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**CEMENTAID**

*The Way to Better Concrete*

## **Waterproofing and Admixtures**

# **SUPERPLASTET F**

### **Non-Retarding, Superplasticising, Water Reducing & Strength Accelerating Admixture**

**Cementaid SUPERPLASTET F** is highly effective, non-retarding superplasticiser and high range water reducer, which was developed specifically to improve the fresh and hardened properties of concrete. **SUPERPLASTET F** is used to provide flowing, rheoplastic concrete as well as high early and ultimate strengths at low water : cement ratios. As **SUPERPLASTET F** is non-retarding, it is ideally suited to the precast industry and for site addition to achieve flowing workability without additional water. Slump retention of 40 minutes to 1 hour can be achieved, depending on temperature. In the event of slump loss during long delays, **SUPERPLASTET F** can be safely re-dosed as required, to regain flowable, high slump.

#### **HOW SUPERPLASTET F WORKS**

In a normal concrete mix, cement particles tend to agglomerate, trapping mix water which would otherwise be used for lubrication. When **SUPERPLASTET F** is added to the mix, its active component is absorbed onto the cement particles causing electrostatic repulsion and dispersing the cement particles evenly throughout the concrete mix. This liberates previously trapped mix water and promotes uniform, efficient cement hydration. **SUPERPLASTET F** thus greatly increases workability, as well as increasing the rate of strength development. Shrinkage and permeability are reduced, while tensile and compressive strengths, density and durability are increased.

#### **TYPICAL APPLICATIONS**

##### **WALLS, COLUMNS, BEAMS AND PRE-STRESSED UNITS:**

The much higher early strength of the **SUPERPLASTET F** concrete helps to speed-up construction and allows prestressing schedules can easily be met. Extremely flowable and workable concrete with **SUPERPLASTET F** can be used in thin-walled or heavily reinforced sections to maintain high design strength and quality with a low water : cement ratio. High strength **SUPERPLASTET F** concrete can satisfy most requirements of workability and strength.

##### **PUMPED CONCRETE:**

**SUPERPLASTET F** improves the flow properties of pumped concrete. Blockages are rare owing to the reduced tendency to segregate or bleed. **SUPERPLASTET F** flowing concrete greatly reduces the pump pressure,

increasing capacity of the pump in terms of both lift and distance. The increased pump capacity can be fully utilised as the flowing concrete can be placed easily and quickly to reduce overall construction time and labour costs.

#### **FOUNDATIONS, BASES, FLOORS & ELEVATED SLABS:**

Flowing concrete containing **SUPERPLASTET F** simplifies placing and can bring savings of between 30% and 90% in wage costs if effectively used. Uniform good compaction of the concrete is assured and strengths achieved with certainty.

#### **LOW-HEAT CONCRETE: PILE CAPS, RAFT SLABS, LARGE DIAMETER PILES AND COLUMNS:**

Cement reduction facilitated by the use of **SUPERPLASTET F** results in a reduction in the heat of hydration and accordingly in the difference in temperature between the interior and exterior of the concrete section. By reducing this temperature differential **SUPERPLASTET F** reduces the chance of thermal cracking while maintaining the desired strength.

#### **PRECAST CONCRETE:**

**SUPERPLASTET F** is ideally suited for precast concrete providing precasters with:

- rapid hardening times, faster formwork turn around and reduced capital outlay for formwork and compaction equipment
- lower heating costs, more efficient accelerated curing
- high rates of placing and less vibration
- reduced cracking by avoiding the use of excessive cement contents to achieve specified strengths
- improved off-form finish

#### **DURABLE CONCRETE:**

The durability of concrete is largely dependent on its permeability and sorptivity. **SUPERPLASTET F** can be used to improve\* both of these durability properties by reducing the water/cement ratio and thus the porosity.

#### **ARCHITECTURAL OFF-FORM CONCRETE:**

**SUPERPLASTET F** retains excellent fluidity without segregation or excessive bleed and the fines are particularly well distributed. These two factors mean that **SUPERPLASTET F** concrete can be used for Class 1 fair-face or architectural concrete with minimal surface defects.

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