

BETONAC[®]-BVF 2.2

HIGH RANGE WATER REDUCING SUPER PLASTICISER CONCRETE ADMIXTURE

Product Description

BETONAC[®]-BVF 2.2 is a super plasticiser for use as a concrete admixture in all types of construction work. It is based on modified Naphthalene Sulfonate and Melamine condensate. When added to concrete mixes it acts as a powerful dispersing agent for the cement particles, which would otherwise tend to agglomerate. This effect, which is more powerful than conventional plasticizers, may be used either to improve workability to produce "flowing concrete" or to increase strength by enabling the water content to be substantially reduced.

BETONAC[®]-BVF 2.2 is available with retardation for Hot Seasons concreting and without retardation for Cold Seasons concreting.

Uses

BETONAC[®]-BVF 2.2 is ideal for use in pre-cast, pre-stressed, bridge deck and any concrete where it is desired to keep the water / cement ratio to the minimum and improve quality to achieve a degree of workability necessary to provide easy placement.

Advantages

- **Speed construction** - increased workability speeds handling, filling of formwork and placing around congested reinforcement. Labour times reduced to a minimum.
- **Increased strengths** - without increase in cement content or reduction in workability.
- **Improved quality** - reduces shrinkage by lower w/c ratios. Denser, closer textured concrete for improved durability and surface finish. Bleeding and segregation minimized.
- **Easier pumping** - lower pumping pressures prevent clogging and reduce friction in the pipeline.

Standard

BETONAC[®]-BVF 2.2 complies with ASTM C 494 A and F, DIN EN 206-1, 3.1,10.

BETONAC[®]-BVF 2.2 with retardation (used for hot seasons) complies with ASTM C 494 A, D, and G.

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

Technical Data

Setting time: Negligible effect at normal dosage rates

Air entrainment: Does not entrain air

Calcium Chloride: Nil

Packaging: BETONAC[®]-BVF 2.2 is available in 1100 kg IBC's or in drums of 220 kg.

Storage/Shelf life: Minimum 2 years, if stored cool and not exposed to direct Sunbeam.

Physical Performance

Workability

The addition of BETONAC®-BVF 2.2 without reduction in the water content and with only minor mix re-design, produces "collapsed slump concrete" which will flow to fill formwork completely and produce denser hardened concrete without decrease in compressive strengths. The flowing concrete properties last for 45 - 60 minutes, after which time the concrete behaves as it would without addition.

Compressive Strength/Density

Substantial reduction in the water / cement ratio results in early compressive strength increased up to 100% while maintaining original workability. An obvious advantage for pre-cast / pre-stressed concrete where Calcium Chloride for acceleration purposes is unacceptable.

Bleeding/Segregation:

Despite of the high liquid consistency of collapsed slump concrete, little bleeding takes place and the likelihood of aggregate segregation is reduced to a minimum. It should be noted, however, that the pressure developed by the flowing concrete on the formwork is slightly increased.

Reduced Shrinkage Cracking:

Flowing concrete does not have the disadvantages of concrete which has been plasticized by increasing the amount of cement paste or water and the incidence of shrinkage cracking is therefore, reduced. Where the water or cement reducing properties of BETONAC®-BVF 2.2 are used, shrinkage cracking is also greatly reduced.

Durability:

Increased density and uniformity produced by the workability of the plasticized concrete increases durability and resistance to aggressive agents. Research indicates that the long term effects of creep are unaffected and where water reducing properties are used, creep is reduced.

Application

1. Add BETONAC®-BVF 2.2 to the mixer, thoroughly mix and immediately discharge. Avoid delays during placement so that the full benefits are obtained.
2. For ready mix concrete BETONAC®-BVF 2.2 should be added to the mixing drum on site and the concrete is mixed for a minimum of 5 minutes at maximum revolutions before placing.

Dosage

The optimum dosage should be determined by site or laboratory trials with the particular concrete mix, which enables the effects of workability, strength and / or cement reduction to be measured accurately.

As a guide, the rate of addition is generally in the range of:

1. Free flowing concrete (no water reduction): 0.5% to 0.8% of cement weight.
2. For high strength concrete (with water reduction): 0.6% to 1.0% of cement weight.

Trial mixes are recommended.

Effect of overdosing: An overdose in the recommended amount of BETONAC®-BVF 2.2 can result in more set retardation. The ultimate strength and properties of the concrete will not be impaired.

Compatibility

BETONAC®-BVF 2.2 can be used with all types of Portland and slag cement.

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.

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LeycoChem LEYDE Products Range: Concrete Admixtures, Epoxies, Water Proofing Systems, Coatings and Sealants, Cleaning Materials, Roof - Tiling System, Water Stops, Expansion Joints and Bridge Bearings. Furthermore, our **Technical Advisory Service Team** is ready to help whenever needed.