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POINTING

Pointing is an art to finish the mortar joints in exposed masonry with suitable mortar, to protect the joints from weather effects and also to improve the appearance of the building structure. It should be noted that mortar joints are the only weak spots in a structure and it should be properly protected from the disintegrating effects of rain water, sunrays and snow falls. Pointing being cheap, can be adopted in places of low rainfall.

The pointing can be described under the following points:

- When pointing can be done
- Type of Mortar used for pointing
- Procedure for pointing
- Types of pointing

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When pointing can be done

The pointing of mortar joints may be done in the situations as under:

Where it is not required to produce a smooth and even surface, but the surface appearance is exhibited by the pattern of the joints, their thickness, colours and texture.

Where the natural beauty of materials, viz., stone blocks, bricks etc., is decided to be exhibited to view in the construction.

Where good quality of materials, viz., stone blocks etc are used in construction which can stand against the adverse effect of weather. Under these conditions, pointing being cheap, provides balance in economy.

Where the workmanship is of good quality and joints can be finished smooth with richer mix.

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Types of Mortar used for pointing

Pointing is usually carried out either in lime mortar or in cement mortar. But, sometimes, the composite mortars are also used.

puk xkjk Lime mortar: The lime mortar for pointing is made by taking equal parts of fat lime and fine sand and then grinding them thoroughly in a mortar mill.

lheV xkjk Cement mortar: The cement mortar for pointing is made by mixing cement and sand in proportion of 1:2 or 1:3. After mixing these materials in dry condition on a water tight platform, the water is mixed to them. The quantity of mortar prepared must be used within 30 minutes after adding water.

fefJr xkjk Composite mortar: The composite cement lime & sand mixes with the proportions of 1:2:9 or 1:1:6 should be preferred for pointing work.

lokbfVx dh ifd;k Procedure of pointing

Pointing of mortar joints in exposed bricks or stone masonry is carried out basically in two steps.

i) Racking of joints- Masonry face joints are raked out of to a depth of about 15 mm
ii) Filling of joints - The spaces or joints are filled up by a suitable mortar of a richer mix.

Pointing may be done either as the work proceeds or after the completion of the work. The Pointing during work in proceed is stronger and more durable. Pointing after completion of the work is cleaner and better in appearance.

Procedure for pointing of masonry work are as follows:

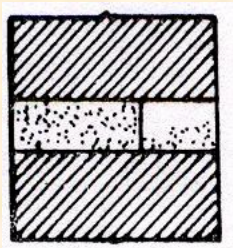
- *All the mortar joints (on the masonry face required to be pointed) are racked out by a special pointing tool to a depth of 15 to 20 mm , so as to provide an adequate key for the fresh mortar used for pointing.*
- *All the loose mortar and dust are removed by brushes.*
- *The joints and the wall surface are washed with clean water, and then kept wet for few hours.*
- *The joints so prepared, are filled up with suitable mortar with a small trowel. The mortar is well pressed into the joints to form a close contact with the old interior mortar joints. The joints are rendered flush, sunk or raised according to the type of pointing required. All excess mortar sticking to the sides is scraped away.*
- *The finished pointing work is kept wet for about 03 days when lime mortar is used for pointing and 10 days when cement mortar is used for pointing.*

lokbfVx d idkj Type of pointing

The joints of pointed works are finished in various shapes. This finishing of pointing work into different types is illustrated and described below. The choice of a particular type of pointed finish depends upon the type of masonry, nature of building structure and effect of finish desired.

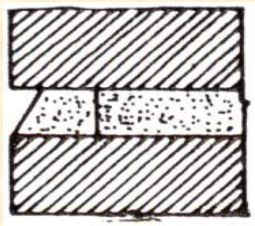
¶yV ;k ¶y'k lokbfVx Flat or Flush pointing:

In this type of pointing, the racked joints are filled up by mortar and finished off flush with the face of wall. The edges are neatly trimmed with a trowel and the straight edge. This is the simplest type of pointing and is extensively used for finishing masonry work. This type of pointing is not very good in appearance, but is very durable because it does not provide a lodging place for dust, dirt and water etc.

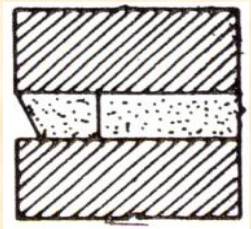


dV ;k LVd lokbfVx Cut or struck pointing:

In this type of pointing, the face of pointing, instead of keeping vertical is kept sloping outwards. To achieve this, the mortar is first filled up into the racked joint and then top horizontal joints (while still green) is pressed inside by an amount of 3 to 6 mm with a special pointing tool.



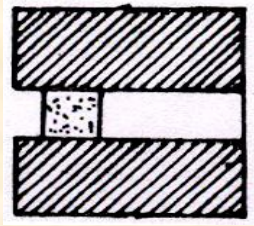
This type of pointing is mostly used for brick works, particularly for finishing horizontal joints as it immediately throws off the rain water.



Sometimes, a struck pointing is formed by pressing inside the bottom of the point. This has the advantage of not allowing the rain water to collect in the recess.

jh l M lokbfVx Recessed pointing:

In this type of pointing , the face of the pointing is kept vertical and is pressed inside the plane of the wall by means of a suitable tool.



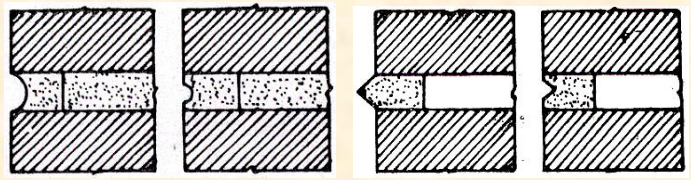
This type of pointing is not recommended generally but may be used for facing work of good texture bricks and good quality mortar.

xkM ;k jkM lokbfVx Grooved or Rubbed pointing :

In this type of pointing , the racked joints , weather vertical or horizontal , are first filled up flush with the face of wall, and then a semi circular notch is formed by rubbing the middle of joints by a tool known as pointer or naila. Grooved pointing has a groove on the face of wall.

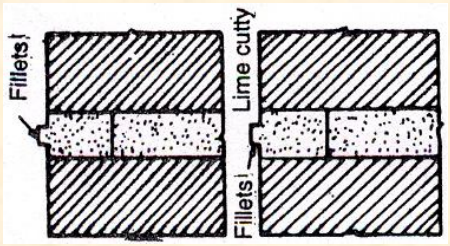
"V" shape grooving can be done either projecting V shape out side the wall surface or inside.

This type of pointing gives an attractive appearance to the structure and is recommended for superior work, particularly for vertical joints of walls.

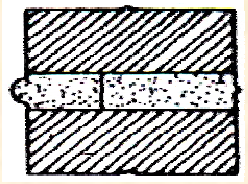


Vd lokbfVx Tuck pointing: In this type of pointing, the mortar is first pressed in the racked joints and is finished flush with the face of wall. While the pressed mortar is still green, a narrow channel or groove (having width 5mm and depth 3mm) is formed at the centre of joints. This groove is then filled in or tucked in hence known as tuck pointing with white lime putty , containing small amount of silver sand, which is left to project beyond the face of joint by3 mm.

This type of pointing can be used for new or old masonry work. Tuck pointing affords a neat and attractive appearance but the fillet part is not very durable. Hence, it is adopted for old masonry work. If the projection is made up of the same material as the pointing i.e. mortar, then it is called as a half tuck or bastard pointing. This pointing is poor in appearance but more durable than tuck pointing.



ohMM lokbfVx Beaded pointing: In this type of pointing, the racked joints are first filled up with mortar and finished flushed with the face of the wall and then bead is formed by a steel or iron rod with a concave edge in the middle of joint. This type of pointing though has a good appearance, yet is liable to damage easily.



lokbfVx gr lko/kkfu;k Precautions for pointing:
For the success of pointing work the following precautions should be taken:

- Pointing should be done while mortar in joints is green and fresh.
- While pointing old work, the joints should be made sufficiently wet before pointing as the mortar will not stick to a dry surface.
- The type of mortar as well as pointing should be judiciously chosen depending upon the requirement of job.
- No pointing work should be carried out during the frost weather as it will result in dis-integration of joints due to freezing.
- The joints of pointed work (whether vertical, horizontal or slant) should be clearly de-pitched in pointing work by regular lines of uniform width. In case of slant joints (as in random rubble masonry), the joints line should meet at or near the junctions.

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To develop safe, modern and cost effective Railway technology complying with Statutory and Regulatory requirements, through excellence in Research, Designs & Standards and Continual improvements in Quality Management System to cater to growing demand of passenger and freight traffic on the Railways.

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