

# CHRYSO® CWA10

## Crystalline Integral Waterproofing Compound for Cement Concrete and Mortar



### Description

**CHRYSO CWA10** Crystalline waterproofing admixture protects and waterproofs concrete structures by crystallization. The active chemicals react with moisture and by product of cement hydrate in the concrete resulting in crystalline formation within the pores and capillary tracts of concrete thus waterproofing the structure against penetration of water and other liquids from any direction. **CHRYSO CWA 10** gives strong and lasting waterproofing protection from harsh environmental conditions.

**CHRYSO CWA 10** conforms to **IS 2645-2003** and **ACI 212.3R-10**

### Indicative Characteristics

Appearance	Without CWA 10	With CWA 10
Setting Time, Initial, minutes, IS 4031	131	138
Setting Time, Final, minutes, IS 4031	172	177
3 days compressive Strength, MPa, IS4031	38.3	38.6
7days Compressive Strength, MPa, IS 4031	49.1	51.5
Permeability to Water, % (v/v) of control mix, IS 2645	100	19
Free Chloride Content, % (w/w)	N/A	0.02 (Max. 0.1% declared)

**Note: 53 grade OPC is used to perform all tests.**

### Domains of Application

- Foundations
- Sewage treatment plants
- Tunnels and subway systems
- Underground structures
- Dams
- Pre-cast structures
- Swimming pools and reservoirs
- Plastering of exterior walls
- Bridge decks, columns beams, etc.
- Roof and podium slabs and any other areas where high hydrostatic pressure is present.

### Typical Test Results of Fresh and Hardened Concrete Using CHRYSO CWA 10 as per ASTM C 494 (compatibility test)

Tests	Reference Mix	With CHRYSO CWA10	TEST METHOD
Dosage, by wt. of cement	-	0.8%	

#### Workability : Slump in mm

0 minute	210	215	ASTM C 143
120 minutes	140	150	ASTM C 143

#### Compressive Strength in N/mm<sup>2</sup>,

7 days	31.1	30.8	ASTM C 192
28 days	42.1	42.3	ASTM C 192
365 days	47.0	48.6	ASTM C 192
Reduction of Shrinkage		38%	ASTM C 157
Reduction of Chloride ion diffusion %		67	ASTM C 1556
Alkali –Silica Reaction		No effect, Passes Test	ASTM C 1260

#### Water Permeability Test Results

Co-efficient of Permeability Reduction, %	-	93%	DIN 1048 Pt 5
Depth of water penetration	38mm	3mm	DIN 1048 – Pt 5
Resistance to Hydrostatic Pressure at 16 bar		No leakage	DIN 1048 Pt 5

The information contained in this technical data sheet is given to the best of our knowledge and the results from extensive testing in order to remain as objective as possible. However, it cannot, in any case be considered as a warranty involving our liability in case of misuse or any different use of our products from the "Application" paragraph of this technical data sheet. Some application tests should be carried out before using the product to ensure that the methods of use and conditions of application of the product are satisfactory. Our technical assistance is at the disposal of the users. Consult the latest update of the technical data sheet on our website [www.chryso.com](http://www.chryso.com)

CHRYSO India Private Limited | Registered & Corporate Office : Plot No. D -30/7, TTC Industrial Area, M.I.D.C. Turbhe, Navi Mumbai – 400705. Maharashtra, INDIA. Tel : +91 22 27685991/2



# CHRYSO® CWA10

## Crystalline Integral Waterproofing Compound for Cement Concrete and Mortar



### Method of Application

#### At Batching Plant

CWA 10 is to be added to the concrete during batching process before addition of mixing water subject to the type of batching plant and operation.

#### At Pouring Point in Transit Mixer

Calculate total amount of cement/binder present in fresh concrete transported through transit mixer. Calculate total quantity of CWA 10 required as recommended in TDS (0.8 to 1% by wt of cement or total binder). Make slurry of CHRYSO CWA 10 with water in the ratio of approximately 2:1 by weight (i.e., 2part CHRYSO CWA10 and 1 part potable water)

#### Example:

Suppose 1 transit mixer carrying 4 m<sup>3</sup> Concrete  
Cement/binder content =350 kg/m<sup>3</sup>  
Total Cement / binder in 4m<sup>3</sup> =4x350kg = 1400kg  
Total CHRYSO CWA 10 requirement for 4m<sup>3</sup> concrete@1%by wt of cement/binder =14kg

To make CWA10 SLURRY, mix with 50% (by wt of CWA 10) potable water, i.e., 14 kg CWA 10 shall be mixed with 7kg of water. Take 5 kg (approx. 3/4th amount of total mixing water) potable water in bucket add slowly CWA 10 while mixing with slow speed paddle mixer to make a creamy paste. Add balance quantity of water to get a smooth lumps free slurry. Add this slurry into the transit mixer and mix it with 2-3 minutes in moderately high speed (12-15 rpm).

#### Normal Dosage

**0.8 to 1 % by wt. of cement /cementitious binder.**

#### Curing

Follow normal curing.

#### Packing

20 kg laminated waterproof HDPE bag

### Advantages

- Mixed with concrete at the time of batching
- Sealing cracks or voids up to 0.5mm by crystal formation
- Protects concrete exposed to harsh conditions
- An integral system application
- Crystals are insoluble in water therefore voids are sealed permanently.
- Non-toxic and non-hazardous for drinking water and aquatic /marine life.
- No side effect on fresh as well as hardened concrete.
- Compatible with all types of concrete plasticizers / superplasticizers.
- There is no need to alter the existing mix design, just add recommended dosage of CHRYSO CWA 10 in existing design of concrete mix.

### Shelf Life & Storage

12 months from the date of manufacturing when stored in unopened, original sealed and dry condition at a temperature range from +5°C to 40°C

### Precautions

- Preferably store in sealed conventional containers, protected from extreme weather conditions.
- Clean all tools and application equipment with water before it set. Clean immediately after use. Hardened / cured material can only be mechanically removed.

### Safety

- Wear hand gloves, safety shoes and safety goggles while using and handling the product.
- In case eyes or mouth are affected wash with plenty of clean water and seek medical treatment immediately.

Before use, refer to the Material Safety Data Sheet.  
The MSDS is available on [www.chryso.com](http://www.chryso.com)

The information contained in this technical data sheet is given to the best of our knowledge and the results from extensive testing in order to remain as objective as possible. However, it cannot, in any case be considered as a warranty involving our liability in case of misuse or any different use of our products from the "Application" paragraph of this technical data sheet. Some application tests should be carried out before using the product to ensure that the methods of use and conditions of application of the product are satisfactory. Our technical assistance is at the disposal of the users. Consult the latest update of the technical data sheet on our website [www.chryso.com](http://www.chryso.com)

CHRYSO India Private Limited | Registered & Corporate Office : Plot No. D -30/7, TTC Industrial Area, M.I.D.C. Turbhe, Navi Mumbai – 400705. Maharashtra, INDIA. Tel : +91 22 27685991/2



