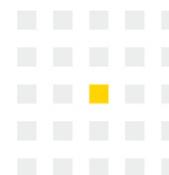


## Technical data sheet

# CHRYSO® Tard CE-R

Chloride free set retarding water reducing/  
plasticising admixture.



### Description

CHRYSO® Tard CE-R is classified as a set retarding water reducing/plasticising admixture according to SANS 50934-2:2011 (EN 934-2:2009). The admixture thus induces the following major effects on a concrete mix:

- Produces the combined effects of a high range reducing/plasticising admixture (primary function) and
- A set retarding admixture (secondary function).

### Standards

CHRYSO® Tard CE-R conforms to EN 934-2:2009 (table 2) and conforms to the requirements of ASTM C494 Type A and Type D.

### Advantages

- Water reduction significantly improves compressive strengths at all ages. CHRYSO® Tard CE-R allows strength grades to be met at reduced cement content or increased workability.
- Water reduction enhances durability through production of low permeability concrete.
- Controlled retardation extends the working life and the stiffening time for ease of construction, minimising delay problems.
- Control of stiffening improves slip forming and assists in preventing the formation of cold joints in large pours.
- Chloride free, safe for use in pre-stressed and reinforced concrete.

### Application guidelines

#### Use

- Suitable with all types of Portland cement.
- Semi-dry concrete screeds.
- Mixes containing fly ash, slag and silica fum.

### Physical and chemical properties

- Physical state: liquid
- Specific gravity (20°C): 1,10 (±0,01)
- Colour: brown/black
- pH: 6 (±2)
- Cl ions content < 0,1%
- Na2O: ≤ 2%
- Dry extract (halogen): 30% (±1,1%)
- Dry extract (EN 480-8): 30% (± 1,1%)
- Solubility in water: miscible

- Reinforced or pre-stressed concrete.
- Transport of concrete over long distances.

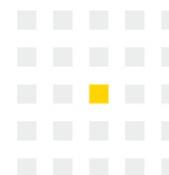
### Dosage

- The optimum dosage of CHRYSO® Tard CE-R 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.
- Typical:
  - By volume: 0.25 to 0.60 litres per 100 kg of cementitious material (including extenders).
  - By weight: 0.31 to 0.75 kg per 100 kg cementitious material (including extenders).
- Range:
  - By volume: 0.24-0.60 litres per 100 kg of cementitious material (including extenders).
  - By weight: 0.30 to 0.76 kg per 100 kg cementitious material (including extenders).

## Technical data sheet

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- **Overdosage:** An overdose of double the recommended amount may result in a significant increase in retardation. Provided that adequate curing is maintained, the ultimate strength of the concrete will not be impaired. The overdose will increase the plasticising effect of **CHRYSO®Tard CE-R**, allowing for increased water reduction and higher ultimate strengths. A significant rise in workability may lead to segregation and bleeding. The effects of overdosing will be further increased if sulphate resisting cement or SCMs are used.

### Dispensing/mixing

- **CHRYSO®Tard CE-R** is completely miscible in water.
- **CHRYSO®Tard CE-R** should never be added to dry cement or to components of a mix that are dry.
- **CHRYSO®Tard CE-R** can be added to concrete using one of the following methods:
  - To the gauge water before mixing: **CHRYSO®Tard CE-R** 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®Tard CE-R** 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 maximum permissible drum rpm, in order to ensure effective dispersion of **CHRYSO®Tard CE-R** throughout the concrete. (a minimum of 1minute per 1cubic metre of concrete; therefore 6 cubic metres = 6 minutes).

- All CHRYSO Admixtures should be added to the concrete separately and must not be mixed together.

### Storage

- **CHRYSO®Tard CE-R** 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.
- 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.