

ADVA® 650

New generation PCE-based high range water reducer

Product Description

ADVA® 650 is the latest technology in the development of high range water-reducing superplasticising admixtures. It is an innovative, versatile, third generation polycarboxylic ether polymer developed for the premix and pre-cast industries to maximise performance through a wide range of concrete strengths.

ADVA 650 contains no added chlorides and complies with AS 1478.1 – 2000 Type HWR. ADVA 650 contains no TEA.

Dispersion

Unlike conventional superplasticisers, which rely on electrostatic repulsion, ADVA 650 has been formulated on carboxylic ether polymers, which are comprised of lateral chains producing superior cement dispersion. Water is absorbed by the polymer, which then allows controlled cement hydration without rapid slump loss or retardation as with conventional naphthalene superplasticisers.

Product Advantages

- Superior slump retention with no retardation.
- High early strength achievement requiring reduced heat energy for curing.
- High compression strengths at all ages.
- Improved surface finish.
- Reduced vibration for placement in reinforced concrete.
- Easy addition during batching process.

Application

ADVA 650 allows concrete to be produced over a wide range of strengths, at low water-cement ratios with high placement slumps. ADVA 650 can produce high flow concrete for tremie and pump mixes that require extended slump life. ADVA 650 is ideal for use in general pre-cast and pre-cast/pre-stressed applications to produce high early strengths with reduced heat energy required for curing.

Advantages

- ADVA 650 has been developed specifically for concrete with a wide range of strengths eliminating the need for other superplasticisers for specific applications.



- ADVA 650 produces very high slump concrete at low water-cement ratios without segregation and loss of strength.
- It can be added at the batch plant during the batching process eliminating the need for on-site addition.
- It has superior slump retention without retardation.
- Reduction of steam or heat energy curing to achieve high early strengths.
- Requires less vibration for ease of placement in reinforced concrete.
- Improves surface finish and off-form finishes.
- ADVA 650 is an extremely versatile superplasticiser that has a wide range of applications with superior results.



Compatibility

It is not recommended that ADVA 650 be used with Darex® AEA® or Darex LS AEA unless in specific circumstances where trials are carried out prior to use. ADVA 650 is compatible with Portland cements including fly ash, blast furnace slag silica fume and limestone blends. ADVA 650 can be used with V-MAR® 3 to produce high quality water-tolerant self-consolidating type concretes. It is also compatible with most of the range of concrete admixtures from GCP Applied Technologies. However admixtures containing melamine or naphthalene sulphonates should be avoided. All admixtures should be added to the mix separately and not premixed with other admixtures prior to addition. Please consult your local GCP representative for recommendations on compatible admixtures.

Addition Rates

Addition rates of ADVA 650 can vary depending on the application, however a typical dose range would be between 400 and 1,000mL / kgs total cementitious materials. Higher dose rates can be considered for advanced performance.

For best results ADVA 650 should be added to the mix water during the batching process. At a given water-cement ratio, the slump can be controlled by varying the addition rates. It is recommended that trials are conducted beforehand to determine the optimum dose range to suit your application. If further assistance is required please consult your local GCP representative.

Packaging & Storage

ADVA 650 is available in 1,000L totes and 205L drums. Shelf life is 12 months.

Dispensing Equipment

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

Health and Safety

See ADVA 650 Material Safety Data Sheet or consult GCP Applied Technologies.

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