

## Technical data sheet

# CHRYSO® Fluid Optima 224

High range water reducing  
Superplasticising admixture



### Description

CHRYSO®Fluid Optima 224 is classified as a high range water reducing superplasticising admixture. The admixture thus induces the following major effects on a concrete mix:

- Without affecting the consistence, permits a high reduction in the water content of a given concrete mix
- Without affecting the water content increases the slump/flow considerably or
- Produces both effects simultaneously

### Advantages

- CHRYSO®Fluid Optima 224 is specified for ready mix concrete as well as civil engineering construction.
- CHRYSO®Fluid Optima 224 Can be used to manufacture a wide range of concrete and is compatible with most types of cement.
- Where the water/cement ratio is not altered, CHRYSO®Fluid Optima 224 increases workability.
- Where prolonged slump retention is required, CHRYSO®Fluid Optima 224 can increase initial workability. The concrete will then maintain a high level of workability for a longer period and will still have the structural properties of plain concrete.
- The compressive strength of concrete is increased as a direct result of the lower water/cement ratio.
- CHRYSO®Fluid Optima 224 can be used at a high dosage, without unwanted side effects like air entrainment or set retardation.
- CHRYSO®Fluid Optima 224 is formulated to create homogenous self-compacting concrete.

### Physical and chemical properties

- Physical state: Liquid
- Specific gravity (@ 20 °C):  $1.050 \pm 0.020$
- Colour: brown
- pH:  $4.70 \pm 1.00$
- Cl<sup>-</sup> ions content:  $\leq 0.10\%$
- Na<sub>2</sub>O:  $\leq 1.00\%$

### Application guidelines

#### Use

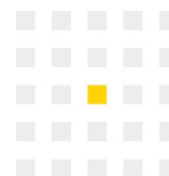
- Self compacting concrete
- Readymix concrete
- High performance Concrete
- High workability concrete

#### Dosage

- Typical Dosage:
  - 0.3 to 2.5kg per 100 kg of cementitious material (including extenders).
  - The optimum dosage of CHRYSO®Fluid Optima 224 can only be established by carrying out trial tests, taking into account local conditions affecting the workability of the fresh mix and the mechanical properties required of the concrete.

#### Dispensing/mixing

- CHRYSO®Fluid Optima 224 is completely miscible in water.
- CHRYSO®Fluid Optima 224 should never be added to dry cement or to components of a mix that are dry.



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- **CHRYSO®Fluid Optima 224** can be added to concrete using one of the following methods:
  - To the gauge water before mixing:  
**CHRYSO®Fluid Optima 224** should be added to approximately 90% of the concrete's total gauge water requirement (including admixture). The remaining 10% of the concrete's total gauge water requirement (without admixture) should be added in small increments until the target concrete workability is achieved.
  - As a component of the mixing process:  
Should be added simultaneously with approximately 90% of the concrete's total gauge water requirement.
  - To fresh mixed concrete in a readymix truck drum: Reverse the readymix truck drum rotation to discharge at very slow revolutions. When the concrete has reached the mouth of the drum, stop the drum rotation. Place **CHRYSO®Fluid Optima 224** on the concrete and not onto any exposed surface of the drum interior. Change the rotation direction of the drum to mixing and thoroughly mix the concrete at maximum permissible drum rpm, in order to ensure effective dispersion of **CHRYSO®Fluid Optima 224** throughout the concrete. For each of the above recommendations, thorough mixing is essential to ensuring homogenous concrete. Once all mix components have been loaded/dispersed into a readymix drum, a guideline to mix at maximum permissible rpm, for a minimum of 1 minute per m<sup>3</sup>; therefore 6 m<sup>3</sup>= 6 minutes).

### Storage

- **CHRYSO®Fluid Optima 224** has a shelf-life of 12 months starting from the date of manufacture - provided no other chemicals are added to it.
- The product should be stored away from rain and frost in clean, dry tanks.
- Do not allow the product to freeze.

### Packaging

- 25 ℓ jerry can
- 200 ℓ drum
- 1000 ℓ flow bin
- Bulk tanker loads.

### Health and safety

This product is classified as harmless. **CHRYSO** will provide onsite assistance when requested. Refer to the material safety data sheet.

The information contained in this document is given to the best of CHRYSO's knowledge and is the result of extensive testing. However, this document will not under any circumstances be considered as a warranty involving CHRYSO's liability in case of misuse. Tests should be carried out before any use of the product to ensure that the methods and conditions of use of the product are satisfactory. CHRYSO specialists are at the disposal of the users in order to assist them with any problems encountered.