



# KUT EPOXYANCHOR

## Epoxy Resin Based Anchoring Grouts

GAP – 04 – 0104

### DESCRIPTION

**KUT EPOXYANCHOR** is available in two grades, "NS" and "P". Both grades are three component products consisting of Base, Hardener and Filler supplied in pre-measured quantities ready for mixing and use. After hardening, the anchorages give consistent reproducible values. Both grades of **KUT EPOXYANCHOR** can be used for all anchoring applications, having proper dimensions of hole diameters and bolt sizes and type.

**KUT EPOXYANCHOR "NS"** is "non-sag" material and is used in overhead or horizontal holes. The thixotropic nature reduces flow of grout out of the hole.

**KUT EPOXYANCHOR "P"** is a "Pourable" material and is used in holes made on the horizontal surfaces.

### USES

High strength corrosion resistant anchoring of bolts and bars from 12-51 mm diameter into concrete, rock, masonry or brickwork where high speed of installation and early application of load is required.

Permanent installation of reinforcement starter bars, foundation bolts, base plates, balustrading, barriers and safety fences, tracks, tie-back anchors, reinforcement dowelling abutments, ground anchors for towers, cranes, dock sills.

### ADVANTAGES

**Rapid strength gain** : Typically 20 N/mm<sup>2</sup> in 8hrs at 30° C.

**Vibration resistant:**

Excellent typical of epoxy based products.

**Corrosion resistant :**

Unmatched corrosion resistance for products of this type,

**Non-expansive** : This property coupled with minimal (negligible) shrinkage, yields ideal anchorages.

**Thermal creep resistance** : Superior to "Polyester resin grouts". Usually no sign of creep failure in normal ranges experienced with polyester grouts.

### TYPICAL PROPERTIES

Gel Time	: About 45 minutes at 30° C
Min. Time before load	: 12 hours @ 30° C
Compressive Strength	: At 30° C in 2" cubes
	: 12 hours - 30N/mm <sup>2</sup>
	: 24 hours - 75 N/mm <sup>2</sup>
	: 7 days - 90 N/mm <sup>2</sup>
Shear strength	: Excess of 35 N/mm <sup>2</sup>

### CHEMICAL RESISTANCE

Performance of **KUT EPOXYANCHOR** blocks continually immersed at 20° C.

Citric Acid 10%	: Excellent
Tartaric acid 10%	: Excellent
Acetic Acid 5%	: Satisfactory
Nitric Acid 10%	: Good
Hydrochloric acid 25%	: Excellent
Sulphuric acid 10%	: Very good
Sugar solutions	: Very good
Lactic acid	: Very good
Hydrocarbons	: Very good
Phosphoric acid 50%	: Very good
Sodium hydroxide 50%	: Excellent
Diesel fuel/petrol	: Excellent

### TYPICAL LOADS ATTAINED

Concrete Unreinforced 30 N/mm<sup>2</sup>

a. Failure at 28 tonnes in 250 mm deep hole with 32mm deformed rebar in 57mm dia. hole drilled with rotary percussive drill.

b. Failure at 9 tonnes in 250 mm deep hole with 20mm rebar in 38mm dia. hole.

**Minimum Application Temperature** : 5° C

**Application** : Select grade of **KUT EPOXYANCHOR** depending on the position of the holes.



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## HOLE PREPARATION

Optimum performance of **KUT EPOXYANCHOR** grouts require rough sides, dust free and essentially dry holes. Use of rotary percussive drills with air flushing is recommended. Diamond drilled holes should be under-reamed unless necessary safety factors are incorporated. Cast holes should be preferably inverse dovetail configuration. If parallel sided holes are cast, they should be rough enough to provide adequate keying.

**ESTIMATION** : Table giving theoretical volume of **KUT EPOXYANCHOR 'NS'** or **'P'** in cc/100mm bond. Also Indicating commonly required hole diameter for different bolt diameters.

(No allowance for wastage or oversize holes.)

### BAR DIAMETER (mm)

Hole Diameter (mm)	12	16	20	25	32	38	44.5	51
20	21	12						
25	38	29	18					
32	70	61	49	32				
38		94	82	65	33			
45			128	110	79	46		
51				173	141	107	66	
60				234	203	170	128	63
75					362	329	287	222

**BAR PREPARATION** : All bars should be degreased and derusted to ensure proper adhesion.

**MIXING** : A complete pack of Base, Hardener and Filler should be prepared by first mixing Base and Hardener, then gradually adding the Filler component and then mixed for a further two minutes to ensure an even consistency material. The material should be placed in position within the gel time of the grout.

**Note** : Packs have been designed to produce practical and economic volumes of grout. **DO NOT MIX PARTIAL PACK COMPONENTS.**

**INSTALLATION** : The mixed material should be placed steadily into the prepared holes. The anchor bar is then pressed into the hole to the required depth. Slight agitation of the bar will help in achieving a complete bond. The bar should then be left undisturbed in the required position until the resin is set.

**Note**: Air entrapment while placing should be avoided by using suitable placement techniques.

## PERFORMANCE STANDARDS

The applicable Standards for testing of **KUT EPOXYANCHOR** are : **BS 4551 – BS 5080 & BS 2782.**

## PACKAGING & YIELD

**KUT EPOXYANCHOR** Grades **"NS"** and **"P"** are supplied in 6.2kg Packs. Yield 3.1 litres per pack and also supplied in 3.1 kg. Yield 1.55 litres.

## PRECAUTIONS

**Cleaning** : Spillages should be absorbed with sand or earth etc. and disposed in accordance with local regulations. Clean tools and equipment with water solvents immediately after use.

**Storage** : Store In dry conditions upto 20°C. Shelf life 12 months.

## FIRE RESISTANCE

The product is not flammable but will burn in fire.

## HEALTH AND SAFETY

**KUT EPOXY ANCHOR** should not come in contact with skin and eyes or be swallowed. Avoid prolonged inhalation of vapours. Some people are sensitive to epoxy resins, therefore, protective gloves, goggles and barrier creams should be used. Ensure adequate ventilation and if working in enclosed areas, suitable breathing apparatus must be used.

If mixed resin comes in contact with skin, it must be removed before hardening with a resin removing cream, followed by washing with soap and plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately. Do not induce vomiting.

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