

## **EUNICEM SP1 Powder**

Powdered Plasticizer for concrete and cement based grout



### **Product Description**

EUNICEM SP1 Powder is a powdered superplasticizer/water reducing agent for concrete and cement based grouts. It is particularly useful for imparting extreme workability to cementitious mixes. It can be utilized to effect large water reductions to provide normal workability to achieve higher early and subsequent strengths. Low shrinkage grouts can also be obtained by effecting water reductions without decreasing flow characteristics. EUNICEM SP1 Powder 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. EUNICEM SP1 Powder 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 and, when formulated, conforms to Type A, D or F materials of ASTM C494 and complies with BS 5075: Part 1: and BS5075 Part III: 1985.

### **Advantages**

- Can be used in dry mix concrete or cement based powders to get better workability or lower w/c ratio.
- Substantial increase in workability can be obtained by a direct addition of EUNICEM SP1 Powder to a mix having a slump in the range 50 – 100mm. The magnitude of this increase is often such that the concrete becomes self-compacting and no vibration is required to achieve a dense and void-free concrete.
- High strength mixes can be produced at normal workability and cement contents, but at reduced Water / cement ratios. The resultant mix is of a dense and impermeable nature.
- At the recommended dosage, the effect on

setting time is slight and will not normally affect stripping times of formwork.

- Concretes containing EUNICEM SP1 Powder has been extensively evaluated and have shown no disadvantage in terms of durability or detrimental effects.
- EUNICEM SP1 Powder is particularly valuable in cement based grouts where a reduction in the water / cement ratio in the region of 20 - 25% can be obtained, which is reflected in higher strengths and reduced bleeding.

### **Typical Properties**

- Appearance: powder
- Bulk Density: Approx.  $0.6 \pm 0.1 \text{ g/cm}^3$  at 20°C
- Air Entrainment: Nil
- Chloride Content: Nil
- Storage Life in Manufacturer's Bags: Indefinite

### **Compatibility**

With cements: EUNICEM SP1 Powder can be used with all types of Portland cement. For use with special cements we recommend that you consult our technical department.

With other admixtures: EUNICEM SP1 Powder should not be premixed with other admixtures. The performance of the material may be affected by the presence of other chemicals and we would recommend that European Concrete Additives can be consulted in such circumstances.

### **Method of Use**

EUNICEM SP1 Powder is supplied ready for use. It should be added to cementitious mixes during the dry or wet mixing cycle.

### **Addition Rates Range**

0.1% - 1.20% by weight of cement. The performance of EUNICEM SP1 Powder is best assessed after preliminary tests on site using the actual

concrete under consideration to determine the optimum dosage and effect on properties, such as ultimate compressive strength, early rate of gain of strength and shrinkage, when these are of consequence. As a guide to these trials an addition rate of between 0.10 - 1.20% by weight of cement EUNICEM SP1 Powder is recommended. For advice and assistance with your trial we would recommend that you consult our technical department.

### **Effects of Overdosing**

Serious over-dosing of EUNICEM SP1 Powder generally produces a concrete mix of even greater workability and set retardation but no increase in air entrainment. In cold weather this retardation will be further increased. If intentional or accidental increases above the recommended addition rate are employed, care must be taken to allow for the effect on the stripping time of formwork. In such cases, however, provided the concrete is properly cured, the ultimate strength will generally be higher than for normal concrete.

### **Dispensing**

It is preferable to disperse EUNICEM SP1 Powder into the dry ingredients during the mixing cycle. Introduction at the cement addition is found to be suitable.

### **Health and Safety**

For further information see the EUNICEM SP1 Powder Material Safety Data Sheet, or consult European Concrete Additives.

### **Packaging**

EUNICEM SP1 Powder is supplied in 25 kg bags.

### **Storage**

EUNICEM SP1 Powder should preferably be stored in dry cool places. It is slightly hygroscopic. It is, therefore, advisable to protect it from humidity.

### **Technical Service**

The Technical Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

### **Contact Information**

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