



BETONAC[®] 450-SR

HIGH RANGE WATER REDUCER & SLUMP RETAINER SUPERPLASTICIZER FOR READY MIX CONCRETE

DESCRIPTION

BETONAC[®] 450-SR is a third-generation super plasticizer concrete admixture that increases the ultimate strength of the concrete by reducing the mixing water highly and brings high fluidity and slump retention to the concrete.

USES

- Pumping and high fluidity concrete
- Piling applications
- Conventional and multi-reinforced concrete
- Concrete in hot climates that requiring long workability retention.

ADVANTAGES

- Gives concrete with lower permeability hence improved durability.
- It highly reduces the amount of water used in the concrete mixture.
- Speeds placing of concrete and construction works due to high workability.
- The viscosity of the concrete mixture is reduced in relation to the empty non-additive mixture.
- BETONAC[®] 450-SR provides protection against any delays and stoppages.
- Cement saving by reducing the quantity of cement in the concrete mix while at the same time maintaining the ultimate strength and durability of structures.
- Reduces bleeding and segregation by improving the cohesion of the mixture.
- Better resistance to carbonation.

STANDARDS

BETONAC[®] 450-SR complies with ASTM C 494, Type G
(ASTM C 494 requirements, Type G: high range water reducing and retarding admixture).

APPLICATION

The correct quantity should be carefully measured. Half dosage of BETONAC[®] 450-SR 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.

COMPATIBILITY

BETONAC[®] 450-SR 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.

DOSAGE

BETONAC[®] 450-SR is normally added at the rate from 800 ml to 1500 ml for each 100kg of cement, depending on the retardation or workability required.



Longer setting times or higher temperatures 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® 450-SR should be added to the truck mixer in order to re-plasticize the mixture without effecting the compressive strength and to avoid the concrete initial setting into the mixer.

TECHNICAL DATA

Appearance: 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® 450-SR is packed in 20-liter Jerrycans or 1000-liter IBCs

Storage & Shelf life: BETONAC® 450-SR 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

- The concrete slump at 0 minute must not be less than 22cm to achieve the requested slump retention for more than 90 minutes during the hot seasons.
- The standard rules of good concreting practice, concerning production as well as placing, are to be followed. Refer to relevant standards, Fresh concrete must be cured properly.
- BETONAC® 450-SR cannot be used in combination with naphthalene base water reducing agent. If it is used in combination with other kinds of admixtures, it should be confirmed in advance by experiment.
- When BETONAC® 450-SR added separately to the freshly mixed concrete, further mixing should take place for at least one minute per cubic meter.
- For self-compacting concrete, suitable mix design must be considered before application, suitability tests must be performed

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.