ADVA® 650

High Range Water Reducer / Superplasticiser with enhanced consistence retention performance

Product Description

ADVA®650 is a high efficiency superplasticising admixture designed to impart extremely high workability to readymixed concrete. Intended for use in a wide range of concrete applications and as well as a superplasticizing effect will also provide extended slump retention properties.

ADVA®650 is particularly beneficial for long or difficult pours. ADVA®650 is based on next generation modified synthetic carbixylated polymers and offers concrete producers the advantages of the last advances in concrete technology.

Product Advantages

- ADVA® 650 is especially suitable for producing high consistence concrete, with excellent rheology and consistence retention properties.
- Using suitable mix designs ADVA® 650 can be used to achieve extended consistence life over normal superplasticizers, even with difficult cements.
- High consistence flowing concrete can be obtained by incorporating ADVA® 650 into a concrete design for S2 consistence and/or low water/cement ratio.
- Minimal impact on setting time.
- Suitable for use in mix designs containing fly ash, ggbs or silica fume.
- ADVA® 650 can be used to achieve high range water reduction, leading to considerable increases in compressive strength; impermeability and durability are correspondingly improved.

Compatibility with cements

ADVA®650 can be used with all types of Cement listed in EN 197/1 including Sulphate Resisting Cements. It is also effective in concretes containing pulverized fuel ash or ground granulated blast furnace slag. For use with special cements we recommend that you consult GCP Applied Technologies.

Addition rates

Range: 500 ml–1300 ml per 100 kg cement (0.5%–1.3%[v/w] by weight of cement).

As with most products of this type, the magnitude of the effect obtained with ADVA®650 is governed by the quantity of product used and the specific nature of the concrete and its constituent materials. It is necessary, therefore, to assess performance under plant conditions using site materials to determine optimum dosage and effect on both plastic and hardened concrete properties, such as cohesiveness, workability retention, set characteristics, early rate of strength gain, ultimate compressive strength and shrinkage when these are of consequence.

For advice and assistance with your trials we would recommend that you consult GCP.

Technical Data

Appearance	Amber/Straw liquid
Specific Gravity	1.060 ± 0.02 kg/liter at 20 °C
Air entrainment	1.0% approx
Chloride content	nil

Method of use

ADVA®650 is supplied ready for use. When producing high workability concrete it should be added in its supplied form with part of the batching water, after the addition of the cementitious component. After the addition of admixture, a further mixing cycle of a least 2 minutes is recommended to enable ADVA®650 to efficiently disperse the mix components.

Compatibility with other admixtures

ADVA®650 is fully compatible with other GCP products normally used in concrete including air entraining agents, accelerators,silica fume admixtures, ECLIPSE™ Shrinkage Reducing Admixture,etc. without impeding their performance.

Each admixture must be added separately. Individually added,each will deliver exactly the results desired. However, the performance of the material may be affected by the presence of other chemicals and we would recommend that GCP be consulted in such circumstances.

Effects of overdosing

The effects of over-dosing ADVA®650 are a function of the degree of over-dose. When producing high workability concrete,over-dosing will increase the level of workability and may induce the onset of segregation. Depending on the extent of the over-dose, an increase in the setting time may also occur, especially in low temperatures and/or when employing sulphate resisting cement or cement replacement materials. Any situation where an overdose is suspected, careful inspection of concrete in its plastic state should be conducted. Particular attentionDispensing to consistency and cohesiveness prior to a decision on the suitability of the concrete for the particular application in question.

Dispensing

It is preferable that liquid admixtures for concrete should be introduced into the mixer by means of automatic dispensing equipment. Such equipment is available from GCP and details will be supplied on request.

Storage

ADVA®650 should preferably be stored protected from frost. If the product does become frozen, it should be carefully mixed after thawing out to restore it to its normal state. Storage life: in manufacturers drums, 12 months from the date of manufacture; bulk: 12 months from the date of delivery.

Packaging

ADVA®650 is supplied in 205 litre, non-returnable drums and 1000 litre totes. Alternatively, bulk deliveries can be arranged.

Technical service

The Technical Department of GCP is available to assist you in the correct use of our products.

Health and Safety

ADVA®650 is formulated from chemicals that present no fire or health hazards. If, however, it is spilt the floor will be made slippery and should be washed down immediately with cold water. For further information see ADVA®650 SDS (Safety Data Sheet), or consult GCP.

GCP Applied Technologies Inc., 2325 Lakeview Parkway, Alpharetta, GA 30009, USA

P. O. Box 5006, Office 2104, 21 Floor, The Exchange Tower, Opp. JW Marriott Marquis Hotel, Business Bay, Dubai – United Arab Emirates

Last Updated: 2022-11-18
gcpat.ae/solutions/products/adva-high-range-water-reducers/adva-650