

SP1

Superplasticiser for the production of high workability concrete

Product Description

SP1 is a liquid superplasticiser for concrete and cement-based mixtures. SP1 is formulated from carefully selected raw materials and is manufactured under controlled conditions to give a consistent product. It is based on the soluble salt of a polymeric sulphonate. SP1 complies with the requirements of ASTM C 494 Type A & F.

A litre weighs approximately $1.23\text{kg} \pm 0.03\text{kg}$.

Dispersion

SP1 is an extremely powerful deflocculating agent and operates by dispersing cement into its primary particles, which dramatically increases the flow characteristics of the cement paste.

It is particularly useful for imparting extreme workability to concrete mixes so that large or difficult pours can be made with little or no vibration. In addition, it can be utilised to effect large water reductions in concrete of normal workability to achieve higher early and subsequent strengths. Low shrinkage grouts can also be obtained by effecting water reductions without decreasing flow characteristics.

Product Advantages

- SP1 will produce fluid concrete (180 to 200mm slump) at the same water-cement ratio of 0 to 30mm slump untreated concrete.
- This spectacular workability improvement implies many advantages in precast, ready-mixed and special concretes:
- Exceptional compressive and flexural strengths are obtainable with high slump (fluid) concretes.
- High slump concrete can be produced with very limited or no bleeding while segregation is virtually eliminated.
- SP1 reduces and almost eliminates the vibration work necessary for concrete compaction, saving time and money.
- SP1 makes it possible to pump concrete mixes with low water-cement ratios and moderate cement contents. SP1 speeds up the rate of slip forming and reduces concrete placement time.

Packaging

SP1 is available in bulk or in 205L drums. Protect from freezing. Once frozen, the product should be thawed out slowly and re-mixed thoroughly prior to use. Shelf life is minimum 12 months in manufacturer's containers.

Addition Rates

The addition rates of SP1 can vary from 0.5 to 2.5L / 100kg cementitious materials, depending on job conditions and scope of work. For best results, SP1 should be introduced last after the concrete has been mixed for 20 seconds or longer. Trial mixes are recommended when considering SP1 usage to determine optimum admixture dosage, required percentage of fine aggregate, and setting times.

Method of Use

SP1 is supplied ready for use. It should be added to concrete mixes either during the mixing cycle at the same time as the water or the aggregates or alternatively it should be added in its supplied form to a normal concrete mix a few minutes before the pour is made. In the latter case a mixing cycle of at least 2 minutes should be carried out.

When using flowing concrete, temporary increases in form work pressure will occur and this should be taken into account at the design stage.

Compatibility with Other Admixtures

SP1 is compatible with all portland cement systems and is effective in mixes incorporating PFA, and Blast Furnace Slag. SP1 is compatible in concrete with all water reducers currently available. SP1 is not to be used with polycarboxylate-based admixtures such as ADVA®.

Dispensing Equipment

Please contact your local GCP representative for further information regarding the dispensing equipment for this product.

Health and Safety

See SP1 Material Safety Data Sheet or consult GCP Applied Technologies.

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