

Working with Limestone

Natural limestone can last for a thousand years if protected from the most severe of the elements and if laid in a correct mortar.

It is a product that is produced naturally containing no cement and does not rely on a furnace in production. For this reason it is half the carbon cost of brick and 30% the carbon cost of cement based reconstituted stone.

The following is a guide to frequently asked questions:

- Do use an appropriate lime mortar (see mortar guide at foot of page).
- Do ensure that the top of any stonework is suitably protected from the elements with a coping or roof covering with a minimum 50mm overhang and drip grooves.
- Do ensure that stonework beneath damp proof courses are protected from excessive damp by providing good drainage using gravel or a similar material to a depth of a minimum of 150mm below the bottom of any exposed stonework.
- Do ensure that the rear of any exposed stonework is protected by a cavity or suitable plastic membrane with the adoption of weep holes at 150mm below the face of any exposed stonework.
- Do ensure that the base of any external monuments is protected by a damp proof course and good all round drainage.
- Do ensure that good drainage is provided for dry stone walls.
- Do not use limestone for path edgings or rockery stones unless proved by standing out over one or more harsh winters.
- Do not use in garden walls unless on a suitable damp proof course and with suitable copings with a minimum of 50mm overhang and drip grooves.
- Do not use for retaining walls without protecting with a damp proof course and plastic membrane to the rear or a cavity to the rear with suitable wall ties. Weep holes should be provided at regular intervals.
- Do not use limestone for external steps or rises.
- Do not use limestone for external paving.
- Do not abut stonework with paving unless separated by a free draining gravel trap.
- Do not use in water features.
- Do not use mortar in dry stone walling.
- Do not build dry stone walls on concrete footings.

Mortar mix

Goldholme Stone Ltd is constantly being asked advice on mortar mixes. The best advice we can give is summed up in the excellent *“English Stone Building”* by Alec Clifton-Taylor & A S Ireson:

“The besetting sin of much modern pointing is to mix too much Portland cement into the mortar. All stone absorbs a certain amount of moisture in wet weather, and in order to dry out again, it must be able to ‘breathe’ freely through the mass in every direction. Unless this can happen, some kinds of stone will fail and all can be adversely affected. Very hard non-porous joints impede this aeration and are therefore wrong. The aesthetic effect of too much cement in the mixture is also invariably bad. A good working mixture for most purposes is ten parts of clean sand to two or three of lime, beaten up with water, with the addition of no more than one part of ordinary Portland cement; the object of adding cement is to help the mortar to harden, and no more should be added than is sufficient to make sure of that, nor should any be added until just before the mixture is going to be used. On exposed sites and with harder stones a slightly higher proportion of cement is sometimes acceptable. For historic buildings, on the other hand, Portland cement is never right and is no longer used at all by the Department of the Environment.”

For those with an interest in stone *“English Stone Building”* by Alec Clifton-Taylor and A S Ireson is recommended as an excellent read.

Goldholme Stone
“The Environmentalist’s Choice”