CRETE VMA

TECHNICAL DATA SHEET

VISCOSITY MODIFYING ADMIXTURE (VMA) FOR CONCRETE AND MORTAR

Description

CRETE VMA is an organic compound based liquid viscosity-modifying admixture (VMA) for concrete and mortar, which improves viscosity by reducing friction between the internal particles of concrete/mortar mix and allow them to flow freely and it also controls the bleeding / segregation characteristics of mix.
Thus CRETE VMA helps to produce Self-compacting concrete and High flow concrete even in the presence of dense reinforcement.

Uses

- Self-Compacting and High flow concrete
- Concrete containing gap-graded aggregates
- Concrete with greatly varying fines content,
- Lean concrete mixtures
- Concrete containing manufactured sand

Advantages

Increases cohesion, plasticity as well as pump ability of the fresh concrete and finishing.

- Improves stability during transport and placing.
- Reduces bleeding and segregation, even with highly fluid mix.
- Reduces wear of placing equipment thus extending its service life.
- Reduced sagging – dimensional stability

Reaction Mechanism

CRETE VMA is a water-soluble organic polymer that increase the viscosity of mixing water and enhance the ability of cement paste to retain its constituents in suspension. Mixture containing VMA exhibits shear-thinning behaviour whereby apparent viscosity decreases with the increase in shear rate.
This behaviour of CRETE VMA

- improves the rheology of the mixes by increasing cohesiveness and eliminating bleeding.
- Makes the mixture less sensitive to variations in sand grading, to the shape and moisture content of the aggregates and to the characteristics of the binders
- Obtains greater flexibility of choice and type of casts because of a low risk of segregation, greater pumping speeds and distances.

Characteristics

Appearance	: Opaque liquid
Relative Density	: 1.02 ± 0.02 at 25^{0}C
pH	: > 6
Chloride ion content	: Nil (As per BS 5075 Part I)

Standard Compliance

CRETE VMA complies with EFNARC - VMA Guidelines 2006

Doses

Optimum dosage of CRETE VMA should be determined by site trials only using the materials and conditions that will be experienced in use.
However, as a guide, a dosage ranges of 0.05 to 0.5% on cementitious material is recommended.
Dosages outside of the recommended range may be required in special cases according to specific job site conditions. In such cases, contact our local representative.

Effects of Under & Overdosing

Under dosages may cause lack of cohesiveness and over dosage may cause reduction of slump or flow of the mix.

Direction for Use

CRETE VMA is a ready-to-use liquid admixture, which should be added to the concrete after all the other components of the mix. This is particularly important in order to obtain maximum efficacy.
For best performance it is advisable to continue mixing until the mix is completely homogeneous.
It is normally used in combination with the other superplasticizer admixtures of the ESTEEMA range in order to guarantee maximum efficacy.
Slump or flow of concrete may reduce after the addition of CRETE VMA, as it increases the viscosity of mixing water and this loss of slump or flow can be improved by addition of few more superplasticiser dose in concrete.
CRETE VMA admixture has little to no effect on concrete setting time, sump retention, air content and compressive strength within the recommended dosage rate.

Technical Support

FIRST CHOICE SPECIALITY CHEMICALS PRIVATE LIMITED provides technical advisory services for on-site assistance and guidance on mix design, optimum dosage evaluation of trials.

Technical Support

CRETE VMA is compatible with other admixtures of FIRST CHOICE SPECIALITY CHEMICALS PRIVATE LIMITED used in the same concrete mix. All admixtures should be added to the concrete separately and must not be premixed together prior to addition. The resultant properties of concrete containing more than one admixture should be assessed by trial mixes.

CRETE VMA

TECHNICAL DATA SHEET

VISCOSITY MODIFYING ADMIXTURE (VMA) FOR CONCRETE AND MORTAR

CRETE VMA is suitable for use with all types of Portland cements, SRC cements and cement replacement materials such as PFA, GGBFS and micro silica.
The use of a combination of admixtures in the same concrete mix and or cement replacements may alter the setting time. Trials should always be conducted to determine such setting times.

Packaging

CRETE VMA is supplied in 20 kg, 200 kg drums.

Storage and Shelf life

CRETE VMA must be stored where temperatures do not drop below +5°C. If product has frozen, thaw at +5°C or above and completely reconstitute using mild mechanical agitation. Do not use pressurized air for agitation. Store under cover, out of direct sunlight and protect from extremes of temperature.
Shelf life is 12 months when stored as above.
Failure to comply with the recommended storage conditions may result in premature deterioration of CRETE VMA.
For specific storage advice consult our local FCSC representative.

Safety Precautions

CRETE VMA does not fall into the hazard classifications. However, it should not be swallowed or allowed to come into contact with the skin and eyes.
Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with the eyes it shall be rinsed immediately with plenty of water and medical advice sought immediately. If swallowed, medical attention shall be sought immediately - Vomiting should not be induced.

Fire

CRETE VMA is supplied in 20 kg, 200 kg drums.

Cleaning of Tools

Clean all tools and application equipment with water immediately

Note

All Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.
Field services where provided, does not constitute supervisory responsibility, for additional information contact our local FIRST CHOICE SPECIALITY CHEMICALS PRIVATE LIMITED representative.

Disclaimer

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labour involved in the application are beyond our control.