

## Technical data sheet

# CHRYSO® Plast Omega 101

## Water reducing plasticizer

### Description

CHRYSO® Plast Omega 101 is classified as a water reducing plasticizer. The admixture thus induces the following major effects in a concrete mix:

- Without affecting the consistence (workability), permits a reduction in the water content of a given concrete or
- Without affecting the water content, increases the slump/flow or
- Produces both of the above effects simultaneously.

### Standards

- CHRYSO®Plast Omega 101 conforms to the requirements of SANS 50934-2 (EN 934-2) Table 2). These requirements are approximate equivalents of ASTM C494 Type A.
- When evaluated according to the test requirements stipulated in SANS 50934-2 Table 2, depending on dosage, a mix incorporating CHRYSO® Plast Omega 101 may entrain an amount of air, which exceeds the amount of air entrained by a control mix (no admixture), by more than 2% of concrete volume.

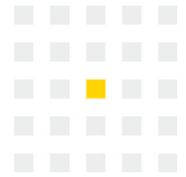
### Advantages

- CHRYSO®Plast Omega 101 is a multi-dose admixture, allowing a wide range of dosages to be applied, without any excessive retardation at the higher dosages.
- The multi-dose characteristic of CHRYSO®Plast Omega 101 allows concrete to exhibit extended workability characteristics.
- CHRYSO®Plast Omega 101 is often used when problematic fine aggregates are components of a concrete mix.
- When used to reduce the water content of a concrete mix (lower the w/b ratio) CHRYSO®Plast Omega 101 reduces the rate of bleeding.

### Physical and chemical properties

- Physical state(@25°C): liquid
- Specific gravity (@25°C): 1.085 (±0.02)
- Colour: clear-yellow
- pH: 7.5 (±1.0)
- Viscosity(@25°C): 10 -20 secs (ford#4 cup)
- Cl ions content: ≤0.1%
- Na<sub>2</sub>O: ≤2%
- Solubility in water: miscible

- CHRYSO®Plast Omega 101 improves the cohesion and lowers the viscosity of a concrete mix. This results in an improved homogeneity and compaction, allowing for superior off-shutter finishes.
- By reducing the need to add extra water, CHRYSO®Plast Omega 101 increases the durability of concrete, by reducing permeability.
- CHRYSO®Plast Omega 101 is robust to differences in cement characteristics. Based on aesthetic requirements, its suitability for use with white cement, should be ascertained prior to use.
- CHRYSO®Plast Omega 101 may be used in mixes extended with limestone and/or typically used SCMs - GGBS, GGCS, Fly Ash and Silica Fume.
- CHRYSO®Plast Omega 101 does not undermine the early age strength of concrete and in certain cases, may be used to improve it.



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- In common with all water reducing/plasticizing admixtures, the use of **CHRYSO®Plast Omega 101** reduces the overall cost of a cubic metre of concrete. This in turn, allows less cement to be used in order to achieve the same objective, resulting in a solution which is environmentally friendly.

### Application guidelines

#### Use

- Typically, ready-mix concrete and mechanically mixed site concrete.
- High workability concrete.
- Conventionally placed concrete.
- Pumped concrete.
- Highly reinforced concrete.
- Roller compacted concrete.

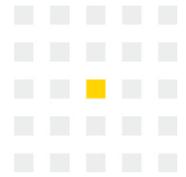
#### Dosage

- The optimum dosage of **CHRYSO®Plast Omega 101** can only be established by using trial tests, taking into account local conditions affecting the workability of the fresh mix and the mechanical properties required of the concrete.
- Range:
  - By volume: 0.25 to 1.5 litres per 100 kg of cementitious material (including extenders)
  - By weight: 0.27 to 1.62 kg per 100 kg cementitious material (including extenders)
- Typical:
  - By volume: 0.3 to 0.5 litres per 100 kg of cementitious material (including extenders)
  - By weight: 0.32 to 0.54 kg per 100 kg cementitious material (including extenders)

- Dosages approaching and over 1.5 litres per 100 kg of cementitious material (including extenders), may progressively retard the concrete.

### Dispensing/mixing

- **CHRYSO®Plast Omega 101** is completely miscible in water.
- **CHRYSO®Plast Omega 101** should never be added to dry cement or to components of a mix that are dry.
- **CHRYSO®Plast Omega 101** can be added to concrete using one of the following methods:
  - To the gauge water before mixing: **CHRYSO®Plast Omega 101** 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 freshly mixed concrete in a ready mix truck drum: Reverse the ready mix truck drum to discharge at very slow revolutions. When the concrete reaches the mouth of the drum, stop the drum. Place **CHRYSO®Plast Omega 101** on the concrete and not onto any exposed surface of the drum interior. Change the direction of the drum to mixing and ensure that all material has moved to the bottom of the drum. Repeat a minimum of 2 more times (preferably 3), the reverse to discharge at very slow revolutions, until the concrete reaches the mouth of the drum and then change to mixing until the concrete has moved to the bottom of the drum - to ensure that all of the internal upper drum surfaces have been cleared of admixture and to



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ensure a more effective dispersion of admixture during actual mixing. When completed, thoroughly mix the concrete at maximum permissible drum rpm, in order to ensure effective dispersion of **CHRYSO®Plast Omega 101** throughout the concrete. (a minimum of 1minute per cubic metre of concrete; therefore 6 cubic metres = minimum 6 minutes). After completion of mixing at maximum rpm and before discharge, allow the concrete to agitate for 1 - 3 minutes at very low drum rpm (travel rpm).

### Storage

- **CHRYSO®Plast Omega 101** has a shelf life of 9 months starting from the manufacturing date - provided no other chemicals are added to it.
- The product should be stored away from rain and frost in clean, dry tanks.
- After freezing, the properties of **CHRYSO®Plast Omega 101** can be recovered by controlled thawing and agitation.

### Packaging

- 25 ℓ jerry can
- 200 ℓ drum
- 1000 ℓ flow bin
- Bulk delivery on request

### Health and safety

- This product is classified as harmless. CHRYSO will provide onsite assistance when requested.
- For more information, please refer to the material safety data sheet.

**Disclaimer:** 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 help them with any problems encountered.