



# NanoGrout Anchor

Two component epoxy anchoring grout

## Description

NanoGrout Anchor is a two component epoxy anchoring grout supplied in pre-measured quantities. The material cures quickly to give consistent, high performance anchorages. The two versions of NanoGrout Anchor are available.

Pourable grade use in vertical down holes where the hole is 8 to 40 mm greater in diameter than the bar. Thixotropic grade use in overhead or horizontal holes where the hole is up to 25 mm greater in diameter than the bar. The thixotropic nature of NanoGrout Anchor reduces flow of grout out of the hole.

## Primary Applications

NanoGrout Anchor anchoring grouts are used for anchoring of steel bars into concrete, brickwork, masonry and rock.

### Recommended applications include:

- Installation of starter bars
- Base plate bolts
- MOT Bolts
- Installation of balustrades
- Installation of barriers and safety fences
- Installation of tie bars.

## Advantages

- Low creep characteristics under sustained loading.
- Vibration resistant.
- Non-shrink and hence ensures complete surface contact and bond.
- High compressive, tensile and flexural strengths.
- Fast convenient installation with rapid strength gain.
- Increase flow ability
- Two grades.

## Properties

The following results are typical for the hardened grout at 20°C.

<b>Compressive strength(BS 6319, Part 2: 1983)</b>	57 N/mm <sup>2</sup>	1 day:
	66 N/mm <sup>2</sup>	3 days:
	83 N/mm <sup>2</sup>	7 days:
Tensile strength(BS 6319, Part 7: 1985)	12 N/mm <sup>2</sup>	7 days:
Flexural strength(BS 6319, Part 3: 1990)	26 N/mm <sup>2</sup>	7 days:
Shear Strength : (BS 2782: Pt 2)	36N/mm <sup>2</sup>	7days
<b>Bond strength(ASTM C-882)</b>		
Concrete	4N/mm <sup>2</sup>	
Steel	15N/mm <sup>2</sup>	
Density:	2000 kg/m <sup>3</sup>	
Application time:	20minutes	
Chemical resistance:	Oil, grease, fats, most chemicals, mild acids and alkalis, fresh and sea water:	

## Packaging

2kg & 3kg pack.

## Storage

Store in a dry and cool place below 35°C. Protect from direct sunlight.

## Shelf life

24 months if stored properly in original unopened packaging.

## Instruction for use

### Minimum Hole Depth:

Characteristic concrete strength (N/mm <sup>2</sup> )	20	25	30	> 40		
Permitted concrete shear stress using Type One Bar(N/mm <sup>2</sup> )	1.8	2.0	2.2	2.5		
Bar diameter (mm)	Hole diameter	Yield (tonnes)	Minimum hole depth (mm)			
12	20	5.2	280	250	225	200
16	20	9.3	490	445	400	355
20	25	14.5	615	555	500	440
25	32	22.6	750	675	615	540
32	38	37.0	1035	930	845	745
40	45	57.8	1365	1225	1115	980



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## Hole preparation and formation

Optimum performance of NanoGrout Anchor grouts requires rough sided, dust-free holes. Use of rotary percussive drills with air or water flushing is recommended. Diamond drilled holes should be under-reamed or the surface roughened with a drill steel. Cast holes should preferably be of inverse dovetail configuration. If parallel sided holes are cast they should be rough to provide adequate keying.

## Bar preparation:

All bars should be deformed. They should preferably be degreased and all flaky rust removed.

## Mixing:

A complete pack of resin and catalyzed filler should be mixed in one operation. Mixing may be carried out manually or mechanically. When a smooth, even consistency is achieved the grout is ready for use and should be placed well within the gel time of the grout. Packs have been designed to produce practical and economic volumes of grout.

Do not attempt to mix partial pack components.

## Pouring:

The mixed grout should be poured steadily from one side only to eliminate the entrapment of air. Continuous grout flow is essential. Sufficient grout must be available prior to starting. The time taken to pour a batch should be regulated to the time taken to prepare the next batch. To pour a batch should be regulated to the time taken to prepare the next batch.

## Consumption:

Volume of NanoGrout Anchor required in ml for each 100 mm of bond length. (200 mm bond length is the minimum recommended.).

Hole diameter (mm)	Bolt diameter (mm)					
	12	16	20	25	32	40
20	25					
25	50	40	25			
32	80	70	60	40		
38		100	100	75	45	
45			150	130	100	45
50				180	150	90
62					280	225

These figures allow for a 25% wastage factor.

## Cleaning & disposal

All tools and equipment should be cleaned immediately after use with NanoSolvent.

## Precautions & Limitations

Keep away from sources of ignition - no smoking. In the event of fire extinguish with CO<sub>2</sub> or foam.

## Health & safety

In common with most epoxy resin systems, the NanoGrout Anchor range will react exothermically when mixed and left in bulk. The heat generated may be excessive and can lead to vapour emission and splash damage to adjacent. To reduce the risk of exotherm, these products should only be mixed when ready for use and then applied without delay. Any unused residue should be poured onto a disposable impervious surface, in a well-ventilated area, to allow cure before disposal.