



## CHRYSO FLUID OPTIMA –K77

### POLYCARBOXYLATED BASED NEW GENERATION SUPERPLASTICIZER FOR CONCRETE

#### Description

**CHRYSO FLUID OPTIMA K-77** is a New Generation High Performance Superplasticizer based on a modified POLYCARBOXYLIC ETHER. **CHRYSO FLUID OPTIMA K-77** is characterized by its chemical structure. A long-ether chain for steric hindrance is a new concept and it is completely different from electrostatic repulsion. Therefore, when in contact with water, it shows high dispersibility and good performance.

**CHRYSO FLUID OPTIMA K77** can be utilized for high strength and high performance concrete use. At high dosage it does not have high retardation effect.

Substantial improvements in workability and flow properties without any increase in water, produces self-compacting, self-leveling and rheodynamic concrete, which can be poured into place around congested reinforcement and requires no vibration to achieve optimum compaction. The bond strength of concrete to reinforcement steel is considerably increased.

Very high water reduction minimizes shrinkage or cracking, thereby producing close textured, impervious concrete with improved durability and surface finish. This is of particular importance in liquid retaining and water bearing structures. Higher production and/or reduction in number of moulds is possible for precast industries.

#### Characteristics

- Form : Liquid
- Colour : Transparent to slight turbid
- Specific Gravity : 1.10 + 0.02
- Chloride Content: Nil (As per BS:5075)
- Consistency: CHRYSO FLUID OPTIMA K77 is formulated from carefully selected raw material and is manufactured under controlled conditions, to give a consistent product.
- Shelf life : If stored in unopened containers at normal ambient temperatures, a shelf-life of approximately 12 months could be expected.

#### Packaging

CHRYSO FLUID OPTIMA K-77 is available in 25 and 100 & 200 kg Plastic Drums.

#### Norms and Regulations

CHRYSO FLUID OPTIMA K-77 conforms to IS:9103-1999 and ASTM-C-494 1981 Type G.

#### Dosage and Direction for use

The optimum dosage should be determined by site trials with the particular concrete mix. As a guide the rate of addition is generally in the range of 0.3-1.5% on cement wt(w/w)

CHRYSO FLUID OPTIMA K-77 is supplied ready for use. For maximum dispersion throughout the mix, measured quantity of CHRYSO FLUID OPTIMA K-77 should be directly added into the mixer at the same time as the mixing water. On no account should it be added to the dry cement. To achieve the best results, the mixer along with material should be rotated for at least 2-3 minutes.

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## Applications

Can be used with all types of OPC, Portland Slag Cements, Pozzolana Cement including Sulphate Resisting Cement.  
-For a given concrete mix, keeping the cement consumption and workability constant, substantial reduction in the amount of mixing water (up to 40%) can be achieved. This produces a concrete of very high strength. Alternatively, for the same concrete mix, by keeping the workability and strength constant, a definite cement economy, i.e. ranging from 15% to 25% of cement can be saved, depending on the rate of addition.



Vasco da Gama bridge, Portugal

## References

All major Ready Mix Concrete Manufacturers

## Precautions

- Stir well before use.
- After freezing and thawing, its properties can be recovered by agitation.

## Safety

This product is classified as "harmless". In case of exposure, it is recommended to wear your protective equipment.

[www.swcpl.com](http://www.swcpl.com)



The Structural Waterproofing Co. Pvt. Ltd  
(CHRYSO Group Company)  
[www.chryso.com](http://www.chryso.com)

**CHEMICAL SOLUTIONS FOR THE CONSTRUCTION MATERIALS**



*The information contained in this technical data sheet is given to the best of our knowledge and are the results from extensive testing. However, it cannot, under any circumstances 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. Tests should be carried out before the use of 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*

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