

ADVA® 181N

Neutral set superplasticiser for high strength concrete

Product Description

ADVA® 181N is a high range, water-reducing, superplasticising admixture based on the latest comb polymer technology. It is specially formulated to produce high strength concrete with good slump retention. It contains no added chloride and is formulated to comply with the following chemical admixture specification for concrete: SS320-1987, ASTM C494, Type F; BS5075 Part 3, 1985. One litre weighs approximately $1.09\text{kg} \pm 0.02\text{kg}$.

Dispersion

Unlike conventional superplasticisers, ADVA 181N is a superior dispersing admixture having a marked capacity to disperse the cement agglomerates normally found in a cement-water suspension. This capability results in lower dosages and better control.

Product Advantages

- Specially formulated for high strength concrete with design strengths above 60MPa.
- Highly efficient, producing high slump concrete at very low dosage with no loss in strength, segregation and bleeding.
- Concrete finishes easily without stickiness, tearing or spotty set characteristics.
- It can be added with the concrete mix water for rapid batching.
- Provides a superior combination of long slump life with neutral set.
- Helps construct elements that require some form of temperature control.

Applications

ADVA 181N produces concrete with very high strength while maintaining excellent workability characteristics for high slump, pumpable concrete. It also allows concrete to be produced with very low water-cement ratios with no loss in strength.



Addition Rates

Addition rates of ADVA 181N can vary with type of application. Typically, dosage rates can range from 200 to 2,000mL / 100kg total cementitious material. However, in most superplasticiser applications, 800 to 1,200mL / 100kg of cementitious material will be sufficient. For best results ADVA 181N should be added to the mix water during the batching process. At a given water-cement ratio, the slump required for placement can be controlled by varying the addition rate. It is GCP's recommendation that trials are conducted before hand to determine the optimum dosage range to suit your application. If further assistance is required please consult your local GCP representative.

Compatibility with Other Admixtures

In concrete containing ADVA 181N the use of an air-entraining agent (such as Daravair® or Darex® AEA®) is recommended to provide suitable air void parameters for resistance against freeze-thaw attack. Due to synergistic effects between ADVA 181N and air-entraining agents, the quantity of air-entraining admixture added to concrete containing ADVA 181N may be reduced. Please consult your GCP representative for dosage guidance.

Most water reducers or water-reducing retarders are compatible with ADVA 181N Superplasticiser as long as they are separately added to the concrete. Caution should be exercised when using ADVA 181N together with a retarder, as excessive retardation can occur if the admixture dosages are too high. Pre-testing of the concrete should be performed to optimise dosages and addition sequence of these admixtures. The admixtures should not be in contact with each other before they enter the concrete.

Dispensing Equipment

Please contact your local GCP representative for further information regarding the dispensing equipment for this product.

Packaging & Storage

ADVA 181N is available in bulk and 205L drums. ADVA 181N contains no flammable ingredients. It will begin to freeze at approximately 0°C, but will return to full strength after thawing and thorough agitation. In storage and for proper dispensing, ADVA 181N should be maintained at temperatures above 0°C.

Health and Safety

See ADVA 181N Material Safety Data Sheet or consult GCP Applied Technologies.

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