MORTAR / CONCRETE / PLASTER / SCREED

Unclass L641	EPIC F32
CI/SfB	Yq4

MORTAR

TECHNICAL DATA SHEET

RTU mortars are factory made retarded mortars, which are delivered to site ready-to-use and thus require no further mixing. They incorporate a cement set retarder which makes it possible to extend the working life of the mortar, generally for 8 hours or 36 hours, depending upon site requirements.

Key Features

- No need for onsite mixing equipment and no requirement for power or water
- Quality assured product with guaranteed minimum strength
- Accurate cement content and mix proportions
- Consistent colour through you complete project
- Increased productivity and labour savings
- Reduced wastage and pilferage

Compliance

RTU mortars comply with BS EN988-2. RTU mortars are manufactured from carefully selected washed sand conforming to the requirements of BS EN 13139, cements conforming to BS EN197-1, admixtures to BS EN 934-3. For coloured mortars, pigments conforming to BS EN12878 are used to provide and extensive range of colours and shades.

Manufacture

All RTU mortars are manufactured using state of the art computerised batching equipment. All constituent materials are accurately weighed to strict tolerances, ensuring a consistent mix every time.

Workable Life

The standard working life available with RTU mortars are 8-hour retardation or 36-hour retardation. The mortar will remain workable for the specified workable life when stored in covered tubs. The retardation effect will then wear off and the mortar will set. Workable life will vary depending on weather conditions; hot weather decreases the retardation and cold weather increases the retardation period. Seasonal changes in temperature are taken into consideration during manufacture. Mortars with longer or shorter workable life are available by special request.

Mortar Classification

Mortar Classes BS EN 988-2	Traditional Mortar Designations BS4721
M12	i
M6	ii
M4	iii
M2	iv

Table 1. Mortar classifications

Table 1. shows the relationship between BS EN988-2 and the now discontinued British standard BS4721. BS EN 988-2 specifics mortar by performance, where as BS 4721 specified mortars by prescribed proportions. RTU standard mortars are specified by performance and are thus compliant with BS EN988-2. If required we can supply prescribed mortars as per traditional designations.

Working Characteristics

RTU Mortars are designed to remain workable throughout the specified workable life of the mortar. However in hot conditions some stiffening may occur due to loss of moisture through evaporation. The addition of small amounts of water mixed by a shovel in the tub or trowel on the mortar board within the stated workable life of the mortar is acceptable. Under no circumstances should further admixtures be added or the mortar be remixed once the initial set has started, as the mortar will not obtain the required hardened properties.

Weather Precautions

The code of practise for use of Masonry: Materials and components, design and workmanship (BS 5628-3) should always be followed when working with mortars. Mortar should be protected against rain and drying conditions.

Working in hot conditions

Evaporation of water from the mortar is the primary concern when using mortar in hot weather. Loss of moisture in the mortar may cause a reduction in the bond strength between the mortar and the brickwork. Loss of moisture also reduces the effect of the retardation causing the mortar to set earlier. Therefore mortar should always be stored in covered tubs and in the shade at all times. The tubs should also be rinsed with cold water before mortar is poured into them.

Bricks and blocks should be laid more rapidly during hot weather to prevent the mortar placed drying out. Also it is recommended to protect newly constructed masonry against excessive drying by covering it.

Working in cold conditions

It is inadvisable to proceed with the construction of masonry when the ambient temperature is below 4°C. The setting of mortars is affected by temperature; setting will be delayed in colder weather. This factor is taken into consideration when manufacturing the mortar but significant reductions in temperature may increase the retardation period.

Mortar tubs should be covered to protect the mortar against rain, frost and snow. All bricks and blocks should also be protected against rain, frost and snow. Bricks and blocks which are saturated, should not be laid. When there is danger of freshly built masonry freezing, consideration should be given to protecting it, using an insulating layer such as hessian or quilting.

Any frozen mortar should be discarded and provided the air temperature has risen to a suitable level and the blocks/bricks are not frozen, the unfrozen mortar may be used.

Efflorescence & Lime Bloom

Efflorescence appears when the soluble salts which are present in most building materials, are transported to the surface of the masonry as a solution. The water evaporates leaving a white deposit on the surface. This tends to happen more at the mortar joint, as mortar is more porous than brick.

This form of efflorescence seldom persists, unless water is permitted to percale through the brickwork.

Lime bloom is caused by the free lime present in all types of cements. A thin layer of carbonated lime forms on the surface of the joint. This effect is normally not an issue with non-pigmented mortar but can be much more noticeable with dark pigmented mortars.

The best cure for each of the above problems is to ensure good construction practises during construction and ensure there is no source of permanent dampness transmitting through the masonry. Efflorescence and Bloom will normally weather away with time

Typical Usage

Type of Masonry being used	Typical quantity per $1M^3$ of mortar
Solid brick	**1900**
Perforated brick	**1300**
100mm block	**800**
140mm block	**600**
190mm block	**400**

Coloured Mortars

A wide range of coloured mortars are available, which can be used to match or contrast with most bricks. Colour sample packs are available on request to help select the correct colour for your application. Twelve standard colours are available with four shades in each colour.

All pigments used comply with the requirements of BS EN 12878. Our automated pigment system ensures accurate batching, providing colour consistency throughout each project, with complete traceability for each batch of coloured mortar produced.

When selecting a coloured mortar it is always recommended that a colour sample panel is constructed using approximately 100 brick. The sample panel should use a varied selection of the proposed brick and be protected from water ingress along the top. This sample panel will allow for a more accurate colour match or contrast evaluation.

For more information Contact our Technical Department

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