

## Technical data sheet

# CHRYSO® Plast Omega 154

## New generation, high range water reducing plasticiser

### Description

CHRYSO® Plast Omega 154 is classified as a water reducing plasticiser. 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 154 conforms to the requirements of SANS 50934-2 (EN 934-2) Table 2). These requirements are approximate equivalents of ASTM C494 Type A.

### Advantages

- CHRYSO® Plast Omega 154 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 154 allows concrete to exhibit extended workability characteristics.
- When used to reduce the water content of a concrete mix (lower the w/b ratio) CHRYSO® Plast Omega 154 may potentially reduce the rate of bleeding.
- CHRYSO® Plast Omega 154 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 154 increases the durability of concrete, by reducing permeability.

### Physical and chemical properties

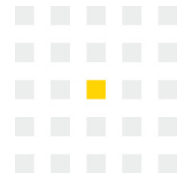
- Physical state(@25°C): liquid
- Specific gravity (@25°C): 1.103 (±0.005)
- Colour: brown
- pH: 7.5 (±1.0)
- Viscosity(@25°C): 12 -20 secs (ford#4 cup)
- Solubility in water: miscible

- CHRYSO® Plast Omega 154 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 154 may be used with in mixes extended with limestone and/or typically used SCMs - GGBS, GGCS, Fly Ash and Silica Fume.
- CHRYSO® Plast Omega 154 does not undermine the early age strength of concrete and in certain cases, may be used to improve it.
- Depending on the dosage, CHRYSO® Plast Omega 154 will cause a relative increase of mechanical strength after 24 hours.

### Application guidelines

#### Use

- Typically, ready-mix concrete and mechanically mixed site concrete.
- Low to high workability concrete.
- Conventionally placed concrete.
- Pumped concrete.
- Highly reinforced concrete.



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### Dosage

- The optimum dosage of **CHRYSO® Plast Omega 154** 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: 0.3 to 1.5 litres per 100 kg of cementitious material (including extenders)
  - By weight: 0.33 to 1.65 kg per 100 kg cementitious material (including extenders)
- Typical:
  - By volume: 0.6 to 0.8 litres per 100 kg of cementitious material (including extenders)
  - By weight: 0.66 to 0.88 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

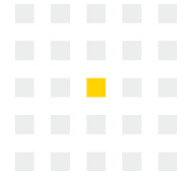
- **CHRYSO® Plast Omega 154** is completely miscible in water.
- **CHRYSO® Plast Omega 154** should never be added to dry cement or to components of a mix that are dry.
- **CHRYSO® Plast Omega 154** can be added to concrete using one of the following methods:
  - To the gauge water before mixing: **CHRYSO® Plast Omega 154** 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 154** 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 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 154** throughout the concrete. (a minimum of 1 minute 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 154** has a shelf life of 18 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 154** can be recovered by controlled thawing and agitation.



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# CHRYSO<sup>®</sup> Plast Omega 154

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### 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.