

# Bétomix Plus

## type N

### 1- PRODUCT DESCRIPTION

#### 1.1 USE

Bétomix Plus is a mortar based on GU hydraulic cement, type S hydrated lime and well-graded sand. It also contains an air entraining agent and colourants (optional). Bétomix Plus type N was developed to meet the properties described in table 6 of CSA A179-04 standard for a type N mortar. Bétomix Plus is principally used for the installation or jointing of masonry elements. For interior and exterior use, it is ideal for the installation of brick (clay, concrete or calcium silicate), concrete blocks or stones (limestone, granit or sandstone). It can also be used as a parging mix to cover foundations.

#### 1.2 ADVANTAGES

Use of a calibrated mortar ensures quality of the raw materials used especially for the sand that is free of any contaminants such as plants. It also provides control of the sand gradation and the final composition of the mortar such as the cement/lime/sand proportions.

#### 1.3 LIMITATIONS

1.3.1 Bétomix Plus must be used only for vertical applications.

1.3.2 This mortar is exclusively developed for the installation of above ground, non-loadbearing walls.

1.3.3 Any modification of the mortar composition is forbidden and automatically cancels the warranty.

1.3.4 Addition of additive and/or admixture of any nature such as set accelerators, retarders, antifreeze agents, waterproofing agents, polymers (latex) or else, is forbidden.

1.3.5 Only addition of colourants<sup>1</sup> is allowed although not recommended.

1.3.6 If there is any doubt on the compatibility of Bétomix Plus with the materials used in a specific job, consult our technical representatives and/or our technical service.

1.3.7 It is recommended to verify the adhesion between Bétomix Plus and the element used before starting any work. This precaution is necessary due to the diversity of masonry elements on the market.

1.3.8 Bétomix Plus was not formulated to perform repointing since a stiffer mortar is required resulting in a considerable reduction of mixing water used. This reduction would quantitatively modify final properties of the mortar.

### 2- INSTALLATION

#### 2.1 FIELD CONDITIONS

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 Never apply mortar on frozen elements.

#### 2.2 SURFACE PREPARATION

2.2.1 Refer to the technical data sheet of the element for special installation requirements.

#### 2.3 MIXING

##### 2.3.1 MIXING IN SMALL QUANTITY (1 BAG)

2.3.1.1 Pour 4.0 litres (0.9 gallon) of potable water in a clean container (20 L pail).

Note: The suggested amount of 4.0 litres of water per bag is a mixing starting point. The mason will then adjust the consistency according to the nature and conditions of the job.

2.3.1.2 Slowly add dry ingredients while mixing with a drill equipped with a mixer attachment such as a Jiffler. Use a drill with at least 1/2 in capacity.

2.3.1.3 Mix for a minimum of 3 minutes and a maximum of 5 minutes. Adjust consistency by adding water without excess.

2.3.1.4 Let the product rest for 2 to 5 minutes and then remix for 1 additional minute.

Note: Never mix less than one bag.

##### 2.3.2 MIXING IN LARGE QUANTITIES

2.3.2.1 Use a mortar mixer of appropriate size (mixer should be 3/4 full). Start mixer. Introduce water; 4.0 litres ( 0.9 gallon) per 30 kg (66 lb) bag.

Note: Always mix full units

2.3.2.2 Slowly add dry ingredients and follow mixing instructions as per 2.3.1.3.

#### 2.4 APPLICATION

2.4.1 Spread a uniform coat of mortar. Apply mortar on one end of the element and position it. Using a level, set the element in the bedding mortar with small, sharp taps. Fill all the joints. Do not realign elements once they have been in contact with mortar.

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.

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

## 2.5 FINISHING

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

2.5.2 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.

## 2.6 PROTECTION AND CURING

2.6.1 Protect from freezing (temperature over 5°C, 40°F) and rain for the first 48 hours.

2.6.2 In hot weather, protect from sun and wind to avoid rapid water evaporation of mortar.

2.6.3 Protect finished work with plastic sheeting to avoid mortar spots.

## 2.7 CLEANING

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

2.7.2 During application, remove mortar spots with jute (burlap).

2.7.3 Consult the element manufacturer or a cleaning specialist before any cleaning step is initiated. It is important to preserve mortar's integrity. Let the mortar dry for 28 days prior to initiate cleaning. Avoid high pressure washing and sandblasting.

## **3- PACKAGING**

This product is available in 30 kg (66 lb) paper bags and in bulk bags. A pallet of 30 kg bags contains 63 bags.

## **4- STORAGE**

### 4.1 INTERIOR STORAGE

Store in a cool, dry place. Avoid placing bags directly on the floor.

### 4.2 EXTERIOR STORAGE

Cover bags with a waterproof sheeting. Do not store directly on the ground.

### 4.3 SHELF LIFE

Shelf life is one year in original, unopened bags.

## **5- FIRST AID**

This product contains cement and 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**

Daubois offers the possibility to colour the mortar 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 of 8 cm by 1 cm (3 in by 3/8 in) to its customer for approval. Expect 5 business days delay for the coloration of one sample.

Daubois also has a colour sample case which includes a range of 43 different colours for Bétomix Plus type N. Contact a Daubois representative if you wish to consult the sample case or for any other information.

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 since it cannot control application methods and/or field conditions. Under this warranty, Daubois' responsibility is limited to either replace or refund the cost the product proved defective.

## **8- WARNING**

Colour variation may be observed on the final job even if a precoloured mortar was used. These variations are generally caused by several application conditions such as:

- waiting time before finishing is done (tooling).
- variable humidity content of the elements.
- lack of protection during installation or job interruption.

## Technical data table

Property		Results
Compressive strength <sup>1</sup> , ASTM C-109	7 days 28 days 28 days	min. 3 MPa (435 psi) min. 5 MPa (725 psi) Average <sup>2</sup> 6.5 MPa (943 psi)
Water vapour transmission, ASTM E-96 <sup>3</sup>		20 perms
Water absorption, ASTM C-1403 <sup>3</sup>	24 hours	118 g/100 cm <sup>2</sup>
Pull-off adhesion on clay brick, CSA 23.2-6B <sup>3</sup>	28 days	0.40 MPa (58 psi)
Drying shrinkage, ASTM C-596 <sup>3</sup>	91 days	0.13 %
Freeze/thaw resistance, ASTM C-666M <sup>4</sup>		50 cycles
Flexural strength, ASTM C-348 <sup>3</sup>	7 days 28 days	1.4 MPa (203 psi) 1.7 MPa (247 psi)
Water retention, ASTM C-1506 <sup>1</sup>		min. 70 % of initial flow
Air content, CSA A3004-C4 <sup>1</sup>		maximum 18% Average <sup>2</sup> 10 to 12 %
Specific gravity <sup>3</sup>		1900 kg/m <sup>3</sup> 120 lb/ft <sup>3</sup>
Yield of a 30 kg (66 lb) bag		0.016 m <sup>3</sup> 0.6 ft <sup>3</sup>
Approximate number of bricks installed per 30 kg bag		45 to 50 bricks of 6.5 brick/ft <sup>2</sup>

<sup>1</sup> Laboratory prepared sample of Bétomix Plus will meet CSA A179-04 property specifications for a type N mortar when mixed to a flow of 100 to 115%.

<sup>2</sup> Average value obtained during quality control analysis. Results may vary from this value but will always meet CSA A179-04 standard as described in <sup>1</sup>.

<sup>3</sup> Results obtained in laboratory controlled conditions with a standard sample mixed to a flow of 100 to 115%. These results may vary slightly from one sample to the other and are used as a performance indicator of the mortar. These results cannot be used for the acceptance or rejection of a mortar bag.

<sup>4</sup> Test executed according to Procedure A of ASTM C-666M standard.

Note: As mentioned in Table 6 of CSA A179-04 standard, the compressive strength of a mortar prepared at the job site should correspond to about two-third the resistance obtained by the same mortar prepared in laboratory.