

# Neogranit

Repair mortar for granite and/or decorative concrete elements and/or artificial stones.

## 1- Product description

### 1.1 GENERAL USE

Neogranit is a mortar based on cementitious material and mineral fillers that is specially formulated for the restoration of granite elements and/or decorative concrete elements and/or artificial stones. Neogranit can be used for reparations of horizontal and vertical elements. Its freeze/thaw and de-icing salt resistance allow Neogranit to be used for exterior stairs reparation. Since there exists a vast variety of granite with different types of colorations, Daubois offers the possibility of matching an existing stone by modifying the aggregates.

### 1.2 ADVANTAGES

Neogranit has been formulated to obtain properties that are compatible with a hard stone like granite. This mortar adheres very well to the stone without addition of polymers. Neogranit is hard and dense; it has a low level of water absorption and very high resistance to de-icing salt which guarantee the long term durability of the reparations. Despite Neogranit was designed for restoration of granite stone, it can be applied on a concrete surface or artificial stone as well.

### 1.3 LIMITATIONS

1.3.1 It is forbidden to add any additives on field.

1.3.2 Do not seal the repair.

## 2- INSTALLATION \*

### 2.1 SURFACE PREPARATION

2.1.1 Make sure the temperature (surface, surrounding and material) is between 5°C (40°F) and 35°C (95°F), during the application and for the following 48 hours.

2.1.2 Surface to be repaired must be sound, clean and free from bond inhibiting materials such as grease, dust, oil or paint.

2.1.3 Remove all loose material from the stone surface using a chisel or a pneumatic cutting tool until sound stone is reached. Remove a minimum of 12.5 mm (1/2 in). It is recommended to remove an additional 12.5 mm (1/2 in) if the original stone was severely damaged to make sure that the stone did not start deteriorating despite its appearance.

2.1.4 Roughen any smooth surface.

2.1.5 It is suggested to define the edges (90°) and to avoid very thin applications (feathered edge) since it may cause premature damages.

2.1.6 Wash thoroughly the surface with a brush and clean water.

2.1.7 Dampen the surface before the application. If a stone seems to have a high absorption, wet frequently the stone prior to the application especially in hot weather. If the surface dries before the application it is imperative to moisten the stone again. The surface must be shiny before the application.

### 2.2 MIXING

2.2.1 Mix the powder (Neogranit) in the pail before taking the requested amount of product.

2.2.2 Slurry coat: It is necessary to apply a bond slurry coat on the substrate. Sift a small quantity of Neogranit (powder) to remove coarser aggregates; this will improve the texture of slurry coat. To the sift powder, add enough water to obtain a very smooth texture that will be easy to spread on the surface.

2.2.3 Mortar: Mixing proportions are approximately 1 volume of water for 5 volumes of powder (145 ml of water per kg of powder). These quantities may vary according to temperature and humidity. Do not add too much water or make a very dry mix.

Note: Neogranit is a mortar with a very fast setting time. Mix only the amount of material that can be used within 15 minutes.

2.2.4 Pour water in a clean container then add the dry ingredients. It is possible to mix by hand or with a low speed drill equipped with a paint mixing attachment.

2.2.5 The mix gives a clayey mortar with a granular texture.

### 2.3 APPLICATION

2.3.1 Slurry coat: Spread the slurry coat on the moist surface in small sections to avoid fast drying.

2.3.2 Mortar: Apply the mortar on the humid slurry coat by pushing the material on the surface according to the techniques learned in the training session\*.

2.3.3 Application must be done from top to bottom to allow dampening of the surface during application without damaging freshly applied mortar.

\* See section 8

2.3.4 Apply material at a thickness superior to the stone surface (minimum excess of 3 mm or 1/8 in). Additional mortar will be removed during finishing step.

2.3.5 Neogranit can be applied to a thickness of up to 10 cm (4 in) in one pass. For projections of 5 cm (2 in) or more it is necessary to use stainless steel anchors, bolts, rivets, dowels or strand.

2.3.6 There is a possibility to add aggregates on the material surface to match the appearance of the existing stone. These aggregates must be forced in the freshly applied mortar.

### 2.4 FINISHING

NOTE: It is possible to finish the surface with different techniques according to the desire finished. It is very hard to determine the waiting time before finishing since it will vary enormously according to field conditions: air and element temperature, humidity, wind, sun, absorption rate of the elements, etc.

2.4.1 Exposed aggregates: When the initial set is started, spray a little bit of water on the surface and remove excess binder (paste) with a brush or a sponge. Rinse well with water.

2.4.2 Polish finish: The product can be polished with a polisher the next day.

2.4.5 Other finishes; There exists several ways to finish the granit according to the original stone appearance. It is suggested to make a sample and to specify a finish to see if the applicator can achieve the desire dfinish.

### 2.5 PROTECTION AND CURING

2.5.1 It is important to spray water periodically on the surface for the first 24 hours. Vaporisation must be started after initial set to avoid surface damages. This step should be repeated several times a day. If this operation is impossible for a short period of

time (ex. night) cover the surface with a wet burlap and plastic sheeting without touching the mortar.

### 2.6 CLEANING

2.6.1 Clean equipment with water while material is not hardened. Once hard, only mechanical cleaning can be used.

2.6.2 Remove excess mortar on the surfaces with a sponge and clean water. Repeat this step several times to avoid spotting stone surrounding the repair patch.

## **3- Packaging**

This product is available in 20 kg (44 lb) pails.

## **4- Storage**

### 4.1 STORAGE

Store in a cool, dry place.

### 4.2 SHELF LIFE

Shelf life is one year in original, unopened containers.

## **5- First aid**

This product contains material that may cause eye, skin and respiratory system irritation. Wear rubber gloves, safety glasses and approved dust mask. If swallowed, call a Poison Control centre or doctor immediately. Do not induce vomiting. In case of contact with eyes, rinse well with water for 15 minutes. In case of skin contact, rinse well with water. Keep out of reach of children. Consult the safety data sheet for more information.

## **6- Technical service**

Daubois offers the possibility to colour Neogranit in factory to match it perfectly with the granite element to be repaired. In this case, a representative sample of at least 25 cm<sup>2</sup> (4 in<sup>2</sup>) of the stone to match is required. Once the colour matches

completed, Daubois will supply a coloured sample disc of 8 cm (3 in) in diameter to its customer for approval. Coloration delay may vary according to the colour requested. Considering the diversity of granit stones, verify with a Daubois representative that coloration is possible for the type of stone involved.

Contact Daubois for more information about application methods or conditions or to obtain the latest version of our technical documents.

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## **7- Warranty**

Daubois guarantees that this product will perform as specified in this technical data sheet and suits the application for which it was intended. Nonetheless, Daubois does not offer any explicit or implicit warranty.

Under this warranty, Daubois' responsibility is limited to either replace or refund the cost of the product proved defective.

## **8- Certification/ Training**

Only Daubois certified applicators can buy and apply Neogranit. Each applicator holds a certificate of competency issued by Daubois. It is possible to consult our customer service representative to know the names of our certified applicators.

Please contact a Daubois representative for any information on the training classes. These classes of three days are generally held during winter time (January to March).

Technical data table

Characteristic		Results <sup>1</sup>
Initial set time, ASTM C-191	minutes	25
Final set time, ASTM C-191	minutes	35
Compressive strength, ASTM C-109	3 hours 24 hours 7 days 28 days	12 MPa (1740 psi) 20 MPa (2900 psi) 38 MPa (5510 psi) 45 MPa (6525 psi)
Water vapour transmission, ASTM E-96		4 perms
Water absorption, ASTM C-1403	24 hours	59 g/100 cm <sup>2</sup>
Pull-off adhesion on granite stone, CSA 23.2-6B	7 days 28 days	0.32 MPa (46 psi) 0.39 MPa (57 psi)
Pull-off adhesion on concrete block, CSA 23.2-6B	7 days 28 days	1.0 MPa (145 psi) 1.1 MPa (160 psi)
Linear shrinkage, ASTM C-596	28 days	0.19 %
Expansion in lime water, ASTM C-596	28 days	0.05 %
Freeze/thaw resistance, ASTM C-666M <sup>2</sup>		50 cycles
Deicing salt resistance, ASTM C-672		No damage after 50 cycles
Flexural strength, ASTM C-348	7 days 28 days	7 MPa (1015 psi) 10 MPa (1450 psi)
Specific mass		2300 kg/m <sup>3</sup> 144 lb/ft <sup>3</sup>
Approximate yield for a 20 kg (44 lb) pail		0.014 m <sup>3</sup> 0.5 ft <sup>3</sup>

<sup>1</sup> Results obtained in laboratory at 23°C, mortar was mixed with 14.5% water.

<sup>2</sup> Test executed according to Procedure A of ASTM C-666M standard.

Note: To get a good coloration, different aggregates must be used to match the sample stone. Results present here were obtained with a standard mix and can vary slightly according to the aggregates used. However, they still represent the general property of the mortar.