

# KUT PLAST PCE 254

## High Performance Concrete Superplasticiser Based On Polycarboxylate Technology

ADM-48-0912



### DESCRIPTION

**KUT PLAST PCE 254** has been primarily developed for applications in the ready mixed and precast concrete industries where the highest durability and performance is required.

Super plasticizing action of **KUT PLAST PCE 254** is different than conventional super plasticizers based on sulfonated melamine and naphthalene formaldehyde condensate, which create electrostatic repulsion of particles. **KUT PLAST PCE 254** initially create the same electrostatic repulsion and further stabilizes the mixes due to static repulsion of long lateral chains linked to the polymer backbone.

### USES

The excellent dispersion properties of **KUT PLAST PCE 254** make it the ideal admixture for precast and ready mixed concrete where low water cement ratios are required. This property allows the production of very high early and high ultimate strength concrete with minimal voids and therefore optimum density. Due to the strength development characteristics the elimination or reduction of steam curing in precast works be considered as an economical option.

### ADVANTAGES

#### During mixing and placement

- High workability without segregation or bleeding
- Self compacting concrete. Generally no vibration required.
- Can be placed and compacted in congested reinforcement
- Reduced labour requirement
- Improved surface finish
- Chloride free

### Effect on hardened concrete properties

- Increased early and ultimate compressive strengths
- Increased flexural strength
- Higher E modulus
- Improved adhesion to reinforcing and stressing steel
- Better resistance to carbonation
- Lower permeability
- Better resistance to aggressive atmospheric conditions
- Reduced shrinkage and creep
- Increased durability

### STANDARDS

**KUT PLAST PCE 254** is free from chlorides and complies with:

**ASTM C494 Types B,D and G**

**ASTM C 1017 Type II Plasticizing and retarding**

### TYPICAL PROPERTIES

**Calcium chloride Content:** Nil

**Specific gravity:** 1.12 – 1.14 @ 20°C

**Air entrainment:** Less than 1% additional air is entrained.

**Setting time:** 1 - 4 hours retardation depending on dosage and climatic conditions.

**Chloride content:** Nil to BS 5075



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## COMPATIBILITY

**KUT PLAST PCE 254** is compatible with all Portland cements that meet recognized international standards.

**KUT PLAST PCE 254** must not be used in conjunction with any other admixture unless prior approval is received from the **ASPEC** Technical Department.

**KUT PLAST PCE 254** is suitable for mixes containing:

- Microsilica
- Pulverised fuel ash
- Ground granulated blast furnace slag cement

## INSTRUCTIONS FOR USE

**KUT PLAST PCE 254** is a ready to use admixture that is added to the concrete at the time of batching.

The maximum effect is achieved when the **KUT PLAST PCE 254** is added after the addition of 50 % to 70 % of the water.

**KUT PLAST PCE 254** must not be added to the dry materials.

Thorough mixing is essential and a minimum mixing cycle, after the addition of the **KUT PLAST PCE 254**, of 60 seconds for forced action mixers is recommended.

Dosage: The normal dosage for **KUT PLAST PCE 254** is between 0.5 and 2.0 litres per 100 kg of cement (cementitious material).

Dosages outside this range are permissible subject to trial mixes.

**Technical Support:** **ASPEC** provides technical support service on mix design, admixture selection, evaluation of trials, dispensing equipment etc. Please contact the Technical Department in these cases.

**Curing:** As with all structural concrete, normal curing methods apply.

**Cleaning:** Spillages of **KUT PLAST PCE 254** can be removed with water.

## PACKAGING

**KUT PLAST PCE 254** is available in 210 litre drums and in bulk tanks upon request

**Storage:** **KUT PLAST PCE 254** should be protected from extremes of temperature. Should the material become frozen, it must be completely thawed and thoroughly mixed before use. **KUT PLAST PCE 254** has a minimum shelf life of 12 months provided temperature is kept within the range 5°C to 30°C.

## PRECAUTIONS

### HEALTH & SAFETY

**KUT PLAST PCE 254** is non-toxic. Any splashes to the skin should be washed immediately with water. Splashes to the eyes should be washed immediately with water and medical advice should be sought.

**Fire:** **KUT PLAST PCE 254** is non flammable.

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