Installation Guide

Traditional Build Masonry

100mm Bed Walling and Ashlar

CS Professional Services

Design, Training and Specialist Consultancy

1. Preparation

   Prepare a clean and accessible working environment with suitable access and sufficient working space. Inspect and double check all materials prior to commencing work to ensure no issues once building is underway.

2. Foundations

   A proper foundation is essential when building with natural stone. Foundations should be set into firm soil rather than loose topsoil, and should be level across the entire length of the wall to be built. On sloping areas, it may be necessary to step your foundation where levels change significantly across the length of the wall in order to avoid unnecessarily deep foundations.

   A standard concrete mix of 1:2:4 is often used for foundations (cement : sand : aggregate). Foundations should be properly protected and left to cure before any building takes place.

3. Mortar Selection

   A suitable mortar mix should be chosen for your build. There are a number of standard mortar mixes that may be suitable (both lime and cement based), and the best choice for your project will depend on several factors including joint sizes, exposure to the elements and aesthetic preferences. Your builder or engineer can advise as to the best mortar mix for your project.

4. Setting Out

   It is always advisable to fully set out your wall before starting to build. This can be carried out using a string line with chalk, and will enable you to spot any issues and make any adjustments to the setting out before you start building.

5. Building

   Begin by spreading a mortar bed on the top of your foundation, long enough for several stone units. Line up the first stone unit with your setting out/chalk line, placing this on the mortar bed. Take the next stone and butter the end that is to butt up against the first stone with mortar to form the vertical (perp) joint. Place this stone with the desired joint width, and check the alignment against your setting out. Gently tap both stones into the mortar bed, and check that they are level and set correctly. Adjust as required, and then repeat this process for the next stone.

   It is always advisable to install a damp proof course a minimum of 150mm above ground level in order to avoid rising damp. This DPC should be fully sandwiched between two beds of mortar.

Cumbrian Stone

Cumbrian Stone Ltd
Montal Place
Stalker Road
Gilwilly Industrial Estate
Penrith, Cumbria
CA11 9FE

sales@cumbrianstone.co.uk
Tel: 01768 867867
www.cumbrianstone.co.uk

6. Wall Ties/Fixings

   Your stone should be tied back at regular intervals using wall ties or specialist fixings. For standard cavity walls, wall tie spacing is typically a maximum of 900mm horizontally and 450mm vertically, and no more than 225mm from corners and openings, however these requirements may vary depending on your build. Check with Building Control and your structural engineer for the most up to date requirements for wall ties and brackets, and if in doubt seek specialist advice from a masonry tie designer/supplier to ensure your wall ties are suitable for your project.

7. Movement Joints

   As a general rule, movement joints are not required in walls less than 10m in length, however this can vary depending on your specific project. Your structural engineer or Building Control Officer should be able to advise on the specific requirements for your project.
   For longer walls, movement joints must be included at suitable intervals, both horizontally and vertically (generally spaced 3-6m from corners then at a maximum of 12m intervals, and at changes in thickness or height).

8. Building in Stages

   You will need to build your wall in stages, allowing the mortar in the lower courses to cure before building too much weight on top of them. Each stage is called a lift, and generally these should be limited to around 600-750mm high at a time, although this may vary based on your project.

9. Protecting Your Walling as you Build

   It is important to keep your wall protected and clean as you build. Clean off any mortar splashes straight away, and keep your wall/mortar protected from the elements to avoid mortar failure due to curing too quickly or drying out. Follow the mortar manufacturer's instructions regarding minimum/maximum temperatures for building (generally building should not be undertaken at temperatures below 3 degrees Celsius).