablished quality and that it is exempt of fabrication problems.**

**When the product is outside it's stablished life, and it has been handled by the user, Element5 Química Aplicada S.A. de C.V. does not extend any type of additional warranty, as we have not control the present variables in the application or handling of the product.**

**The present document only contains general recommendations.**

**The technical interpretation that derives in specifications of our product is the user's responsibility.**

**That that is not written in this document and warranty is not contemplated.**

**If it's necessary to know in detail any data in reference to product or recommendations contact our Element5 technical support. Visit our website where our privacy statement is available for you.**

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QUÍMICA APLICADA

**División Químicos para la Construcción**

Tel. +52 55 2484 2236

[contacto@element5.mx](mailto:contacto@element5.mx)  
[www.element5.mx](http://www.element5.mx)

Carr. Lago de Guadalupe No. 127 Int. 804  
Margarita Maza de Juárez, Atizapán de  
Zaragoza, Estado de México, C.P. 52926.