



# EFFECTIVE USE OF MORTAR



Good mortar is of vital importance in all brick or block walls as it bonds the units together, helps to carry the weight placed on the wall and seals the joints to provide a weatherproof wall.

To obtain the best results when making mortar, it is necessary to follow some simple rules. These are outlined in this section.

## Materials

To make good mortar, you need to use good quality materials.

### Cement



For normal brick and block work, Type GP Grey, Type GB Premium and Type HE Brightonlite® Cements are suitable. Cement should be stored off the ground in a dry environment free of moisture. Cement has a limited shelf life - do not use if it has become lumpy.

### Hydrated Lime



Lime is added to make the mortar creamier or more workable and durable. It also helps to minimise cracking as the mix dries out.

### Aggregate

Sand is the fine aggregate component which is the basis of the mortar and only recognised brickie's sand should be used.

### Water

Water for use in making mortars should be clean, fresh and free from impurities. As a general rule, if the water is suitable for drinking (potable) it will be okay for making mortar.

### Admixture

Chemical additives should be used only in strict accordance with the manufacturer's instructions and should not be used to replace lime. Pigments added to colour the mortar should not exceed 10 percent of the weight of cement in the mix and should be thoroughly mixed with the other materials prior to the addition of water. It is advised that a sample of the coloured mortar should be made and allowed to completely dry before commencing work to ensure the desired colour is achieved.

## Mixes

### Site Mixed Mortar

When site mixing, it is important to carefully measure the material by volume in a suitable container (i.e. a bucket) not by shovelfuls.



### Mechanical Mixing

This is usually done in a concrete mixer. A small amount of mixing water is placed in the mixer followed by the sand, cement and then lime. More water is then slowly added to create a thick creamy mortar. Each batch should be thoroughly mixed for three minutes to ensure that a uniform consistency is obtained.

### Hand Mixing

Mixing should be done in a clean wheelbarrow or on a mixing board to avoid contamination. The raw materials should be combined and mixed to an even colour prior to adding water. Water is then slowly added with the continuous turning of the mix until a thick creamy mortar is obtained. It is important that mortars are used within an hour of mixing and should not be retempered by the addition of water.

### Pre-mixed Mortar

Adelaide Brighton Cement manufactures a range of premium grade packaged mortars which are available in 20kg bags for ease of handling. These are available at your local hardware store or landscape supplies outlet and require only the addition of clean water and mixing prior to use. On a clean surface, slowly add the water whilst mixing until a uniform, workable consistency is obtained.

## Mortar Guide

Mortar Type	Mix Ratio By Volume			Common Uses
	Cement	Hydrated Lime	Sand	
Lime Mortar	0	1	3	Restoration work.
Cement Mortar	1	0	3	Damp course, retaining walls, bathroom fittings and repairing roof tile ridge caps.
Lime-Cement Mortar	1	1	6	Composition mortar, general brick, block and stone wall construction. Note: NOT suitable for areas constantly damp.

Note: For more detailed information on exposure environments refer to AS3700 (2001) "Masonry Structures".

### Lime Mortar

The usual mix contains 1 part Hydrated Lime and 3 parts sand by volume. Lime mortar should only be used in restoration work where the matching of existing construction is necessary.

### Cement Mortar

The usual mix is 1 part cement and 3 parts sand by volume. It is used where very high strengths are required as in piers or walls carrying heavy loads; also where a high degree of impermeability is required, as in piers and walls

below damp course level. It is harder to mix than lime mortar and tends to be harsher working and less plastic. Cement mortar is more prone to shrinkage than Lime-cement mortar.

### Lime-Cement Mortar

Lime-cement mortar is also known as composition or "compo" mortar. The mix contains, lime, cement and sand in proportions depending on the requirements of the work.

A satisfactory mix for most work is 1 part Hydrated Lime, 1 part Type GP Grey Cement and 6 parts sand by volume. For improved workability increase the lime and reduce the cement, a suitable mix being 1 part cement, 2 parts lime and 9 parts sand.

Lime-cement mortar is mostly favoured today because it combines the advantages of good workability with early strength. Use within an hour of mixing. This mortar should not be used in applications below the damp course level.

### DryPak Brickies™ Grey Mortar



DryPak Brickies™ Grey Mortar is a product prepared for all general brick, block and stone laying and pointing. It contains cement, lime, dry sand and additives making it easily workable and achieves good strength when cured.

This product should not be used below the damp course

level of a building or walls or for applications where the mortar would be constantly damp - refer DryPak Basic Mortar Sand & Cement. Unlike conventional mortar, working surfaces do not need to be wet when using DryPak Brickies™ Grey Mortar.

Note: "Pointing" should be carried out when mortar is firm to touch.

### DryPak Basic Mortar Sand & Cement



DryPak Basic Mortar Sand & Cement contains cement and sand in the proportions 1 to 3. It is ideal for use as damp course mortar and in constructing retaining walls. DryPak Basic Mortar Sand & Cement is recommended and used in the placement of bathroom fittings where a mortar is required.

DryPak Basic Mortar Sand & Cement may also be used as a topping mix for freshly placed concrete and for ridge cap repairs.

### DryPak Brickies™ Cream Mortar



DryPak Brickies™ Cream Mortar is a product prepared for all general brick, block and stone laying and pointing. It contains Type HE Brightonlite® Cement, lime and dry sand making it easily workable and achieves good strength when cured.