

# XHN-60

Hydraulic lime repointing mortar

## 1- Product description

### 1.1 USE

- XHN-60 is a repointing mortar based on well-graded sand, pure hydraulic lime from St-Astier and colorants (optional).

- The hydraulic properties (hardens by reaction with water) of this lime allows formulation of a cement free mortar which is closer to the formulation of historic mortars.

- Its high lime content increases considerably the following properties: self-healing, waterproofness, water vapour transmission and water retention in comparison with a conventional lime and cement based mortar.

- For interior and exterior use, this mortar is specially formulated for the restoration of damaged joints on brick or stone historic buildings.

### 1.2 ADVANTAGES

- Composition similar to historic mortars
- Excellent water vapour transmission and waterproofness
- Low shrinkage
- Freeze/thaw resistance superior to most mortars
- High resistance to salts

### 1.3 LIMITATIONS

- This mortar is exclusively developed for repointing. For the installation of elements, use Bétomix Plus or XHN-101 (hydraulic lime application mortar) mortars.

## Technical data

Characteristic		Results*
Compressive strength ASTM C-109	7 days	1.0 MPa (145 psi)
	28 days	3.1 MPa (450 psi)
	90 days	6.1 MPa (884 psi)
Vapour transmission ASTM E-96		24 perms
Water absorption, ASTM C-1403	24 hours	16.5 %
Pull-off adhesion CSA 23.2-6B	28 days	0.21 MPa (30 psi)
Shrinkage, ASTM C-596	91 days	0.08 %
Freeze/thaw resistance ASTM C-666 Modified		100 cycles
Flexural strength, ASTM C-348	7 days	0.92 MPa (133 psi)
	28 days	1.86 MPa (270 psi)
Specific gravity		1860 kg/m <sup>3</sup> 112 lb/ft <sup>3</sup>
Yield of one 22.7 kg (50 lb) bag		0.012 m <sup>3</sup>
		0.42 ft <sup>3</sup>
Color **		Off white

\* Results obtained in laboratory at 23°C

\*\* Custom colored as requested

- It is forbidden to add any additives on field (colorants<sup>1</sup> excepted).

- Do not retemper, respect recommended quantity of water. If mortar loses its plasticity, simply mix again for 1 or 2 minutes.

## 2- Installation

### 2.1 SURFACE PREPARATION

- 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.

<sup>1</sup> The quality and quantity of colorant used should respect ASTM C-979 standard

- Using a chisel, carefully remove damaged mortar. It is possible to use a grinder when mortar is very hard. Take all necessary precautions to avoid damaging surrounding masonry elements.

- Remove mortar to have a minimum thickness of 25 mm (1 in) if joints are 10 mm (3/8 in) thick.

- For larger joints, remove a minimum of 2 to 2 1/2 times the joint thickness.

- In all cases, sound mortar should be reached.

- Remove dust and other residues with a low stream of water or air.

- Humidify joints before application avoiding accumulations.

#### 2.2 MIXING

- **Mixing in small quantity (1 bag):** Pour 4.0 litres (0.9 gallon) of potable water in a clean container.

- Slowly add dry ingredients while mixing with a drill equipped with a mixer attachment such as a Jiffler.

- Mix for a minimum of 5 minutes. Product should have a thick consistency forming a ball when hand pressure is applied.

Note: During the first minutes of mixing, product will look very dry. Mix for a minimum of 5 minutes before adjusting with water.

Note: Do not mix less than 1 bag.

Note: Do not add water to recover workability, simply mix for 1 or 2 minutes.

- **Mixing in large quantities:** Use a mortar mixer of appropriate size (mortar should be 3/4 full). Start mixer. Introduce requested amount of water (4.0 litres per 22.7 kg bag).

- Slowly add dry ingredients.

- Mix for a minimum of 5 minutes. Product should have a thick consistency forming a ball when hand pressure is applied.

Note: During the first minutes of mixing, product will look very dry. Mix for a minimum of 5 minutes before adjusting with water.

Note: Do not add water to recover workability, simply mix for 1 or 2 minutes.

#### 2.3 APPLICATION

- Push mortar firmly into the joint with a round-nose trowel (avoid spreading).

- Apply a first coat to obtain a uniform thickness. Let mortar dry until finger pressure barely leaves any traces.

- Humidify surface then fill the joint until wall surface is reached. It is important to compact material to remove air pockets.

- Mortar should be used within 1 1/2 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 1/2 hours. Discard unused mortar.

#### 2.4 FINISHING

- All mortar joints must be finished using a metal or plexiglas tool to provide the required look as well as weather resistance.

- Finishing must be done just before the mortar loses its plasticity, when finger pressure barely leaves any traces. It is impossible to set a specific time, it is necessary to rely on the mason's judgment.

- Do not overflow.

#### 2.5 PROTECTION AND CURING

- Protect with humid jute that is not in contact with mortar. Keep jute humid for 72 hours.

#### 2.6 CLEANING

- Clean tools with water while mixture is not yet hardened. Once it is hard, only a mechanical cleaning will be efficient.

- Protect and cover surroundings (windows, openings).

- During application, remove mortar spots with jute.

- Consult the element manufacturer or a cleaning specialist before any cleaning step is initiated. It is important to preserve mortar's integrity.

### 3- Packaging

- This product is available in 22.7 kg (50 lb) bags.

- A pallet contains 63 bags.

### 4- Storage

- **Interior storage:** Store in a cool, dry place. Avoid placing bags directly on the floor.

- **Exterior storage:** Cover bags with a waterproof sheeting. Do not store directly on the floor.

- Shelf life is one year in original, unopened bags.

### 5- First aid

This product contains lime and 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

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.