



The Chemical Company

# BARRA<sup>®</sup> MORTAR L

Polymer modified, lightweight cementitious repair mortar

## DESCRIPTION

**BARRA MORTAR L** is a ready to use, polymer modified, lightweight, cementitious repair mortar for high build application. It is based on selected cements, and high grade silica sands. It contains no chlorides. On mixing with the specified quantity of water, **BARRA MORTAR L** yields a non-sagging, easily workable mortar with shrinkage compensating properties. The formulation is designed to improve water retention properties thus minimising the risk of cracking.

## FIELDS OF APPLICATION

**BARRA MORTAR L** is recommended for patch repairs and for levelling out surface unevenness in layers of maximum 35 mm on overhead and 40 mm on vertical surfaces. Applications include :

- repair of spalled concrete.
- repair of honeycombed concrete and voids.
- patch repairs to soffits of bridge decks, fly-overs, jetties, roof slabs, etc.
- filling voids and cavities to obtain a fair faced concrete.

## FEATURES AND BENEFITS

<b>Polymer modified</b>	Improved flexural, bond strengths even in thin layers.
<b>Dense structure</b>	Reduced permeability to water and aggressive environment. Durable.
<b>Light weight</b>	Non sagging in vertical and overhead situations in the specified thickness.
<b>Shrinkage compensated</b>	Provides repair integrity.
<b>Single part and, pre-formulated</b>	No batching errors. Easy to use.
<b>Chloride free</b>	Does not cause corrosion of rebars.

## TYPICAL PERFORMANCE DATA

Compressive strength (28 days)	: 35 N/mm <sup>2</sup>
Flexural strength (28 days)	: 7 N/mm <sup>2</sup>
Pull-out bond strength	: 1.20 N/mm <sup>2</sup>
E-Modulus (28 days)	: 20,000 N/mm <sup>2</sup>
Density (mixed)	: 1.8 kg/L

## PROPERTIES

Supply form	: Powder
Colour	: Grey
Minimum application temperature	: >5°C

## APPLICATION

### Surface Preparation

Correct substrate preparation is critical for optimum performance.

Surfaces should be structurally sound, clean, and free from loose particles, oil, grease, or any other contaminant. Cement laitence, loose particles, oil, grease, mould release agent, curing membrane, and other surface contaminants must be removed by wet grit blasting or high pressure water jetting (approx. 150 bars) or such other effective methods.

Saw cut the boundary of repair area perpendicular to the surface to at least 5 mm depth. Hack off at least top 5 mm of concrete in the repair area. Where saw cutting is not possible, a minimum of 10 mm should be hacked out.

Where required cut back the concrete to at least 25 mm behind the rebars. Remove all corrosion products from the rebars by grit blasting or other suitable technique. Replace the affected part of rebar if the diameter after grit blasting is found to be reduced by more than 20% of the original diameter.

**Note** : It is recommended that the decision on replacement of rebars is taken based on the advice of the structural engineer responsible for the works.

In a chloride laden environment, the rebars are recommended to be coated with Barrazinc SP zinc rich primer.

Surfaces must be thoroughly saturated with clean water for approximately 1 to 2 hours before applying the mortar. Surfaces should be damp with no free standing water.

BASF Construction Chemicals offices in ASEAN

#### Singapore

Tel :+65-6861-6766  
Fax :+65-6861-3186

#### Malaysia

Tel :+60-3-5628-3388  
Fax :+60-3-7847-6781

#### Indonesia

Tel :+62-21-893-4339  
Fax :+62-21-893-4342

#### Thailand

Tel :+66-2204-9427  
Fax :+66-2664-9267

#### Vietnam

Tel :+84-650-743-100  
Fax :+84-650-743-200

#### Philippines

Tel :+63-2-889-4321  
Fax :+63-2-889-4361

# BARRA<sup>®</sup> MORTAR L

## Priming

To obtain optimum bonding, the saturated substrate may be primed with a slurry brush coat of **BARRA MORTAR L** (2 parts powder to 1 part water) or alternatively Barra Emulsion 57 with cement (1:3 by vol). Normally, priming is not recommended if the mortar is to be applied by spraying.

## Mixing

Mechanical mixing is necessary. A slow speed (600 rpm), heavy duty electric drill fitted with a helical paddle is recommended.

Place 80 % of the mixing water in a clean pail. Keeping the mixer running, add BARRA MORTAR L slowly and mix for at least 3 minutes. Add the balance of the water and mix for a further 2 minutes to get a lump-free homogenous mix.

## Water requirement

The max. quantity of mixing water should be 4.5 L per 25 kg. For vertical and overhead applications a stiffer consistency may be used to avoid sagging.

**Note :** It is recommended that the actual water content should be fixed based on site trials.

## Placing

**BARRA MORTAR L** can be applied by spray or by hand.

Spray application is normally more practical for large repair areas.

Spray the mortar directly onto the saturated but surface dry substrate using a DEGUNA 30 mixing and spraying machine or other suitable machine available from BASF Construction Chemicals.

For satisfactory results, an experienced operator in sprayed concrete is essential. Build achieved by spraying can be higher and faster.

For hand placing, apply **BARRA MORTAR L** when the bonding slurry is still wet. If the bonding slurry has dried out, apply a fresh coat before placing the mortar.

Apply the first layer by hand taking care to pack in behind rebars, and firmly trowel on the rest, in 'wet-on-wet' layers of 15 to 20 mm, to the required thickness.

Scratch each layer to provide key for the next layer. If the layer has hardened, to obtain maximum bonding, apply the slurry brush coat (see priming) before applying the next layer.

**Note :** **BARRA MORTAR L** could lose workability if left standing for more than 30 minutes depending on ambient conditions. Under no circumstances should the mortar be retempered with additional water.

Avoid applying the mortar to a thickness less than 5 mm. For filling grooves or cavities less than 5 mm deep use other products in repair range such as BARRA 80. Consult BASF Construction Chemicals for advice on product selection and application.

## Curing

Apply a uniform coat of a BASF Construction Chemicals curing compound such as MASTERKURE 181 (see separate data sheet) by roller or low pressure spray immediately after final finishing.

## Protective coating

In high chloride and carbon dioxide laden atmosphere a flexible coating with low permeability to chlorides and carbon dioxide is strongly recommended to be applied.

Refer to BASF Construction Chemicals for product selection and application advice.

## EQUIPMENT

**Hand placing :** A heavy duty, slow speed (approx 600 rpm) drill fitted with a helical mixing paddle.

**Spray placing :** DEGUNA 30 mixing and spraying machine.

## CLEANING

Clean tools and equipment with water, before the mortar hardens.

## ESTIMATING DATA

A 25 kg pack of **BARRA MORTAR L** on mixing with 4.5 L of water yields 16.38 litres (0.0164 m<sup>3</sup>). Therefore material requirement is 15.26 kg/m<sup>2</sup> per 10 mm thickness.

## PACKAGING

25 kg, multi-ply paper sacks with polythene liner.

## SHELF LIFE

**BARRA MORTAR L** can be stored in unopened original packing for 12 months, if kept dry and at even temperature.

## PRECAUTIONS

For detailed Health, Safety and Environmental recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

1-1-2-0108

## STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

## NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF Construction Chemicals** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF Construction Chemicals**, are responsible for carrying out procedures appropriate to a specific application.