

# Cem-Add AC130

Premium quality, high solids liquid acrylic copolymer additive for the GFRc production process



## Description

Cem-Add AC130 is a high solids single component acrylic copolymer emulsion. It is designed to improve the physical properties of GFRc systems (Glass Fiber Reinforced Concrete).

GFRc is an environment friendly composite system with low consumption of energy and used to produce great varieties of products based on cement-based composite material reinforced with alkali-resistance fiber.

The fibers add flexural, tensile and impact strength and the resulting material allows the production of strong light weight products used in architectural, civil engineering and many other applications.

GFRc has reached a great position among Architects, Designers, Engineers and end users for its flexibility to meet performance, appearance, and cost.

## Applications

Cem-Add AC130 is used in the formulation of glass reinforced concrete products. As GFRc is a mixture of several materials, the properties of GFRc vary with the production method, amount and type of glass fiber and composition of the cementitious matrix.

In this matrix Cem-Add AC130 plays a major role in achieving the long term physical properties (especially the flexural, tensile, flexibility, etc.) and the elimination of the wet cure process for achieving the maximum strengths.

GFRc having Cem-Add AC130 is used in:

- ▲ Artificial rock designs.
- ▲ Concrete lining for durability.
- ▲ Architectural panels and land scape areas.
- ▲ Composite mouldings counter top systems.

## Advantages

- ▲ Eliminates the need for wet curing.
- ▲ Improves significantly the physical properties especially the flexural strength.
- ▲ Improves the workability, and the consistency of the cementitious matrix.
- ▲ Gives a sprayable non-sag mix.
- ▲ UV stable polymer.

## Technical Properties @ 25°C:

Type of polymer:	Pure acrylic copolymer
Appearance:	Milky white liquid free from lumps
Specific gravity:	1.06 ± 0.02
Solid content:	48 ± 3% (by weight)
Viscosity:	100 - 300 cps
pH:	9 ± 1
Minimum film forming temperature:	10°C
UV resistance:	Pass (500 hr)
Alkali resistance: (1 mole KOH hydrolysis)	≤ 5% @ 50°C for 4 weeks
Freeze-thaw stability:	Pass

## Typical Properties of GFRc mix with Cem-Add AC130 \*

Density:	2.0 ± 0.1 g/cm <sup>3</sup>
Flexural strength: EN 13892-2	≥ 7.0 MPa @ 28 days
Modulus of Elasticity:	≥ 15 GPa @ 28 days
Compressive strength: EN 13892-2	≥ 40 MPa @ 28 days

*\* Note: These are typical results for GFRc mix using 52.5 OPC, they should not be used for design or control purposes. The actual result will depend on the mix design, quality of the individual components and the production process.*

- ▲ Chloride free.
- ▲ Cem-Add AC130 is free from formaldehyde and from any corrosion additives.

## Standards

Cem-Add AC130 complies with Appendix G of MNL 130-09, The Manual for Quality Control for Plants and Production of Glass Fiber Reinforced Concrete Products.

### DCP Saudi Co.

Riyadh Offices:  
Exit 9, Al Izdehar, Beside ACDelco Petrol Station

Jeddah Offices:  
Al-Henaki Business Center, Tower C

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## Mix Design

The guidance dosage of Cem-Add AC130 is between 6-10% of the cement content by weight. Other dosages can be used depending on the quality of the other components in the mix and the needed performance.

Representative trials should be conducted to determine the proportion of the individual amount of the GFRC mix to meet the desired performance requirements. A general guide mix design is as following:

Portland cement: 50 kg  
Silica fine sand: 50 kg  
Water: 13 - 18 litre  
Cem-Add AC130: 3 - 5 litre  
Superplasticizer: 100 - 500 ml  
AR Glass Fiber: 2 - 4% by the total weight of the mix

## Method of Use

### Application

All the liquid ingredients including Cem-Add AC130 should be added firstly to the mixer. Start mixing at low speed (i.e. 300-500 rpm) while adding the powder parts.

For the best results, start by adding the pigment (if used), then sand and then add the cement content and increase the mixer speed up to 1500 rpm and mix for 2 minutes.

Reduce the mixer speed to 300 - 500 rpm and gradually add the AR glass fiber until it will thoroughly dispersed in the mix, typically this should not take more than 1 minute.

#### Note:

*Mixing with high speed mixers or for long periods should be avoided as this will affect the performance of GFRC matrix.*

### Cleaning

All tools should be cleaned immediately after use with fresh clean water. Hardened materials should be cleaned mechanically.

### Packaging

Cem-Add AC130 is available in 5, 25 and 200 litres drums.

## Storage

Cem-Add AC130 has a shelf life of 12 months from date of manufacture if stored on shaded area at temperatures between 5°C and 40°C.

Protect from freezing.

If these conditions are exceeded, DCP Technical Department should be contacted for advice.

## Cautions

### Health and Safety

Cem-Add AC130 is non-toxic. Avoid skin and eye contact. Rubber gloves and eye protection should be worn all the times. The use of barrier cream is recommended on exposed areas of the skin.

For further information refer to the Material Safety Data Sheet.

### Fire

Cem-Add AC130 is nonflammable.

## More from Don Construction Products

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- ▲ Concrete admixtures.
- ▲ Surface treatments
- ▲ Grouts and anchors.
- ▲ Concrete repair.
- ▲ Flooring systems.
- ▲ Protective coatings.
- ▲ Sealants.
- ▲ Waterproofing.
- ▲ Adhesives.
- ▲ Tile adhesives and grouts.
- ▲ Building products.
- ▲ Structural strengthening.

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#### Note:

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