EPSILONE **HP 510**

ADMIXTURES & CONCRETE RELATED PRODUCTS

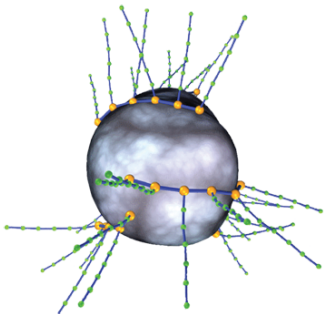
HIGH PERFORMANCE CONCRETE HYPERPLASTICIZER EXTENDED SLUMP RETENTION

PRODUCT

EPSILONE HP 510 is a highly effective superplasticizer based on modified synthetic carboxylated polymers specifically designed to produce ready-mix concrete with low water-to- binder ratio (w/b) and excellent workability. It can help the ready-mixed concrete industry, where more than normal slump retention and durability are required. The ability to work over a wide range of w/b, including low w/b, and still obtain extended slump retention allows for the manufacturing of high-quality concrete.

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 HP 510 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

- High water reducing
- Increased ultimate compressive strength
- Increased flexural strength
- Increased durability
- Superior slump retention. Ease of delivery to point of placement
- High workability-ease of placing and compaction without segregation
- Good adhesion - ease of pumping. No bleeding
- Good workability - excellent surface appearance
- Minimal bleed water - excellent concrete quality
- High elastic modulus and high strength - superior load bearing capacity
- Provides concrete with self-consolidating properties

SCOPE OF USE

EPSILONE HP 510 is recommended for all areas of use of high-performance concrete in the ready-mix industry:

- Super slump retaining concrete with equal or less water content than conventional admixtures
- Concrete mixtures containing silica fume, GGBS, or PFA
- Concrete with high resistance against aggressive media
- Long distance transport
- Hot weather concreting
- Highly durable concrete
- Mass concrete
- Pumped concrete
- High strength concrete
- Pervious Concrete
- Sustainable Concrete
- Self compacting concrete.
- Works with a low water to cement ratio.

CHARACTERISTICS

Appearance	Liquid (Light brown)
Specific gravity	1.11 ± 0.03
Chloride content	NIL– BS 5075/EN 934-2

STANDARDS

ASTM C 494 Type D & G
ASTM C1017 Type I & II
BS EN 934-2
BS 5075: Part 3

INSTRUCTION FOR USE

EPSILONE HP 510 should be dispensed after all concrete constituents are charged in the central mixer, preferably after approximately 60% of mixing water addition.

EPSILONE HP 510

DOSAGE RATES
Range of dosage rates: from 400 to 1500 ml per 100kg of cementitious content.

Dosage above the recommended values can be employed up to 2200 ml/100 kg of cementitious content. Still, the required dosage for a specific job with controlled delay in setting and workability should be determined by in-situ trials.

EFFECT OF OVERDOSE
Overdose of EPSILONE HP 510 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 HP 510 can be used in mixtures containing:
- Silica fume
- Fly Ash
- GGBFS
- Pozzolanic Binders

EPSILONE HP 510 is not compatible with naphthalene sulfonate- and melamine sulfonate-based superplasticizers.

PACKAGING
EPSILONE HP 510 is supplied in:
1000 liter containers.

STORAGE
EPSILONE HP 510 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 msystem 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.

NOTE
The information included on this Technical Data Sheet is the sole property of SODAMCO Holding. The unauthorized disclosure, use, dissemination or copying (either whole or partial) of this data sheet or any information it contains, is prohibited and subject to legal pursuit.

Edition: 04/15-A

SODAMCO Holding Tayar Center Bloc B 1st flr. De Gaulle str. P.O.Box 55-44 Sin el Fil Beirut Lebanon
T +961 1 510863/4 M +961 3 380748 F +961 1 510862 sodamco@sodamco.com www.sodamco-weber.com

Lebanon . UAE . Syria . Qatar . KSA . Jordan . Kuwait . Oman