

BP-NanoGrout SG

Epoxy Based Structural Adhesive & Anchor Grout

Description

BP-NanoGrout SG is a two component epoxy base, high strength structural adhesive and anchor grout. It is available in paste and pourable grades. When applied it sets and cures rapidly to firmly secure a variety of steel fixings into concrete and masonry substrates. **BP-NanoGrout SG** offers a very high load-bearing capacity. The system can be installed in percussive and diamond drilled dry or wet holes.

Standards

BS 6319-2, BS 6319-2, ASTM C882

Application Area

BP-NanoGrout SG is used for high strength corrosion resistant anchoring of bolts and bars from 12 - 25mm 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, barriers and safety fences, railway tracks, tieback anchors, reinforcement dowelling abutments, ground anchors for towers, cranes, dock sills. **BP-NanoGrout SG** can also be used as a structural adhesive to glue metal elements onto concrete or to glue concrete elements together.

Advantages

- ✓ High early strength
- ✓ 3 to 4 times stronger than typical concrete
- ✓ Good adhesion to most of the substrates
- ✓ Excellent resistance to abrasion and impact
- ✓ Corrosion resistant
- ✓ Unaffected by a wide range of acids, alkalis and industrial chemicals
- ✓ Suitable for dynamic loads • Two grades in paste and pourable variants
- ✓ Tolerant to damp conditions

Typical Properties

Property	Test Method	Value
Component		Two Part-A : Base Part-B : Hardner
Mixed Form		Pourable & Paste
Colour		Grey when mixed
Compressive Strength	BS 6319-2	1 day 45 -50 N/mm ² 7 days 70 -80 N/mm ²
Bond Strength	ASTM C932	7 days 20 N/mm ²
Flexural Strength	BS 6319-3	7 days 25 -35 N/mm ²
Tensile Strength	BS 6319-7	7 days 20 -25 N/mm ²
Port Life		45-60 Minutes
Water Penetration	BSEN 12930-8	> 1 N/mm ² at 28 days
Chemical Resistance	ASTM D543	Resistant to alkalis, fuels, acids, oils, etc.

Surface Preparation

Surfaces should be dry, clean, free from standing

water, grease, curing compounds, mould oils and all loosely adhering particles. Cement laitance should be removed by mechanical means. Rotary percussive drilling will help in providing a rough internal surface which will help in better bonding.

Holes can be made using diamond or hammer drilling machines. Depth and diameter of the holes are to be determined by the substrate, effective loads and the diameter of the anchor bolts or rebars. The drilled holes need to be cleaned with round brushes and oil-free compressed air directly from a compressor or using special hand pumps. The substrate can be damp, but must be without free standing water.

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

Mixing

Stir base and hardener individually before mixing. Add hardener to base component. Mix together thoroughly with a slow speed drill (max 400 R.P.M.) fitted with a paddle for one minute till a uniform colour and consistency is obtained.

Application Guidelines

The application of **BP-NanoGrout SG** will differ depending on the actual job. Typical designs are detailed below:

For Anchor Bolts: Anchor bolt pockets, dowel and starter bar holes must be dry. Pour the mixed grout into the bolt hole and push the bolt/dowell bar into the hole with a slight agitation to remove entrapped air. Insert the mixing unit of the mixed **BP-NanoGrout SG A & B** into the back of the hole and squeeze sufficient material while slowly pulling out. Ensure that no air is entrapped while filling the hole. Introduce the anchoring bolt or rebar by pressing and turning till the back of the hole is reached. An excess of material needs to be visible. Respect the waiting times as shown in the tables hereafter, before the anchors or rebars are exposed to loads.

For Patching Work and as Adhesive: Apply the material by using notch trowel, scrapper or with a big spatula for a minimum thickness of 1 mm. Bonding of elements should be done while **BP-NanoGrout SG** is

still tacky. Before adhering metal plates, guardrails etc. prepare the substrate leaving a clean and slightly rough surface. Clean the metal parts to bright steel and remove oil or grease from the surface of these elements. Apply sufficient **BP-NanoGrout SG** for complete bonding. Spread with a combed trowel on both surfaces and hold firmly in place until full cure is achieved.

Use a paddle type mortar mixer for large jobs. Conpacmix demonstration team shall assist in these procedures upon request.

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Volume of BP-NanoGrout SG in ml/100mm.

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

Packaging

1 kg set.

Storage & Shelf-life

12 months from date of manufacture when stored under warehouse conditions in original unopened packing. Extreme temperature / humidity may reduce shelf life.

Limitations

At temperatures above 35°C, it is recommended that measures are taken to reduce material placing temperatures. These include, storing materials and equipments under cool shade and away from direct sunlight. Avoid installation during the hottest part of the day. Ensure that water temperature is kept

below 20°C. Should not be used in unrestrained area.

Cleaning

Clean all equipments and tools with water immediately after use. Hardened material can be removed mechanically.

Health and Safety

This product contains cement powders which, when mixed with water or upon becoming damp, release alkalis that can be harmful to skin. During use, avoid inhalation of the dust and contact with the skin or eyes. Gloves, goggles and suitable mask must be worn. Contact with skin, eyes, etc. must be avoided. If swallowed seek medical attention immediately. Regarded as non-hazardous for transportation. Do not reuse containers. To be disposed off as per local rules and regulations.

Quality & Care

Conpacmix (BD) Ltd acquired German technology for an updated production facility and set up a state of the art laboratory facility for conducting regular quality assessments on raw materials procured and finished products. Process from procurement of raw materials to finished products, are managed by qualified and experienced engineers, chemists and technicians.

Note: Field service where provided does not constitute supervisory responsibility. Suggestions made by **Conpacmix (BD) Ltd.** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **Conpacmix (BD) Ltd.**, are responsible for carrying out procedures appropriate to a specific application.

Manufacture:

