

KUT PLAST EPG

Plasticised Expanding Grout Admixture

ADM-20-0412



DESCRIPTION

KUT PLAST EPG is supplied as a powder admixture. The material is a combination of a plasticising agent and a gas producing expansion medium. The plasticising agent allows the use of a reduced water / cement ratio with consequent increased strengths and durability. The expansive medium counteracts the natural settlement and plastic shrinkage of the grout and adds stability and cohesion. Sufficient restrained expansion is developed to ensure a high degree of interfacial contact. For Non - Shrink concrete mixes, the plasticization effect of **KUT PLAST EPG** is minimal, hence suitable superplasticiser, water reducer or retarder should be used when appropriate.

USES

KUT PLAST EPG is an admixture for cementitious grouts where a reduced water / cement ratio and positive expansion is required. Applications include bed grouting, duct grouting, non-shrink concrete infilling & jointing.

ADVANTAGES

- Gaseous expansion system compensates for plastic shrinkage and settlement in properly designed cementitious grout.
- Reduced water / cement ratio in the grout mix ensures low permeability and long term durability in service.
- Gives high grout fluidity with low water / cement ratio, thus making placement or injection of the grout easy.
- No metallic iron content to corrode and cause staining and deterioration due to rust expansion in the grout.
- Composition allows high early strength development in grouts, without the use of chlorides.

STANDARDS

KUT PLAST EPG is a suitable pre-stressing grout admixture when complying with **BS 8110 Part 1**, 1985, Section 8.9.4.6.

ASTM C 939 & ASTM C 940

TECHNICAL DATA

- **Chloride Content:** Nil to BS 5075
- **Compressive Strength:** **KUT PLAST EPG** allows reduction of the water / cement ratio of cementitious grouts whilst maintaining flow properties. This gives improvement in strength and long term durability when cured under restraint.
- **Setting Times:** **KUT PLAST EPG** does not significantly affect the setting times of cement based grouts.
- **Expansion Characteristics:** The controlled positive expansion in unset grouts incorporating **KUT PLAST EPG** overcomes plastic settlement when measured in accordance with ASTM C940 An unrestrained expansion of up to 2 % is typical.
- **Time For Expansion:** 15 minutes to 2 hours. Temperatures above 20° C may slightly reduce these times.
- **Compatibility:** **KUT PLAST EPG** is compatible with all types of portland cements. **KUT PLAST EPG** may be used in mixes containing certain other **ASPEC admixtures**. Consult **ASPEC** for further information.

INSTRUCTIONS FOR USE

Mixing

Grouts

For best results a mechanically powered grout mixer must be used. For quantities up to 50 kg. a slow speed drill fitted with a high shear paddle is suitable. Larger quantities will require a high shear vane mixer.

It is essential that machine mixing capacity and labour availability is adequate to enable the grouting operation to be carried out continuously. This may require the use of a holding tank with provision for gentle agitation to maintain fluidity. The selected water content should be accurately measured into the mixer. Slowly add cement (and sand if required) and **KUT PLAST EPG**. Mix continuously for 3 to 5 minutes depends on mixer, making sure that a smooth even consistency is obtained.



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Concrete: For dry mixing process add **KUT PLAST EPG** with cement. For wet mixing process, add **KUT PLAST EPG** prior to placement and mix for 3 to 5 minutes before casting.

APPLICATION

Areas to be grouted should be prepared to ensure substrates are clean, sound and then pre-wetted. The unrestrained surface area of the grout must be kept to a minimum. Place the grout within 20 minutes of mixing to gain the full benefit of the expansion process. Adopt usual placing or pumping procedures ensuring a continuous operation.

Typical properties & Dosage (@ 25±2°C)

Properties	Table 1	Table 2
Cement (kg)	100	100
Water(Ltr)	36 - 38	34 - 36
Dosage on cement(%)	0.5	1.0
Properties		
Wet density (kg/M ³)	2000@26°C	2000@26°C
Flow(Initial) Flow cone method (ASTM C 939)	14-20 sec	14-20 sec
Expansion(%) @ 2 hrs (ASTM C940)	< 2.0 %	< 2.0 %
Bleed water(%) @ 1hrs (ASTM C 940)	< 1.0	< 1.0
Setting Time @ 25°C		
Initial set	4 hr 30 min	4 hr 00 min
Final set	5 hr 30 min	5 hr 00 min
Compressive Strength(N/mm ²)		
28 day	> 40	> 45

Note: Properties mentioned in the tabular column is based on lab trials at controlled condition and only for guidance. Based on customer/site requirement water/cement ratio and **KUT PLAST EPG Dosage should be adjusted.*

Effects of Overdosing: Drastic overdosing of **KUT PLAST EPG** increases expansion and may cause frothing.

Curing: On completion of the grouting operation, any exposed areas which are not to be cut back should be thoroughly cured by means of water application. **KUT CURE** curing compounds or wet hessian.

Cleaning: Grouts with **KUT PLAST EPG** should be removed from tools and equipment with clean water immediately after use. Remove cured material mechanically with **ASPEC's KUT ACID ETCH**.

LIMITATIONS

KUT PLAST EPG is incompatible with high alumina cement.

PACKAGING

KUT PLAST EPG is supplied in packs containing 24 x 250 g units and in 5 kg. and 25 kg. bags.

YIELD

Approximately 68 litres of highly flowable grout are obtained by mixing 100 kg of cement, 0.5 to 1kg of **KUT PLAST EPG** and 36 litres of water

CAUTION

When using 5 kg. & 25 kg. bags, the proportioning for each mix has to be done by using a weighing balance, and the balance material in the bag should be closed tightly after use as the material is highly hygroscopic.

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