

Castle Hydrated Lime is produced to comply with the requirements of BS EN 459-1 : 2001 Building lime type CL 90(S).

It is recommended for use in cement: lime: sand mortars for brick and block laying, external rendering and for internal plastering.

Applications

Castle Hydrated Lime as a constituent of cement: lime: sand mortars can be used for a wide range of applications for jointing mortars, renders and plasters. Together with Castle Ordinary Portland Cement and a suitable sand the mortar will have excellent workability and good water retention when applied to most bricks, blocks and surfaces to be rendered or plastered. In some applications, Castle Masonry Cement may be more suitable and technical guidance is available on request (see Castle Masonry Cement).

Quality

Castle Hydrated Lime is produced by precisely controlled hydration methods from selected quicklime resulting in a product of high purity.

Technical data in respect of compliance with BS EN 459-1 : 2001 Building lime is available on request from Castle's Technical Helpline on 0845 722 7853.

Strength

Very high strength is not normally required of building mortars. An unnecessarily strong mortar will concentrate the effects of any differential movement between the mortar and the brickwork and cracks may appear which could reduce the durability and increase the risk of penetration by rain. A weaker mortar will accommodate some differential movement between the mortar and the brickwork and if cracking does appear it will generally be distributed as hairline cracks in joints, thus preserving the integrity of the bricks or blocks themselves. Subsequent movement of moisture through the mortar will act with the lime to produce autogenous healing of the hairline cracks formed.

In general the mortar should be weaker than the bricks or blocks and this is particularly important with concrete blocks which may have a high drying shrinkage.

Mortar mix design

It is important to consider the mix proportions of mortars with care. The following mix proportions are intended as a guide but may need altering slightly to suit local conditions such as the type of brick or block, or the sand being used.

Designation	Use	Proportions – Castle OPC: Castle Hydrated Lime: sand (by volume)
Mortars for bedding brickwork, concrete blocks, masonry, etc		
I	Conditions where strong dense mortar is essential (e.g. where heavily loaded and some classes of work below ground level)	1: 0.025: 3
II	Work in severe conditions of exposure to weather; work below DPC	1: 0.5: 4-4.5
III	Normal construction. External work above DPC, if not carried out in winter	1: 1: 5-6
IV	Internal work, if not carried out in winter	1: 2: 8-9
V	Specialist uses, e.g. some conservation work	1: 3: 10-12
Mortars for external rendering and internal plastering		
–	Floating and finishing coats	1: 1: 5-6
Note: The mix for each successive coat should not be richer in cement than the mix used for the coat to which it is applied.		
Mortar for tiling		
–	Backing and bedding	1: 0.5: 4
Notes: Sand should be free of foreign or harmful materials and should comply with the requirements of BS1199 : 1976 (1996) Type S for external rendering and internal plastering or with BS1200 : 1976 (1996) for mortar for brickwork or blockwork. When mix proportions are by volume, care should be taken if the sand is either dry or excessively wet, to allow for bulking. In cold weather newly erected brickwork or blockwork should be covered with sacking, tarpaulins, polythene sheeting or other suitable material to protect the mortar against frost, rain or snow.		

Admixtures

Air-entraining admixtures will improve the durability of mortar exposed to frost attack, although reducing the strength of the mortar. Choose an air-entraining agent designed specially for mortar and follow the manufacturer's advice on dosage level. Waterproofing admixtures can be used to reduce permeability in exposed locations. Accelerators or calcium chloride should not be used.

For advice on the use of admixtures in mortars contact Castle's Technical Helpline on 0845 722 7853.

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