

# Neostone C35

Stone restoration mortar limestone, sandstone  
and concrete elements

## 1- Product description

### 1.1 GENERAL USE

Neostone C35 is a mortar based on cementitious material and mineral fillers that is specially formulated for the restoration of stone elements. Neostone C35 can be used to repair simple elements such as flat stone blocks but it can also be sculpted to fix various ornamental elements. The limit of the details resides in the hands of the applicator / sculptor. Neostone C35 can be used to repair limestone, sandstone or concrete elements such as artificial stones.

### 1.2 ADVANTAGES

Neostone C35 has been formulated to obtain properties that are compatible with stone. Its low water absorption and high water vapour transmissions prevent water accumulation between stone and repair. This mortar adheres very well to the stone without addition of polymers. Neostone C35 has very good freeze/thaw resistance to provide durable repairs despite severe temperature conditions.

### 1.3 LIMITATIONS

1.3.1 It is forbidden to add any additives on field .

1.3.2 Do not seal the repair.

1.3.3 Do not use for repair of horizontal surfaces.

## 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 72 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 (Neostone C35) in the pail before taking the requested amount of product.

2.2.2 Mixing proportions are approximately 1 volume of water for 6 volumes of powder (220 ml of water for 2 kg of powder). These quantities may vary according to temperature and humidity. Do not add too much water or make a very dry mix.

2.2.3 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.

2.2.4 Once mixed, the mortar has a dry but slightly humid consistency. It can easily form a ball with small hand pressure.

2.2.5 Avoid water excess that will cause shrinkage cracks or colour change (whiter). Do not prepare a mix that is too dry in order to have enough humidity for accurate curing.

### 2.3 APPLICATION

2.3.1 Slurry coat: It is necessary to apply a bond slurry coat on the substrate. Add additional water to a small part of the mix to obtain a very smooth texture that will be easy to spread on the surface. Spread this slurry coat in small sections to avoid fast drying.

2.3.2 Apply the mortar on the humid slurry coat 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.

2.3.4 Apply material at a thickness superior to the stone surface (minimum excess of

\* See section 8

3 mm or 1/8 in). Additional mortar will be removed during finishing step.

2.3.5 Minimum thickness of the final repair is 12.5 mm (1/2 in).

2.3.6 Neostone C35 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.

Note: Mortar should be used within 1 ½ hour following mixing if temperature is higher or equal to 25°C (77°F). If temperature is lower than 25°C (77°F), use within 2 ½ hours. Discard unused 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 When initial set is started, scrape off the extra material until desired thickness is reached. This step is started when the mortar does not stick to the tools. Waiting time before finishing can have an effect on the final colour of the mortar.

2.4.2 Do not overwork the material since it will bring water on the top surface and can alter the quality of the mortar and its final colour.

### 2.5 PROTECTION AND CURING

2.5.1 It is important to spray water periodically on the surface for the first 72 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 Neostone C35 in factory to match it perfectly with a masonry element. In this case, a representative sample of at least 6 cm<sup>2</sup> (1 in<sup>2</sup>) area of the element 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. Expect 5 business days delay for the coloration of one sample.

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 Neostone C35. 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>
Final set time, ASTM C-191	hours	3 1/2
Compressive strength, ASTM C-109	7 days 28 days	9.5 MPa (1375 psi) 15.0 MPa (2175 psi)
Water vapour transmission, ASTM E-96		20 perms
Water absorption, ASTM C-1403	24 hours	11 %
Pull-off adhesion on limestone, CSA A23.2-6B	28 days	0.32 MPa (46 psi)
Pull-off adhesion on sandstone, CSA A23.2-6B	28 days	0.25 MPa (36 psi)
Linear shrinkage, ASTM C-596	28 days	0.06 %
Expansion in lime water, ASTM C-596	28 days	0.01 %
Flexural strength, ASTM C-348	7 days 28 days	2.5 MPa ( 362 psi) 3.0 MPa ( 435 psi)
Freeze/thaw resistance, ASTM C-666M <sup>2</sup>		Resistant
Specific mass		1720 kg/m <sup>3</sup> 107 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>
Colour <sup>3</sup>		Off white

<sup>1</sup> Results obtained in laboratory at 23°C, mortar was mixed with 11% water.

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

<sup>3</sup> Custom coloured as requested.