

# EUNICEM 420

Concrete superplasticizer



### Description

EUNICEM 420 is a high performance superplasticizer designed specifically to impart high workability to all types of concrete, including microsilica concrete, while possessing excellent slump retention properties. It can also be used in normal concrete mix designs where high workability is required for long periods, to aid placement, such as piling concrete, congested areas of reinforcement, etc.

EUNICEM 420 is based on selected raw materials and is manufactured under controlled conditions to give a consistent product. It is formulated from specially designed polymeric sulphonate materials and naturally derived products. Depending on the addition rate, EUNICEM 420 will conform to Type A, F, D and G materials of ASTM designation C494 and complies with BS 5075 Part I and III.

### Advantages

- Effective over a wide range of cement contents and w/c ratios. Aids concrete cohesion.
- Imparts excellent slump retention over prolonged periods of time.
- Allows greater time for placement and compaction, especially in concrete containing microsilica.
- Can be used to achieve large water reductions in concrete, to obtain high early and ultimate compressive strength gains, as required in precast/prestressed concretes.

### Typical Properties

Appearance: Dark brown liquid

Specific Gravity:  $1.21 \pm 0.02$  at  $20^{\circ}\text{C}$

Air Entrainment: Air content of concrete mixes will normally be increased by between 1% - 2%.

Chloride content: Nil

Storage Life in Manufacturer's Drums: 12 months from date of manufacture.

Storage Life Bulk Storage: 12 months from date of delivery.

### Compatibility

With cements: EUNICEM 420 can be used with all types of Portland, Pozzolanic and Blast Furnace cements. It can also be used in concrete mixes containing fly ash, and/or microsilica.

With other admixtures: EUNICEM 420 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 all admixtures be added separately to the mix.

### Method of Use

EUNICEM 420 is supplied ready for use. It should be added to the concrete mixing process at the same time as the water. It should not be added directly to the cement. For mixes containing microsilica, EUNICEM 420 should be incorporated into the mix after the addition of the microsilica, at the same time as the mix water. EUNICEM 420 should not be added to slurrified microsilica before addition to the mix.

### Addition Rates Range

0.4% - 3.5% by weight of cement. The performance of EUNICEM 420 is best assessed after preliminary trials in the laboratory or on site, Using the actual mix constituents under consideration, to determine the optimum dosage and effect on concrete properties such as compressive strength, setting times, workability retention, etc. when these are of consequence. As a guide to these trials, an addition rate of 400g - 3500g EUNICEM 420 per 100 kg cement is

recommended. But lower dosage levels may be feasible following trials mixes and depending on w/c ratios.

### **Effects of Overdosing**

Overdosing of EUNICEM 420 will generally produce an increase in workability and a slight increase in air entrainment, which will be accompanied by a delay in the concrete setting time. However, provided the overdosed concrete is cured properly, the ultimate strength will generally be higher than normal concrete. The effects of overdosing with respect to set retardation are increased when sulphate resisting cement is used in the mix.

### **Dispensing**

It is preferable that liquid admixtures for concrete should be introduced into a mixer by means of automatic dispensing equipment details of which are available upon request.

### **Health and Safety**

For further information, see the EUNICEM 420 Material Safety Data Sheet.

### **Packaging**

EUNICEM 420 is supplied in 420 liter returnable containers. Alternatively, bulk deliveries can be arranged.

### **Storage**

EUNICEM 420 requires no special storage facilities.

### **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**

Al-Faiha for Engineering Products  
techsupport@alfaihaengineering.com  
www.alfaihaengineering.com

v01-02-2022