

Technical data sheet

CHRYSO® Plast Omega 135

New generation, water reducing plasticiser that entrains air; designed to use with problematic aggregates and sands.

Description

CHRYSO®Plast Omega 135 is classified as a water reducing plasticiser according to SANS 50934-2:2011 (EN 934-2:2009). The admixture thus induces the following major effects on a concrete mix:

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

CHRYSO®Plast Omega 135 has been specifically designed to entrain a small amount of air. Depending on the aggregates used in conjunction with the overall concrete mix design, the 2% by volume total air content of the concrete may be exceeded.

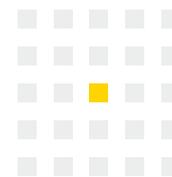
Advantages

- **CHRYSO®Plast Omega 135** 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 135** allows concrete to exhibit extended workability characteristics.
- **CHRYSO®Plast Omega 135** is often used when problematic fine aggregates are components of a concrete mix.
- **CHRYSO®Plast Omega 135** reduces the rate of bleeding in a concrete mix.
- **CHRYSO®Plast Omega 135** improves the cohesion and lowers the viscosity of a concrete mix. This results in an improved homogeneity, allowing for superior off-shutter finishes.

- By reducing the need to add extra water, **CHRYSO®Plast Omega 135** increases the durability of concrete.
- The air entraining property of **CHRYSO®Plast Omega 135** enhances concrete's durability by increasing its freeze/thaw resistance.
- **CHRYSO®Plast Omega 135** is robust to differences in cement characteristics.
- **CHRYSO®Plast Omega 135** does not undermine the early age strength of concrete.
- In common with all water reducing/plasticising admixtures, the use of **CHRYSO®Plast Omega 135** 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.
- Improves the compaction of concrete.
- Depending on the dosage, **CHRYSO®Plast Omega 135** will cause a relative increase of mechanical strength after 24 hours.
- Using large quantities of crushed sand may cause the concrete to lack homogeneity and concrete typically requires sand with abundant fine particles – that is often difficult to obtain and very expensive. **CHRYSO®Plast Omega 135** can minimise the costs of concrete because it can be used in formulations where less fines and a greater quantity of crushed sand is used –and still maintain a cohesive mix.

Standards

CHRYSO®Plast Omega 135 conforms to EN 934-2:2009 (table 2) and conforms to the requirements of ASTM C494 Type A and Type D.



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Physical and chemical properties

- Physical state: liquid
- Specific gravity (25°C): 1.07 (±0.02)
- Colour: brown - black
- pH: 6 (±1)
- Cl ions content: ≤ 0.1%
- Na₂O: ≤ 1.5%
- Solubility in water: miscible

Application guidelines

Use

- Readymix concrete
- High workability concrete
- Pumped concrete
- Highly reinforced concrete
- Roller compacted concrete

Dosage

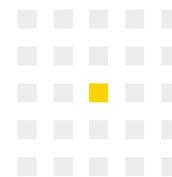
- The optimum dosage of **CHRYSO®Plast Omega 135** can only be established after trial tests, taking into account local conditions affecting the workability of the mix and the mechanical properties required from the concrete.
- Typical:
 - By volume: 0.28 to 1.12 litres per 100 kg of cementitious material (including extenders)
 - By weight: 0.3 to 1.2 kg per 100 kg cementitious material (including extenders)
- Range:
 - By volume: 0.09 – 0.89 litres per 100 kg of cementitious material (including extenders)
 - By weight: 0.29 to 1.22 kg per 100 kg cementitious material (including extenders)

- Any dosage over:

- By volume: 1.12 litres per 100 kg of cementitious material may cause retardation
- By weight: 1.2 kg per 100 kg of cementitious material may cause retardation.

Dispensing/mixing

- **CHRYSO®Plast Omega 135** is completely miscible in water.
- **CHRYSO®Plast Omega 135** should never be added to dry cement or to components of a mix that are dry.
- **CHRYSO®Plast Omega 135** can be added to concrete using one of the following methods:
 - To the gauge water before mixing: **CHRYSO®Plast Omega 135** 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 to discharge at very slow revolutions. When the concrete reached the mouth of the drum, stop the drum. Place **CHRYSO®Plast Omega 135** on the concrete and not onto any exposed surface of the drum interior. Change the direction of the drum onto mixing and thoroughly mix the concrete at



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maximum permissible drum rpm, in order to ensure effective dispersion of **CHRYSO®Plast Omega 135** throughout the concrete. (a minimum of 1minute per 1cubic metre of concrete; therefore 6 cubic metres = 6 minutes).

Storage

- **CHRYSO®Plast Omega 135** has a shelf life of 12 months starting from the manufacturing date – provided no other chemicals are added to it.
- The product should be stored away from the rain and frost in clean, dry tanks.
- Prevent product from freezing.

Packaging

- Bulk taker loads
- 1 000 litre flobin
- 200 litre blopak
- 25 litre jerrycan

Health and safety

This product is classified as harmless. **CHRYSO** will provide onsite assistance when requested. 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.