

Building Wall Foundation using Bricks

Spoken Tutorial Project
<http://spoken-tutorial.org>

National Mission on Education through ICT

Narsingh Varma, Madhuri Ganapathi
Chitra Devi
IIT Bombay

7 December 2023



Learning Objectives



Learning Objectives

We will learn about,



Learning Objectives

We will learn about,

- ▶ **Materials used to build a wall foundation**



Learning Objectives

We will learn about,

- ▶ **Materials used to build a wall foundation**
- ▶ **Classification of bricks**



Learning Objectives

We will learn about,

- ▶ **Materials used to build a wall foundation**
- ▶ **Classification of bricks**
- ▶ **Field Test on bricks**





-

Pre-requisites



Pre-requisites

- 



Pre-requisites

- ▶ To practise this tutorial, learners should be familiar with basic construction methods
- ▶ For pre-requisites tutorials please visit this site
<https://spoken-tutorial.org>



Types and characteristics of Bricks



Types and characteristics of Bricks

- ▶ **Selecting bricks is an important criteria for brick wall foundation**



Types and characteristics of Bricks

- ▶ **Selecting bricks is an important criteria for brick wall foundation**
- ▶ **Let us now see about the types and characteristics of bricks**



Types and characteristics of Bricks

- ▶ **Selecting bricks is an important criteria for brick wall foundation**
- ▶ **Let us now see about the types and characteristics of bricks**
- ▶ **According to IS code 1077 bricks are classified based on size and strength**



Simple Field Tests on Bricks



Simple Field Tests on Bricks

► Water absorption test



Simple Field Tests on Bricks

- ▶ **Water absorption test**
- ▶ **It determines the percentage of water absorbed by a brick when soaked in water**



Simple Field Tests on Bricks

- ▶ **Water absorption test**
- ▶ **It determines the percentage of water absorbed by a brick when soaked in water**
- ▶ **Let's see the procedure of the test according to IS code 3495-Part 2**



Permissible Water Absorption



Permissible Water Absorption

- ▶ **Maximum water absorption for bricks of class 12.5 and below is 20%**



Permissible Water Absorption

- ▶ **Maximum water absorption for bricks of class 12.5 and below is 20%**
- ▶ **Maximum water absorption for bricks above class 12.5 is 15%**



Permissible Water Absorption

- ▶ **Maximum water absorption for bricks of class 12.5 and below is 20%**
- ▶ **Maximum water absorption for bricks above class 12.5 is 15%**
- ▶ **Lesser the water absorption, better is the quality of brick**



Permissible Water Absorption

- ▶ Hence bricks above class 12.5 have better quality



Permissible Water Absorption

- ▶ Hence bricks above class 12.5 have better quality
- ▶ These provisions are according to IS code 1077



Foundation Design

- **Let's discuss foundation design and preparatory work for construction of a wall**



Foundation Design

- ▶ **Let's discuss foundation design and preparatory work for construction of a wall**
- ▶ **Design wall foundation details given below are according to IS code 1080**



Mix Proportioning of Cement Mortar

- ▶ **Cement mortar mixture 1:3 is used for laying the brick wall foundation**



Construction Procedure

- **Construction procedure for laying of bricks**



Construction Procedure

- ▶ **Construction procedure for laying of bricks**
- ▶ **All provisions mentioned are according to IS code 2212**



Summary

We have learnt about,

- ▶ **Materials used to build a wall foundation**
- ▶ **Classification of bricks**
- ▶ **Field Test on bricks**
- ▶ **Steps to build a wall foundation using burnt clay bricks**



About the Spoken Tutorial Project

- ▶ Watch the video available at https://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you can download and watch it



Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to contact@spoken-tutorial.org



Forum for specific questions

- ▶ Questions in THIS Spoken Tutorial?
- ▶ Visit <https://forums.spoken-tutorial.org>
- ▶ Choose the minute and second where you have the question
- ▶ Explain your question briefly
- ▶ The Spoken Tutorial project will ensure an answer

You will have to register to ask questions



Acknowledgements

- ▶ **The Spoken Tutorial Project was established by the Ministry of Education, Government of India**



Thank you

- ▶ **This tutorial is contributed by Dr. Narsingh Varma Chitra Devi and Madhuri Ganapathi from IIT Bombay**
- ▶ **Thank you for joining**

