

ADMIX HE310

Concrete Superplasticizer based on Modified Polycarboxylic Ether

ADMIX HE310 is a high-performance concrete superplasticizer which is designed for production of high early strength concrete such as precast elements. Also, in low temperature applications where the risk of fresh concrete freezing is a matter, it contains no chloride and meets the requirements of ASTM C-494 Type A, E and Iranian National Standard 2930, as well as other international standards.

This product is compatible with all types of cements but due to variety of cement and aggregate's properties, site tests are always recommended in each project.

Performance of ADMIX HE310 in concrete

Conventional superplasticizers such as those based on sulfonated melamine and naphthalene formaldehyde condensates, at the time of mixing, become absorbed onto the surface of the cement particles. This absorption which takes place at a very early stage in the hydration process increases the negative charge of the cement particle which causes better dispersion of the cement.

ADMIX HE310 is differentiated from conventional superplasticizers in that it is based on polycarboxylic ether with long lateral chains. This greatly improves cement dispersion at the start of the mixing process, in addition the presence of the lateral chains linked to the polymer backbone, generate a steric hindrance which stabilizes the cement particles capacity to separate and disperse. This mechanism provides a workable concrete even at low water cement ratios.

Applications

The excellent dispersion properties of ADMIX HE310 makes it ideal admixture for producing high performance concrete where low water cement ratios are required. This property allows the production of early high strength concrete with minimal voids and therefore optimum density.



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Effect on hardened concretes

Besides stated effects of this admixture on fresh concrete while mixing and casting, it also has significant positive effects on hardened concrete such as increasing ultimate compressive and flexural strengths, higher E-modulus, improving adhesion to reinforcing and stressing steel, better resistance to carbonation, lower permeability, better resistance to aggressive atmospheric conditions, reducing shrinkage and creep and increasing durability.

Properties

Appearance	Free flow liquid
Color	Light brown
Density	1.06 - 1.07 g/cm ³ at 20°C
pH	5 – 6
Chloride content	< 0.1% w/w

Compatibility

This product should not be premixed with any other admixtures unless be approved by White Damavand specialists. In case of requirement of utilizing other admixtures in concrete, it is highly recommended to add them separately. ADMIX HE310 is compatible with concretes containing silica fume, fly ash, or ground granulated blast or slag cement.

Applications method

ADMIX HE310 is a ready to use admixture and should be added to concrete at the time of batching. The best effect would be achieved if the admixture be added to concrete mix after adding 70 to 80 percent of water content. Never add **ADMIX HE310** to dry cement or aggregate. Full mixing is necessary to achieve maximum benefit, so mix the concrete for 60 seconds in high-speed mixer. Probable bleeding phenomenon in concrete is due to weak portion of aggregates and can be improved by adding fillers.

Dosages

Recommended dosage of **ADMIX HE310** is 0.2 to 1.2 percent of cement (cementitious materials) content. Dosages outside this range are permissible subject to trial mixes.



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Packaging

ADMIX HE310 is supplied in 220 kg drums and 1100 kg IBCs. Bulk delivery is possible based on request.

Storage

This product must be stored in original containers at above +5 °C under cover, out of direct sunlight and protect from extremes of temperature. If frozen, gradually thaw and agitate until completely reconstituted.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage condition contact **White Damavand** Technical Services Department.

Safety awareness

ADMIX HE310 does not contain any hazardous substances. For more information about safety, please read product material safety data sheet.

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Quality approval

All materials produced in **White Damavand** are under strict control of QC department and meet the requirements of international standards.

Supplementary data

For additional information, please contact company's specialists.

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