

THIRD GENERATION HIGH WATER REDUCING ADMIXTURE

PRODUCT

EPSILONE WR 222 is a synthetic polymer complex. It interacts chemically with cement particles in freshly mixed concrete, resulting in improved cement distribution throughout the mix. This reaction transforms the low slump characteristics of low water/cement ratio mix designs into mildly set retarded; highly workable (high slump) mixes without changes to the designed water/cement ratio.

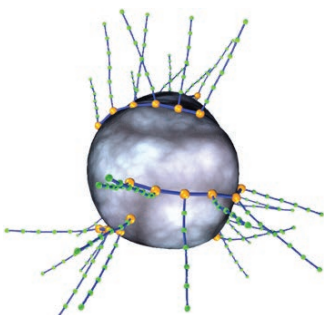
WORKING MECHANISM

Sulphonated naphthalene- or melamine-based superplasticizer is adsorbed onto the surface of cement particles at a very early stage of the cement hydration process.

These polymer chains adsorbed to the surface increase the negative charge on the surface of cement particles, and dispersion is obtained by electrostatic repulsion.

In addition to the previous process, EPSILONE WR 222 is specially designed with MultiCarboxylate Ether with long lateral chains that improve greatly the dispersion of cement particles.

Therefore, in addition to the electrostatic repulsion which occurs at the start of the mixing process, the presence of these lateral chains generates a steric hindrance which greatly enhances the capacity of cement particles to separate and disperse. This property enables the production of concrete with extended workability retention.



Schematic shows cement particle with polymer backbone and the long lateral chains linked to it.

PROPERTIES

Simultaneously gives increased slump without extra mixing water and slump retention enough to place and finish concrete.

- Increases concrete strength at all ages and improves workability and durability.
- Excellent surface appearance in high workability
- Ease of placing and compaction without segregation
- Reduced risk of cracking
- Helps in achieving good early strength

SCOPE OF USE

EPSILONE WR 222 is recommended for all areas of use of high-performance concrete in the ready-mix industry:

- Concrete mixtures containing silica fume, GGBS, or PFA
- Concrete with high resistance against aggressive media
- Highly durable concrete
- Mass concrete
- Pumped concrete

CHARACTERISTICS

Appearance	Liquid (PAle Yellow)
Specific gravity @ 25°C	1.030 ± 0.02
Chloride content	NIL- BS 5075/EN 934-2

APPLICABLE STANDARDS

ASTM C 494 TypeF & G depending on the dosage and the concrete mix design

BS EN 934-2

BS 5075: Part 3

INSTRUCTION FOR USE

EPSILONE WR 222 should be dispensed after all concrete constituents are charged in the central mixer, preferably after approximately 60% of mixing water addition.

DOSAGE RATES

Range of dosage rates: from 700 to 2000ml per 100 kg of cementitious content.

Dosage above the recommended values can be employed. Still, the required dosage for a specific job with controlled delay in setting and workability should be determined by in-situ trials

Admixture demand varies with w/b of the concrete,



cement type, pozzolanic materials and ambient temperature.

Trials are to be conducted prior to use in order to determine required performance, including workability retention, setting, and strength development.

EFFECT OF OVERDOSE

Overdose of EPSILONE WR 222 may result in the following:

- Delay of initial setting
- Higher workability
- Impair consistency & cohesion

Dependant upon the level of overdose, concrete mixture details and conditions involved.

COMPATIBILITY

EPSILONE WR 222 can be used in mixtures containing:

- Silica fume
- Fly Ash
- GGBFS
- Pozzolanic Binders

EPSILONE WR 222 is not compatible with naphthalene sulfonate- and melamine sulfonate-based superplasticizers.

Consult SODAMCO's technical dept. for advice.

PACKAGING

EPSILONE WR 222 is supplied in:
1000 liter containers.

STORAGE

EPSILONE WR 222 can be stored up to 1 year from manufacturing date under cover, out of direct sunlight and protected from extreme temperatures.

In case of frost, the product recovers its properties after progressive thawing and homogenizing by agitation.

HEALTH & SAFETY

In case of contact with skin or eyes, rinse thoroughly with water. If irritation persists, seek medical

attention.

If swallowed, do not induce vomiting and seek medical attention.

QUALITY STATEMENT

All our products are manufactured to comply with our internal QA/QC program and quality management system to ensure consistency and quality

DISCLAIMER

While the company guarantees its products against defective materials, the use and application of these products are made without guarantee since the conditions of their application are beyond its control. It is recommended to verify with the company that the product is suitable for the intended use, and that this Data Sheet version is the latest one. The company may modify it without prior notice. Technical characteristics are listed for guidance only. For more information, please contact the company's office in your location.

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Edition: 11/13-A

