



KUT PLAST NA/EDS

Superplasticising, Water Reducing, Strength Accelerating Admixture

ADM – 04 - 0104

DESCRIPTION

KUT PLAST NA/EDS is a synthetic plasticiser based on sulphonated naphthalene. It is a brown liquid instantly dispersible in water.

KUT PLAST NA/EDS will give flowing concrete or high strength concrete with high early strength development and impermeability depending on dosage and water reduction percentage.

USES

KUT PLAST NA/EDS can produce self-levelling concrete practically eliminating the need for vibration during placing.

KUT PLAST NA/EDS can provide 25% reduction in water, reduced permeability and high early strength.

ADVANTAGES

Increased Workability : Reduces placing time, labour and equipment.

High Strength Concrete : Water reduction gives higher strengths without cement increase or workability loss.

High Early Strength : Water reduction can double the early age strength development.

Reduced Permeability : Reduction of Water reduces porosity giving improved water impermeability

Surface Finish : Better dispersion of cement particles and increased cohesion minimises segregation and bleeding and gives improved surface finish.

Improved Pumpability : Line friction is reduced by increasing workability and cohesion.

Chloride Free : Safe in reinforced concrete.

STANDARDS

KUT PLAST NA/EDS complies with **BS 5075 -1982** and **ASTM C-494 Type F**.

PROPERTIES

Calcium chloride content : Nil.

Specific Gravity : 1.18 at 20⁰ C.

Air Entrainment : Less than 1% additional air is entrained.

Setting Time : Less than 1 hour retardation at normal dosage.

Cement Compatibility : Compatible with sulphate resisting and other Portland cements and high alumina cements.

Durability : Water reduction gives increase in density and water impermeability which improves durability.

Compressive Strength : Reduction in water/cement ratio will result in upto 75% increase in early age compressive strength. See table 2 for typical trial mix results.

Table 1: Effect of **KUT PLAST NA/EDS** on workability

Portland cement	330 kg/m ³
Sand (washed)	640 kg/m ³
20 mm gravel	1180 kg/m ³
Ambient temperature	20 ⁰ C

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Dosage Litres /50kg Cement	Total W/C Ratio	Slump (mm)	Flow Table (cm)	Comp. Strength N/mm ²			Density (kg/M ³)
				1Day	7Days	28 Days	
Nil	0.58	58	-	16.5	38.0	49.0	2355
0.25	0.58	110	40	16.5	37.5	48.0	2345
0.50	0.58	collapse	60	17.0	39.0	50.0	2345

Table 2: Effect of **KUT PLAST NA/EDS** on compressive strength at a slump of 45mm

Ordinary Portland cement	330 kg/m ³
Sand (washed)	520 kg/m ³
20 – 5 mm gravel	1300 kg/m ³
Ambient temperature	20 ⁰ C

Dosage Litres /50kg Cement	Total W/C Ratio	Water Red'n %	Air Content %	Comp. Strength N/mm ²			Density (kg/M ³)
				1Day	7Days	28 Days	
Nil	0.60	-	1.5	20	40	48	2365
0.70	0.50	17	1.9	30	50	60	2385
1.00	0.45	26	2.2	35	64	70	2415



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INSTRUCTION FOR USE

Dosage : The optimum dosage for **KUT PLAST NA/EDS** should be determined by site trials with the particular concrete mix under prevailing ambient condition.

As a guide the dosage is normally :

0.30-0.50 litres/50 kg cement for flowing concrete and 0.70-1.00 litre/50 kg cement for high strength concrete. Dosage can be from 0.15 litres/50 kg up to 1.5 litres/50 kg, depending on the requirements of the concrete involved.

Overdosing : An over dose of up to 2 litres/50 kg cement of **KUT PLAST NA/EDS** will result in very high workability, some retardation and possible segregation. However, the ultimate compressive strength of the concrete will not be impaired if cured properly

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. Use **KUT CURE** type curing membrane where it is specified to use a curing membrane.

Cleaning : Spillages of **KUT PLAST NA/EDS** can be removed with water.

PACKAGING

KUT PLAST NA/EDS is supplied in 20 and 210 litres drums.

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

PRECAUTIONS

HEALTH AND SAFETY

KUT PLAST NA/EDS 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 NA/EDS** is non-flammable.

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