BUILDING TRUST

PRODUCT DATA SHEET

Parex 100 Newton Grout

Ultra-High Strength Cementitious Grout

PRODUCT DESCRIPTION

Parex 100 Newton Grout is a one-part, ultra-high strength cementitious grout. The mix design includes special shrinkage compensating components, which give a non-shrink grout in both the plastic and hardened states. Powerful plasticising agents produce a highly flowing grout at low water content.

USES

- Ultra-high strength grout and support systems for:
  - Stanchion bases.
  - Securing base plates.
  - Vibrating machinery bed plates.
  - Precast concrete units.
- Ground anchors.
- Fixing anchors, dowels, bars, rods, etc.
- Bridge bearing seats.
- Support of tanks, silos, etc.
- Applications requiring precision alignment.

CHARACTERISTICS / ADVANTAGES

- Easy to use.
- One-component - just add water.
- Ultra-high strength.
- Shrinkage compensated.
- Very high strength gain after 24 hours (at +20°C).
- Compressive strength at +5°C comparable to those at +20°C after 21 and 28 days.
- Low water content.
- Good freeze thaw stability.
- Resistant to sea water.
- Can be safely used in contact with steel.

APPROVALS / STANDARDS

Parex 100 Newton Grout has been tested in accordance with the appropriate parts of the following standards:

- EN 12390, EN 196 and EN 1015.
- CRD C621: Corps of Engineers Specification for Non-Shrink Grout.

PRODUCT INFORMATION

Chemical Base	Cements, high quality aggregates and synergistic admixtures.
Packaging	25 kg bags and 1000 kg bulk bags
Appearance / Colour	Cement Grey
Shelf Life	6 Months
Storage Conditions	Store properly in dry conditions in undamaged and unopened original sealed packaging
Density	~2250 kg/m³ (hardened state)

Maximum Grain Size	D_{max}: 1.0 mm

TECHNICAL INFORMATION

Compressive Strength (EN 12390)

Age	Strength
24 hours	~50 N/mm²
48 hours	~60 N/mm²
3 days	~70 N/mm²
4 days	~80 N/mm²
7 days	~85 N/mm²
21 days	~95 N/mm²
28 days	~100 N/mm²

**Typical grout properties at +20°C with a water addition at 18% water to powder.*

(EN 12390)

Age	Strength
24 hours	~10 N/mm²
48 hours	~30 N/mm²
3 days	~55 N/mm²
4 days	~70 N/mm²
7 days	~80 N/mm²
21 days	~95 N/mm²
28 days	~100 N/mm²

**Typical grout properties at +5°C with a water addition at 18% water to powder.*

Modulus of Elasticity in Compression ~31.8 kN/mm²

Flexural Strength (EN 196)

Age	Strength
24 hours	~7 N/mm²
48 hours	~8 N/mm²
3 days	~9 N/mm²
4 days	~10.5 N/mm²
7 days	~12 N/mm²
21 days	~18 N/mm²
28 days	~20 N/mm²

**Typical grout properties at +20°C with a water addition at 18% water to powder.*

(EN 196)

Age	Strength
24 hours	~2 N/mm²
48 hours	~6 N/mm²
3 days	~7 N/mm²
4 days	~8 N/mm²
7 days	~11 N/mm²
21 days	~15 N/mm²
28 days	~20 N/mm²

**Typical grout properties at +5°C with a water addition at 18% water to powder.*

Tensile Strength (EN 12390)

Age	Strength
24 hours	~4 N/mm²
3 days	~6 N/mm²
7 days	~8 N/mm²
28 days	~9 N/mm²

**Typical grout properties at +20°C with a water addition at 18% water to powder .*

Age	Strength
24 hours	~4 N/mm²
3 days	~6 N/mm²
7 days	~8 N/mm²
28 days	~9 N/mm²

(EN 12390)

**Typical grout properties at +5°C with a water addition at 18% water to powder.*

Tensile adhesion strength	≥1.5 N/mm²	(EN 1542)
Reaction to Fire	Euroclass A1	(EN 12190)

APPLICATION INFORMATION

Mixing Ratio	Water : mortar powder = 1 : 5.55 parts by weight (4.5 litres of water per 25kg bag, or 180 litres per one tonne bag).
Consumption	Depends on the substrate roughness and thickness of layer applied. As a guide, one 25kg bag yields approximately 12.5 litres of mortar.
Yield	1.0kg of Parex 100 Newton Grout will yield approximately 0.5 litres of mixed grout at the recommended water addition. 1 tonne of Parex 100 Newton Grout will yield approximately 0.52 m³ of mixed grout at the recommended water addition. The yield per 25kg of Parex 100 Newton Grout is approximately 12.5 litres.
Layer Thickness	10 mm minimum / 100 mm maximum
Product Temperature	+5°C minimum / +35°C maximum
Ambient Air Temperature	+5°C minimum / +35°C maximum
Substrate Temperature	+5°C minimum / +35°C maximum
Pot Life	Up to 60 minutes if kept mobile after mixing.
Setting time	~80 minutes at +20°C
Initial set time	~60 minutes at +20°C

VALUE BASE

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

- Do not exceed stated water addition.
- Not to be used for concrete repair works.
- Do not use vibrating pokers.
- Use only on clean, sound substrate.
- Avoid application in direct sun and / or strong wind.
- Pour or pump from one side only.
- Keep exposed surfaces to a minimum.
- Do not add additional water during the surface finishing, as this will cause discoloration and / or cracking.
- Protect freshly applied material from freeze-thaw action.
- To avoid cracking in warm temperatures, keep bags cool and use cold water.

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete, mortar, stone:
Surfaces must be sound, thoroughly clean, free from ice, oils, grease, standing water and any loose or friable particles, and any other surface contaminants.
Steel, iron:
Clean, free from oil or grease, rust and scale, etc.
Shutter / Formwork:
Where formwork is to be used, all formwork should be of adequate strength, treated with release agent and sealed to prevent leakage. Sealing can be achieved by using Sikaflex®-11FC+ sealant beneath or around formwork, and between joints. Ensure formwork includes outlets for extraction of the pre-soaking water.
A header box / hopper should be constructed on one side of the formwork so that a grout head of 150 to

200 mm can be maintained during the grouting operation.

MIXING

Pour the required quantity of clean water (4.5 litres per 25 kg bag, or 180 litres per one tonne) into the mixing vessel for each complete unit of Parex 100 Newton Grout to be used. Slowly add the powder to the water whilst continually mixing. Mechanical mixing should be carried out using either a high torque slow speed drill with a grout stirrer, or a grout mixer set on slow speed for small mixes. For larger mixes, use forced action type mixers (high speed or colloidal mixing may cause thixotropy leading to loss of flow). This material is not suitable for mixing by hand. It is of upmost importance that the product is mixed thoroughly enough that a grout consistency is obtained without the addition of further water (at least 3 minutes).
Fresh grout should be allowed to stand until the air entrapped by mixing has been released.

APPLICATION

Grout should be placed within 10 minutes of mixing, or 60 minutes if kept mobile prior to placing. Continuous placing is important, pouring or pumping from one side of the form until the grout appears at the opposite side of the grouting area. Do not disturb once grouting has been completed. Parex 100 Newton Grout may be placed at temperatures between +5°C and +35°C.
For placing at temperatures outside this range, contact Sika® Technical Services Department for advice.

CURING TREATMENT

After the grout has initially hardened, remove formwork and trim edges while concrete is ‘green’.
Protect the fresh material from premature drying using an approved curing method (e.g. curing compound such as Sikafloor® ProSeal, moist geo-textile membrane, hessian, polythene sheet, etc.). In cold weather, apply heat blankets to maintain a constant temperature.
Placed grout, which is exposed, should be cured in accordance with good concrete practice.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be mechanically removed.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika’s current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika’s recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product’s suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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