

Heaven's Light is Our Guide

Department of Civil Engineering

Rajshahi University of Engineering & Technology

CE 2103

Engineering Materials

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Credit: 4

Contact Hours : 4 hours/week

Lecture by-

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Professor

Dept. of Civil Engineering



Engineering Materials

Course Content:

- ❖ **Definition and Properties of Engineering Materials**
- ❖ **Bricks**
- ❖ **Mortar**
- ❖ **Plaster**
- ❖ **Timber**
- ❖ **Paints and Varnishes**
- ❖ **Rubber and Plastic**
- ❖ **Ferrocement**



Plaster

❖ What is Plaster?



❖ A thin coat of mortar

❖ The process of applying plaster is known as plastering.



Plaster

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❖ A thin coat of mortar

❖ The process of applying plaster is known as plastering.

Plaster

❖ Classification of Plaster

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Objectives

- Smooth surface
- To prevent the brick or concrete from environment

To provide a base for applying paints



Plaster

❖ Classification of Plaster

Surki
Plaster

- ❖ Surki mortar is used in surki plastering (1:2).
- ❖ Thickness of plaster is $\frac{3}{8}$ to $\frac{1}{2}$ inch in one coat.

L:Su



Plaster

❖ Classification of Plaster

Surki
Plaster

- ❖ Surki mortar is used in surki plastering (1:2).
- ❖ Thickness of plaster is $\frac{3}{8}$ to $\frac{1}{2}$ inch in one coat.
- ❖ Mainly used in plinths and walls




Plaster

❖ Classification of Plaster

Lime-
Surki
plaster



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- ❖ Surki mortar is used (Lime:Sand:Surki=1:1:1).
 - ❖ Thickness of plaster is $\frac{3}{8}$ to $\frac{1}{2}$ inch in one coat.



Plaster

❖ Classification of Plaster

Neeru or
Lime
Putty

- ❖ Neeru is prepared from quick lime.
- ❖ It is then used in plastering.
- ❖ Mainly used in walls




Plaster

❖ Classification of Plaster

Cement
plaster



- ❖ Cement mortar is used (1:2 to 1:5).
 - ❖ Thickness of plaster is $\frac{1}{2}$ inch to 1 inch in one coat.
 - ❖ Mainly used in walls, ceiling, column, beam, staircase, etc.
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Plaster

❖ Classification of Plaster

Stucco
Plaster



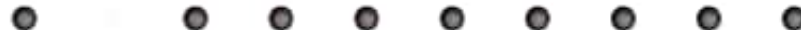
- ❖ Stucco means **ornamental** coat of plaster.
- ❖ This is made of either clean white shell lime and powdered marble (1:2) or cement mortar (1:3).



Plaster

❖ Method of Plastering

- ❖ Plastering by hand
- ❖ Plastering by machine



Plaster

❖ Plastering by Hand



tering by Machine



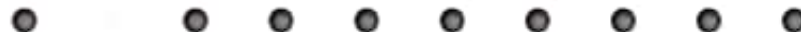
Render Down

Plaster

❖ Specification/Requirement of a Good Plaster

A good plaster should-

- ❖ **adhere firmly** on the applied surface.
- ❖ **not shrink.**
- ❖ **be hard and durable**
- ❖ **cheap and economical**
- ❖ **resist penetration of water**



Plaster

❖ Pointing

- ❖ Pointing is the **finishing off** the mortar in the rough brick joints of walls to give the surface beautiful appearances.
- ❖ **Cement mortar** is usually used.



Plaster

❖ Pointing

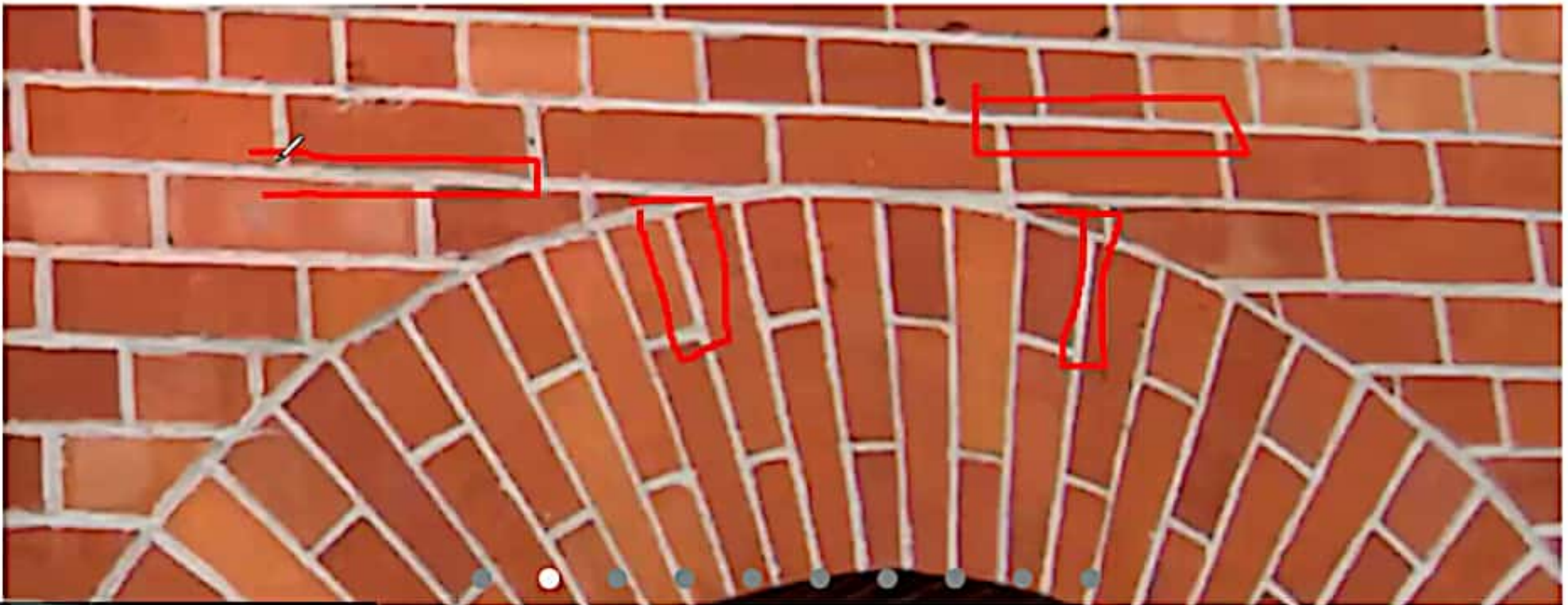
- ❖ Pointing is the **finishing off** the mortar in the rough brick joints of walls to give the surface beautiful appearances.
- ❖ **Cement mortar** is usually used.
- ❖ Cement: sand=1:2.



Plaster

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Plaster

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Plaster

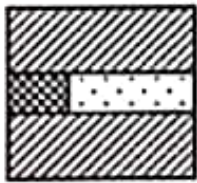
❖ Types of Pointing

- ❖ Tuck pointing/Flush pointing
- ❖ Bastard pointing
- ❖ Cut pointing
- ❖ Rule pointing
- ❖ V-pointing

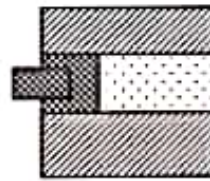


Plaster

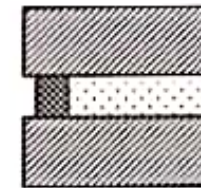
❖ Types of Pointing



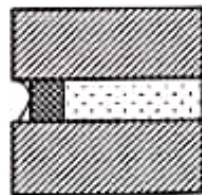
Tuck pointing



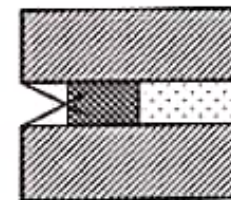
Bastard pointing



Cut pointing



Rule pointing

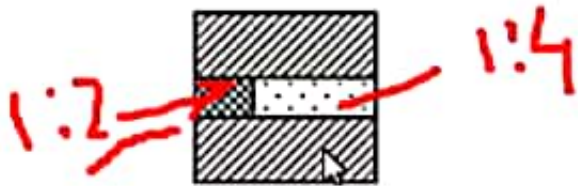


V-pointing

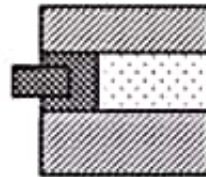


Plaster

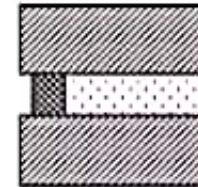
❖ Types of Pointing



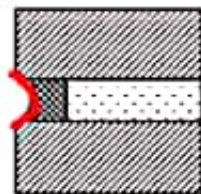
Tuck pointing



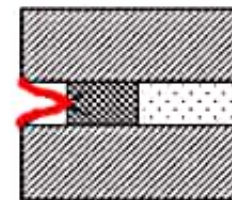
Bastard pointing



Cut pointing



Rule pointing



V-pointing



Plaster

❖ Plastering Vs. Pointing

<i>Plastering</i>	<i>Pointing</i>
<p>It is applied to entire surface.</p> <p>It provides smooth surface.</p> <p>It conceals defective workmanship in the masonry construction.</p> <p>It provides a base for applying white/colour washing.</p>	<p>It is provided only at exposed joints.</p> <p>It does not provide smooth surface.</p> <p>It is used to expose beauty of well built masonry work.</p> <p>White washing or colour washing are ruled out.</p>