Internal Plaster

TSD 44

As a consequence of the different cutting processes used at different factories, some H+H Celcon blocks are manufactured with scratched surfaces whilst most are plain faced. The scratched surface is not produced to provide a key for plaster and is normally inadequate for that purpose. Apart from appearance, blocks supplied from different factories will have identical physical properties. These recommendations, therefore, apply equally to all H+H aircrete products, whether plain faced or scratched.

Plaster mixes

Most types of plaster, can be applied to H+H aircrete. Choice of plaster type and application should be made with regard to guidance given in BS EN13914 “Design, preparation and application of external rendering and internal plastering” Part 2: Internal plastering and BS 5628: Part 3 (see also FPDC Advisory Note No 1 “The application of plaster to aircrete block walls”).

Traditional sand : cement (dense) plasters should not be stronger than the backgrounds onto which they are applied. A designation (iii), or equivalent, is the strongest mix recommended for use for direct application on to aircrete walls. Recommended mix proportions (by volume) for designation (iii) are as follows:

Cement : lime : plastering sand	1:1:6
Cement : plastering sand with plasticiser	1:6
Masonry cement : plastering sand	1:5

Gypsum (lightweight) plasters should follow the manufacturers’ recommendations as to the appropriateness of their plasters for application onto aircrete. Portland cement and gypsum plasters should never be used in the same mix nor allowed to contaminate each other at any stage of the mixing or gauging of materials.

The total thickness of plaster is normally 13mm when applied to blockwork. This excludes any dubbing out which may be necessary when walls have been built out of plumb or alignment, or where architectural features require localised thickening of the plaster finish.

Surface preparation

The following guidance covers the application of traditional dense plaster when applied direct to the aircrete walls. Proprietary and pre-mixed plasters should be applied in accordance with the manufacturers recommendations.

As recommended in BS5628 Part 3, we would suggest that mortar joints should be raked by 15mm as work proceeds on all masonry to be plastered or rendered in order to provide a good key. For walls built with thin layer mortar joints (which cannot be raked), we would suggest the use of a PVA bonding coat, as detailed below, to improve the bond for plastering. Walls should be cleaned of any dust, loose particles and contamination, which may have occurred during construction. In extreme cases of bad site storage or wet conditions where fungi or algae may have formed on the wall, the surface must first be treated with a fungicide, applied in accordance with the manufacturer’s instructions.

Any movement joints present in the wall should be continued through the plaster finish. Proprietary types of movement beads incorporating a cover strip are available for this purpose. Alternatively, stop beads abutting adjoining work can be used to provide a break in the plaster.

Celcon blocks, under normal conditions, have moderate to high suction. In very dry conditions, it may be necessary to control high suction by dampening the wall using a stock brush or fine spray immediately before plastering to balance the blocks' initial suction. This must be carried out in a controlled fashion and on relatively small areas at a time. Excessive wetting must be avoided. Alternatively, a PVA bonding coat can be applied in accordance with the manufacturers recommendations. These are typically applied diluted in two coats, with the first acting as a primer (which is allowed to dry) and the plaster is applied to the second coat whilst it is still tacky.

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