

The information in this technical data sheet is valid for the S&P range of products, systems and solutions.
Please note that the information in your country may vary. Visit sp-reinforcement.eu to find your local branch.

DESCRIPTION

S&P TecnogROUT-N is a shrinkage compensated grout, formulated on a basis of mineral products and designed for moderate stresses where the use of traditional mortars or concretes is not adequate.

It is supplied ready to use and it is particularly recommended in areas where access is difficult or where concrete placing is not possible, either because a small quantity is required or because the application is unfeasible. S&P TecnogROUT-N is a non-bleeding, self-levelling grout with good chemical resistance (seawater, wastewater, sulphates) that is applied preferably in filling depths between 30 and 80 mm (S&P TecnogROUT-N/PR - 5 to 30 mm; S&P TecnogROUT-N/GR - 80 to 120 mm), except in confined fillings, in which it can be used in any depth.

WHERE TO USE

- Assembly of prefabricated concrete structures
- Assembly of steel structures
- Reinforcement of concrete structures
- Support of gantry beams
- Filling of cavities / honeycombs
- Anchoring of equipment with moderate loads
- Repair of joints in substrates
- Filling of test holes
- Fixing of bolts
- Levelling of substrates

PERFORMANCE FEATURES

- Shrinkage compensated
- Water-resistant
- Various application thicknesses
- Sulphate resistant
- Chloride free
- Free of metallic aggregates
- Good chemical resistance to seawater, wastewater, sulphates

GENERAL FEATURES

PRODUCT DATA

Generic description

S&P TecnogROUT-N, S&P TecnogROUT-N/PR and S&P TecnogROUT-N/GR

Size

25 kg bags
40 x 25 kg bags per pallet

Storage

12 months in original unopened sealed bags in a dry and cool place



S&P TecnogROUT-N conforms to EN 1504-3 and EN 1504-6.

S&P TecnogROUT-N/PR conforms to EN 1504-3.

S&P TecnogROUT-N/GR conforms to EN 1504-3.

MECHANICAL PROPERTIES

Property	Test method	Minimum requirement according to EN 1504-3, R4 mortar	Minimum requirement according to EN 1504-6	S&P TecnogROUT-N/PR	S&P TecnogROUT-N	S&P TecnogROUT-N/GR
Bulk density (powder)	-	-	-	1.9 kg/dm ³	1.5 kg/dm ³	2.05 kg/dm ³
Hardened density	EN 12190	-	-	~ 2.25 kg/dm ³	~ 2.30 kg/dm ³	~ 2.35 kg/dm ³
Maximum aggregate size	-	-	-	1 mm	3 mm	5 mm
Water dosage per 25 kg bag	-	-	-	12-13.5 % / 3.00-3.38 litres	11.5-13 % / 2.87-3.25 litres	11.0-12.5 % / 2.75-3.13 litres
Consumption	-	-	-	~ 20 kg/m ² per cm thickness	~ 21 kg/m ² per cm thickness	~ 21.5 kg/m ² per cm thickness
Application thickness	-	-	-	5-30 mm per layer	30-80 mm per layer	80-120 mm per layer
Pot life	-	-	-	30 minutes at 20 °C	30 minutes at 20 °C	30 minutes at 20 °C
Hardening time	-	-	-	~ 1 hour	~ 1 hour	~ 1 hour
Application temperature	-	-	-	5 to 35 °C	5 to 35 °C	5 to 35 °C
Compressive strength	EN 12190	≥ 45 MPa	-	> 30 MPa (1 day)	> 30 MPa (1 day)	> 30 MPa (1 day)
				> 55 MPa (7 days)	> 55 MPa (7 days)	> 50 MPa (7 days)
				> 65 MPa (28 days)	> 70 MPa (28 days)	> 70 MPa (28 days)
Flexural tensile strength	EN 12190	-	-	> 4.5 MPa (1 day)	> 5.0 MPa (1 day)	> 5.0 MPa (1 day)
				> 7.0 MPa (7 days)	> 7.0 MPa (7 days)	> 7.0 MPa (7 days)
				> 8.0 MPa (28 days)	> 10.0 MPa (28 days)	> 8.0 MPa (28 days)
E-Modulus	EN 13412	≥ 20000 MPa	-	> 29000 MPa	> 29000 MPa	> 29000 MPa
Water absorption	EN 13057	≤ 0.5 kg/m ² h ^{0.5}	-	< 0.5 kg/m ² h ^{0.5}	< 0.5 kg/m ² h ^{0.5}	< 0.5 kg/m ² h ^{0.5}
Carbonation resistance	EN 13295	d _k < MC(0.45)	-	Pass	Pass	Pass
Adhesion to concrete	EN 1542	≥ 2.0 MPa	-	> 2.5 MPa	> 2.5 MPa	> 2.5 MPa
Bond strength after 50 freeze-thaw cycles	EN 13687-1	≥ 2.0 MPa	-	> 2.0 MPa	> 2.0 MPa	> 2.0 MPa
Chloride ion content	EN 1015-17	≤ 0.05 %	≤ 0.05 %	< 0.05 %	< 0.05 %	< 0.05 %
Pull-out displacement	EN 1881	-	≤ 0.6 mm at load of 75 kN	N/A	Pass	N/A
Slipping resistance	EN 13036-4	-	-	Class II	Class II	Class II
Flow at 30 seconds	EN 13395-2	-	-	> 45 cm	> 50 cm	> 50 cm
Adhesion to corrugated bar	-	-	-	N/A	> 9.0 MPa	N/A
Electrical resistivity	-	-	-	N/A	105.5 Ω*m	N/A

Above test results are obtained in laboratory conditions at +20 °C and 65 % RH mixing with 13 % water (N/PR), 12 % water (N) and 11.5 % water (N/GR) unless otherwise stated.

APPLICATION

Substrate preparation:

Mechanically abrade concrete surface to completely remove debris and loose particles. Wet the surface until complete saturation is achieved and allow standing water to either evaporate or be absorbed into the substrate. Alternatively, remove standing water using a sponge.

Mixing:

Mix the grout either by hand or in a concrete mixer, adding 11.5-13 % of water (2.87-3.25 litres per 25 kg bag). Mix for 4-5 minutes until completely lump-free, ensuring that a homogenous mix is achieved.

Application:

The formwork should be sealed to prevent material from leaking and should also be approximately 3 cm higher than the final level of the grout.

Pour from one end until completion of the the filling with the assistance of gravity.

Curing:

Once the grout is installed and 15 minutes have passed, surfaces must be kept damp for at least 24 hours, in order to prevent superficial dehydration of the cement. If located in direct sunlight, the installation must be covered/protected to prevent the grout from curing too quickly.

TESTING

Please contact us if you require any information regarding tests that have been conducted. Test reports may be available.

CLEANING

Tools cleaning

Tools and application equipment must be washed immediately after use. If the product hardens, it can only be removed by mechanical means.

CE-MARKING

S&P Tecnogrout-N meets the requirements of EN 1504: "Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 3: Structural and non-structural repair", for grouts CLASS R4, and Part 6: "Anchoring of reinforcing steel bar". S&P Tecnogrout-N/PR meets the requirements of EN 1504: "Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 3: Structural and non-structural repair", for grouts CLASS R4. S&P Tecnogrout-N/GR meets the requirements of EN 1504: "Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 3: Structural and non-structural repair", for grouts CLASS R4.

HEALTH & SAFETY

Important safety instructions

For detailed safety information, we recommend that you see the current safety data sheet which is available on www.sp-reinforcement.eu or you can contact us on +41 41 825 00 70.

S&P's range of products are for industrial use. They must be installed by specialised personnel and competent professionals with adequate training. The installation instructions must be followed and can be found in S&P application manuals and several "Guideline" documents / existing technical notes.

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The information and data in this technical data sheet serve to ensure the normal intended use and normal application suitability; the information and data are based on our knowledge and experience. They do not absolve the user from their own responsibility to check the suitability and application method.

The rights to make changes to product specifications are reserved. Furthermore, our general sales and delivery terms apply. The current, most recent product data sheet is valid, and should be requested from us.

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