



# BETONAC<sup>®</sup> 135-PRO

## HIGH RANGE WATER REDUCING SUPERPLASTICIZER FOR READY MIX CONCRETE

### DESCRIPTION

BETONAC<sup>®</sup> 135-PRO is a high range Polycarboxylate Ether based superplasticizer (3rd Generation) used for producing ready mix concrete to reduce water while maintaining workability and average slump retention, It gives high compressive strength after 24 - 72 hours.

### USES

BETONAC<sup>®</sup> 135-PRO is designed to produce ready mix concrete structures as the following applications:

- Pre-cast, pre-stressed & post tension elements
- Production of self-compacting concrete
- Reservoirs, water canals and swimming pools
- Transit railroads, bridges, highways, subways and tunnels
- High-rise buildings with high durability
- Concrete elements like (shear walls, columns, girders and slabs) even through congested reinforcement

### ADVANTAGES

- It saves vibration workmanship and energy since it is easily placed in the mold.
- It reduces the amount of water used in the concrete mixture by up to 45%.
- It minimizes mold removal time and it shortens the time for applying resin-based flooring systems on new concrete.
- It improves Water Impermeability and produces high quality & dense concrete.
- Increases high early strengths development and gives high compressive strength during 24 to 72 hours.
- Reduces bleeding and segregation by improving the cohesion of the mixture.
- BETONAC<sup>®</sup>135-PRO provides protection against any delays and stoppages.
- It saves cement by reducing the quantity of cement in the concrete mix while at the same time maintaining the ultimate strength and durability of structures.

### STANDARDS

BETONAC<sup>®</sup> 135-PRO complies with ASTM C 494, Type F. And when it is used in hot seasons, it complies with ASTM C 494, Type G.

(ASTM C 494 requirements: Type F: high range water reducing, Type G: high range water reducing and retarding admixture).

### APPLICATION

The correct quantity should be carefully measured. Half dosage of BETONAC<sup>®</sup> 135-PRO should be added at the first mixing sequence with 75% of the mixing water then the second half of the dosage should be added at the final sequence with 25% of the mixing water.



## DOSAGE

BETONAC® 135-PRO is normally added at the rate from 600 ml to 1400 ml for each 100kg of cement, depending on the retardation or workability required.

Longer setting times may require higher addition rates. Conversely, the addition rate will be lower for shorter retardation. Trial mixes are recommended.

Overdosing results in more retardation and higher workability. Segregation might occur in some cases, please consult our specialized Lab. Engineer in this case.

**Important Note: If the concrete pouring process is delayed for any reason for a period longer than expected, An additional quantity of BETONAC® 135-PRO should be added to the truck mixer in order to re-plasticize the concrete without effecting the compressive strength and to avoid the concrete initial setting into the mixer.**

## TECHNICAL DATA

**Appearance:** Transparent or light brown liquid

**Density:** 1.08 ± 0.02 gm/ml

**Setting time:** Initial and final setting time depends on temperature, cement quantity and dosage used.

**Packaging:** BETONAC® 135-PRO is packed in 20-liter Jerrycans or 1000-liter IBCs

**Storage & Shelf life:** BETONAC® 135-PRO has a minimum shelf life of 1 year if stored in originally sealed packaging. It should not be exposed to direct sunbeam and protected against frost.

## LIMITATIONS

- BETONAC® 135-PRO does not contain chloride or other steel corrosion promoting ingredients, it may therefore be used without any restrictions for reinforced and prestressed concrete construction.
- When BETONAC® 135-PRO added separately to the freshly mixed concrete, further mixing should take place for at least one minute per cubic meter.
- When BETONAC® 135-PRO is used to produce self-compacting concrete, special mix designs are required, please contact our technical support.
- Do not dispose of into water or soil, but according to local regulations.
- The product is Non-Toxic under relevant health and safety codes.

## COMPATIBILITY

BETONAC® 135-PRO can be used with all types of Portland cement, and it successfully used in mix designs utilizing pozzolanic materials such as fly ash and GGBFS.

## LEGAL NOTES

Whilst information and/or specification contained herein is to the best of our knowledge true and accurate, and is based on many years of experience, we cannot accept any liability either directly or indirectly arising from the use of our products, whether or not in accordance with any advice, specification or recommendation given by us, as we have no direct or continuous control over how or where our products are applied.