

DRACOSPRITZ N50

THIXOTROPIC FIBRE-REINFORCED CEMENTITIOUS GROUT
FOR COATINGS, REPAIR AND RESTORATION WITH DRY-PROCESS
SPRAYED CONCRETE



DRACOSPRITZ N50 is a coarse-grained cement-based mortar (grout). It is thixotropic and fibre-reinforced and ready for use for dry-mix shotcrete. **DRACOSPRITZ N50** is an ultra-fast curing product with high initial and final mechanical strength, for applications up to 10 cm thickness in one layer.

DRACOSPRITZ N50 is a dry premix that contains Portland cement, siliceous aggregates with particle size in a range of 0 to 5 mm and admixtures; it contains no chlorides, aluminates or silicates. **DRACOSPRITZ N50** is a very quick setting product specially formulated for application using the dry mix process.

ADVANTAGES

DRACOSPRITZ N50 is a fibre-reinforced thixotropic cementitious grout for dry spray repair. The product has the following characteristics:

- ✓ high mechanical strength, resistance to chemical and environmental attack and low permeability;
- ✓ high thixotropic properties;
- ✓ excellent durability over time and high resistance to freeze/thaw cycling;
- ✓ high yield per day; excellent bond to substrate and high resistance to carbonation.
- ✓ minimal waste.

Note: If higher physical-mechanical properties of **DRACOSPRITZ N50** are required for structural reasons, you can use FIBERMIX FLOW SPRITZ steel fibres or FIBERCROME flexible steel fibres.



USES

DRACOSPRITZ N50 is suited to the following applications:

- ✓ coatings, protective layers and structural overlays in tunnels, walls, slopes, etc.;
- ✓ repair and protection of river and canal banks, bulkheads and dams;
- ✓ surface consolidation of friable rocky soil on slopes;
- ✓ construction of walls, slabs and reinforced structural vaults using sprayed concrete;
- ✓ dry-mix shotcreting of tunnels, conduits, shafts.

SUBSTRATE PREPARATION

DRACOSPRITZ N50 can be sprayed on the substrate with or without an electro-welded mesh, thus ensuring no cracking or detachment from the substrate, provided that the latter is uneven and roughened and environmental conditions are good with no direct sunlight and strong wind. **DRACOSPRITZ N50** shall be allowed to cure suitably after application.



GROUT PREPARATION

To prepare one cubic metre of grout, you need approx. 2,000 kg of **DRACOSPRITZ N50** (approx. 20 kg/m² per cm of thickness). Add 13 to 14 litres of water for every 100 kg of product. **DRACOSPRITZ N50** can be used when ambient temperature is between +2°C and +30°C.



HOT WEATHER PRECAUTIONS

- ▶ Store **DRACOSPRITZ N50** away from direct sunlight.
- ▶ Use cold mixing water
- ▶ Carry out the work during less sunny hours.



COLD WEATHER PRECAUTIONS

- ▶ Store **DRACOSPRITZ N50** in a heated environment where possible.
- ▶ Do not apply the product with temperatures below 2°C.
- ▶ Start to work in the late morning.
- ▶ Make sure that the substrate is not frozen.
- ▶ Protect from frost by covering the surfaces and repaired areas with waterproof and insulated tarps.

APPLICATION

DRACOSPRITZ N50 can be sprayed with overlay thickness from 2 to 10 cm; for overlays of more than 10 cm, apply the product in several layers until the desired thickness is achieved. To promote bonding between coats, we recommend leaving the surface of the previous hardened coat rough and wetting it slightly with water.

PACKAGING AND STORAGE

DRACOSPRITZ N50 is packed in 25 kg bags.

If properly stored in a sheltered, dry place in its original container, **DRACOSPRITZ N50** maintains its properties for 12 months.



SPECIFICATIONS ITEM

When work includes dry spraying of concrete, as it is indicated in these specifications, the ready-to-use, fibre-reinforced thixotropic grout with volumetric stability, **DRACOSPRITZ N50** by DRACO Italiana SpA, shall be used. Follow the instructions and recommendations provided by the manufacturer DRACO Italiana SpA.

PRODUCT CHARACTERISTICS

APPEARANCE	Powder
COLOUR	Grey
CHLORIDE CONTENT OF FRESH MORTARS - UNI EN 1015-17 (requirement: ≤ 0.05%)	≤ 0.05%
PACKAGING	25 kg bags
SHELF-LIFE	12 months
MAXIMUM PARTICLE SIZE	5 mm

APPLICATION SPECIFICATIONS

MIXING WATER	3.25 to 3.50 l per 25 kg bag (13-14%)
YIELD	approx. 20 kg/m ² per cm of thickness
APPLICATION TEMPERATURE	+2°C to +30°C
DENSITY - UNI EN 12190	approx. 2,300 kg/m ³
MIX CONSISTENCY	thixotropic
SETTING TIME	initial set time: approx. 5 minutes final set time: approx. 10 minutes
WAITING TIME BETWEEN COATS (+23°C - 50% RH)	min 25 minutes

Times can vary depending on substrate temperature and environmental temperature and humidity conditions. The above values are indicative and calculated at a temperature of 20°C and 65% relative humidity. Consumption may vary depending on substrate and environmental conditions.

TECHNICAL CHARACTERISTICS - Concrete structural repair product – Class R4

CHARACTERISTIC	REQUIREMENTS pursuant to EN 1504-3 (mortars class R4)	PRODUCT PERFORMANCE
BOND STRENGTH TO CONCRETE - UNI EN 1542	≥ 2 MPa	≥ 2 MPa
RESISTANCE TO CARBONATION - UNI EN 13295	Meets specifications	Meets specifications
MODULUS OF ELASTICITY - UNI EN 13412	≥ 20 GPa	≥ 20 GPa
THERMAL COMPATIBILITY - UNI EN 13687-1 concrete substrate (MC=0.4) after 50 freeze-thaw cycles	≥ 2 MPa	≥ 2 MPa
CAPILLARY ABSORPTION - UNI EN 13057	≤ 0.5 kg/m ² ·h ^{-0.5}	≤ 0.5 kg/m ² ·h ^{-0.5}
COMPRESSIVE STRENGTH - UNI EN 12190	≥ 45 MPa	≥ 45 MPa - R4
REACTION TO FIRE - EN 13501-1	Euroclass	A1
OTHER CHARACTERISTICS AVERAGE COMPRESSIVE STRENGTH - EN 12190		
CURING TIME AT 20°C - RH 65%	13% WATER	
2 hours	2 MPa	
5 hours	5 MPa	
6 hours	6 MPa	
1 day	25 MPa	
7 days	31 MPa	
28 days	55 MPa	

Legal notes - SLCMP version of 01.03.2017

Draco Italiana s.p.a. has adopted the parameters indicated in this data sheet and the related standards for the calculation of the values and technical data contained herein.

Customers shall verify that this data sheet and the values indicated herein apply to their product batch and have not been superseded by later editions. If in doubt, verify that the sheet corresponds to the one available on the website www.draco-edilizia.it at the time the sales contract was executed and/or by previously contacting the Technical Department.

Any suggestions on the use of the Products provided by our personnel either orally or in writing upon the Customer's request do not constitute additional obligations to the purchase contract and do not imply a contractual obligation for the company. They are based on our experience and limited to the current state of practical and/or scientific knowledge. They are not binding for the client or for the installer. It is the Customer's responsibility to test our products and verify they are suitable for the type of application and use envisaged.