

RENDERCRETE WF 555+ PCE modified with Built-in Rheology Modifiers for SCC / Semi-SCC / Hi-Flow concrete.

ABOUT

WF 555+ is manufactured blending water reducing, slump retaining poly carboxylic ethers along with compatible rheology modifiers to help concrete producers to supply flowable concrete mixes.

WF 555+ is free from any intentionally added chloride. It is compatible with any type of Cement and suitable across many brands of cements.

APPLICATIONS

With conventional PCE admixtures, SCC mixes produced will have higher tendency to bleeding and segregation due to low powder content, gap grading in aggregates etc. WF 555+ addresses these issues well and particularly suits High Flow concretes.

WF 555+ with built-in rheology modifiers is best suited in mixes where monolithic construction of walls and slabs (like Mivan Formwork) is employed. Other applications include High flow / Semi-SCC and SCC mixes.

DOSAGE

WF 555+ may be used between 0.4%-1.2% of cementitious content on a range of mixes. Dosage shall be finalized by conducting trial mix batches using the materials at site to ascertain all required properties of concrete like workability, setting and strength etc.

BENEFITS



Rheology Modification

Built-in rheology modifiers for better stability and mobility of the mix without bleeding and segregation.



Workability Retention

Provides slump retention up to 3hrs with favorable setting times.



Ease in Handling Mixes

Increases the ease in handling in SCC / Semi-SCC / Hi-Flow concrete mixes, while batching, transporting, pumping / placing, vibrating and finishing.

Effect on Other Vitals

Improves:

- Flow of Concrete
- Prestressed concrete
- Early and Ultimate Strengths
- Impermeability
- Young's Modulus (E)
- Resistance to carbonation
- Resistance to Creep
- Resistance to Shrinkage
- Ultimately, Durability



Mix Economics achieved

Keeps the concrete mix costs low despite providing many benefits.

SAFETY

WF 555+ is non-corrosive and safe to use. However, avoid contact with eyes, mouth etc. Wash with plenty of water on contact. If accidentally ingested, seek immediate medical attention.

APPLICATION



Ready to Use

WF 555+ is supplied in liquid form, which shall be dispensed into concrete after dispensing at least 70% of the mix water. It shall not be added to dry cement.



Automatic Dispensing

WF 555+ shall be dispensed with automatic dispensers in batching plant for best results. Proper mixing time of about 40 to 100 seconds is required depending on the water reduction and batching plant employed.

TYPICAL PROPERTIES

Appearance	Brownish Liquid
Relative Density	1.06 ± 0.02 at 25 °C
pH	≥6
Chloride Content	<0.2%

SPECIFICATION CLAUSE

The Retarding-Super Plasticizer shall be RenderCrete WF 555+ based on polycarboxylic ether, conforming to IS 9103. When subjected to IR Spectra, it shall be free from any naphthalene or melamine.

CODAL STIPULATIONS

WF 555+ conforms to IS 9103 as Retarding Super Plasticizer. It also conforms to Type-G admixture as per ASTM C494.

OVER DOSAGE - EFFECTS

A small over dosage of RheoZeal does not adversely affect the performance of the concrete. However, a severe over dosage may result in the following:

- Bleeding and segregation
- Delay in setting of concrete

In case of an over dosage, careful inspection shall be done to understand the suitability of the given concrete for a specified application.

Due allowance in time for setting of concrete and stripping of forms will be necessary in case concrete is poured despite heavy over dosage. Please consult a RenderCrete representative, on an event of over dosage.

PACKAGING

WF 555+ is supplied in 225 Kgs drums, alternately bulk deliveries can be arranged.

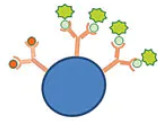
SHELF LIFE & STORAGE

Shelf life of RheoZeal admixtures is 12 months from the date of manufacture, when proper storage conditions are practiced.

WF 555+ shall be stored away from extreme temperatures under shade.

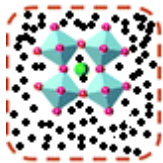
However, improper storage conditions like exposure to Sun etc, will accelerate deterioration and will reduce shelf life. Bulk tanks shall be cleaned once in a year to avoid deterioration due to development of yeasts etc. due to prolonged storage.

WORKING PRINCIPLE



Steric Hindrance & Rheology Modification

WF 555+ is formulated using the advanced PCE modification technology, where the working mechanism is based on Steric Hindrance and Rheology Modification.



When cement gets in contact with water and WF 555+, the main chains and side chains steer away the cement and water particles away from each other causing dispersion and increased flow of concrete. Segregation and bleed due to flow are controlled by Rheology Modifiers.

CHLORIDE - CORROSION

RheoZeal admixtures do not contain any calcium chloride or other intentionally added chlorides. Therefore they do not initiate or propagate corrosion of the steel reinforcement present in the concrete.

Although IS 9103 and other international standards allow 0.2% of chloride in all admixtures, the total chloride content present in RheoZeal admixtures will be far too less than the above mentioned limit.

COMPATIBILITY

WF 555+ is compatible with all types of cements and supplementary cementitious materials like flyash, ggbs, microsilica, alcofine and other mineral admixtures.

WF 555+ is also compatible with most of the other types of chemical admixtures like air-entrainers, PCE based admixtures, accelerators, retarders, corrosion inhibitors etc under RenderCrete RheoZeal series.

Being a PCE based admixture, it is NOT compatible for use in concrete along with any naphthalene or melamine based admixtures.

If two or more admixtures are to be used in same concrete mix for any reason, they have to be tested in trials to establish performance. Each admixture has to be dispensed separately into concrete at all times.

CONCRETE-CURING

Proper curing is mandatory for all concrete to develop strengths and deliver expected performance. Especially in hot and windy climate, early curing the concrete is required to avoid plastic shrinkage.

RenderCrete SeizeKure is a specially formulated admixture for self-curing concrete besides avoiding plastic shrinkage in concrete. RenderCrete representative may be contacted for further details.

The information given is based on data and knowledge considered to be true and accurate and is offered for the user's consideration, investigation and verification. Since the conditions of use are beyond our control, we do not warrant the results to be obtained.

Office: RenderCrete Chem Pvt. Ltd, 59/3RT, PS Nagar, Masab Tank, Hyderabad, India – 04.

+91 95000 69359

mail@rendercrete.com

www.rendercrete.com

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