



SNS COLLEGE OF TECHNOLOGY



AN AUTONOMOUS INSTITUTION

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COIMBATORE

DEPARTMENT OF CIVIL ENGINEERING

23GET102 – BASIC CIVIL AND MECHANICAL ENGINEERING

I YEAR / I SEMESTER

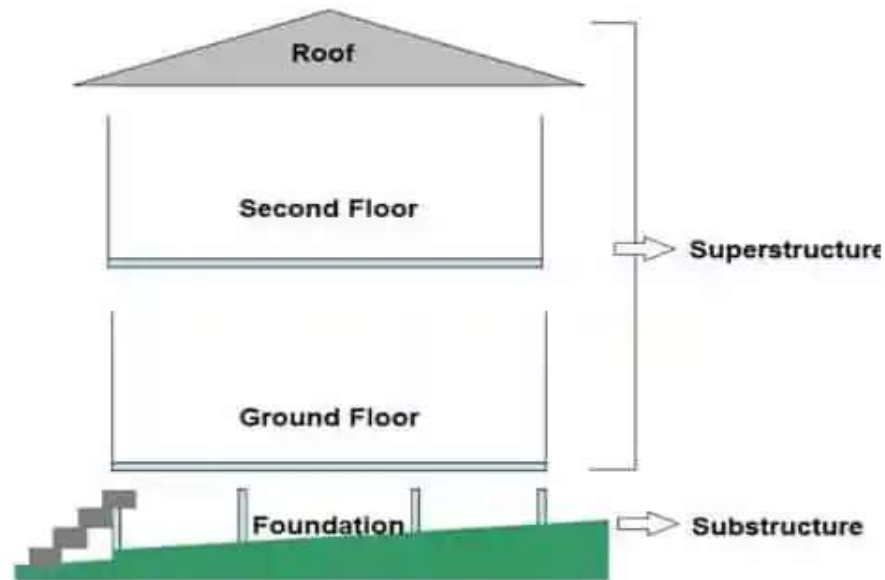
Unit 2 : BUILDING COMPONENTS

Topic : SUPER STRUCTURE-BEAM



Super Structure

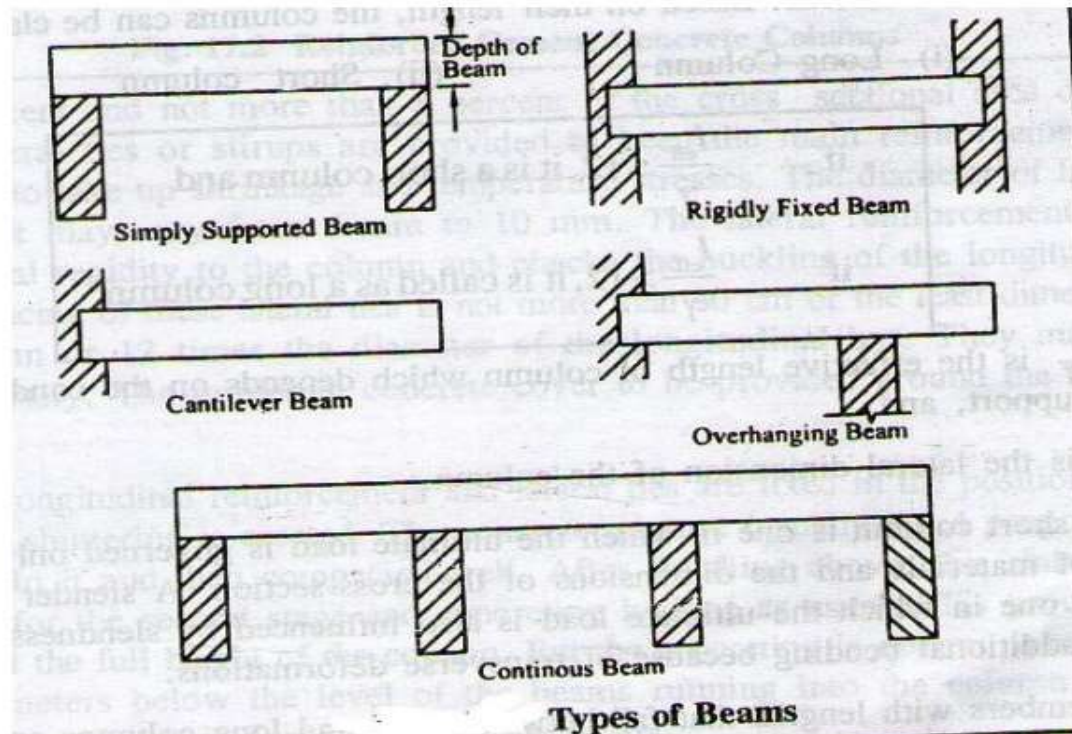
The superstructure of a building is where people will spend most of their time. This area includes the first and second floors inside a home and any number of floors in larger buildings. The superstructure includes beams, columns, finishes, windows, doors, the roof, floors, and anything else.

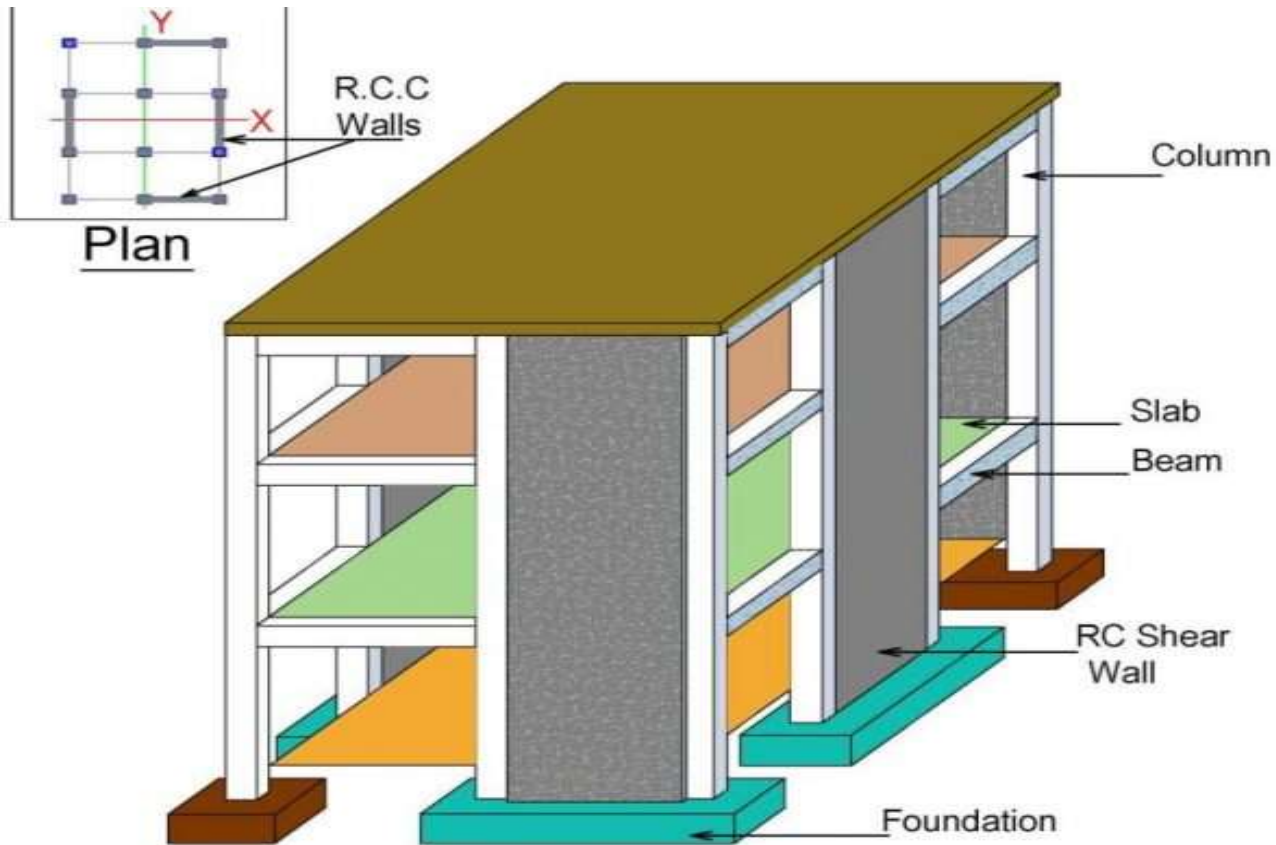




BEAMS

Beams are structural Members that can carry transverse loads, that in turn produces bending moments and shear.





Reinforced Concrete Shear Wall



CLASSIFICATION OF BEAMS

- Based on Application
- Based on Supports
- Based on Reinforcement arrangement

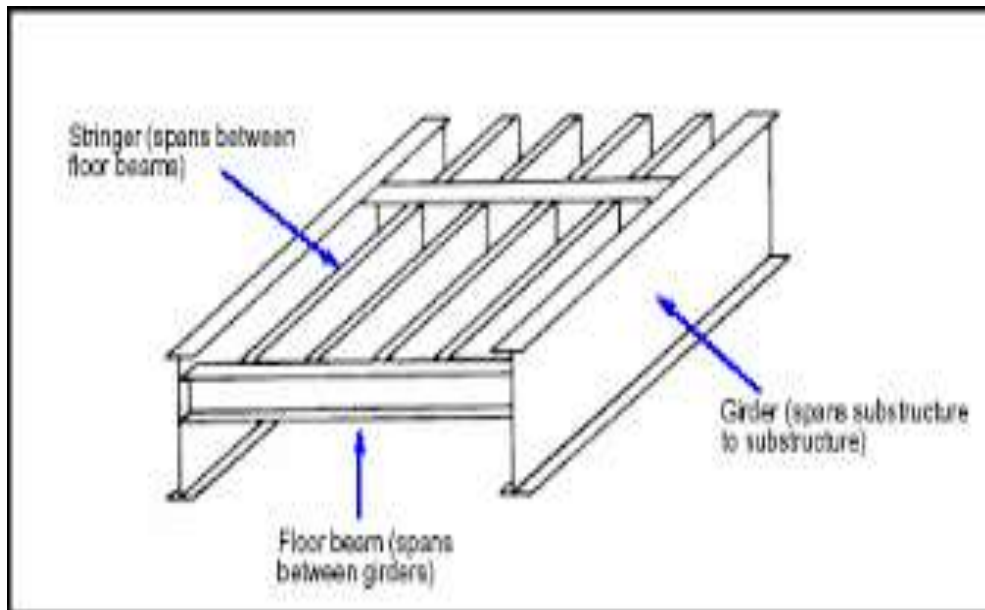
Based on Application:

- Girder
- Joists
- Lintel
- Spandrels
- Stringers



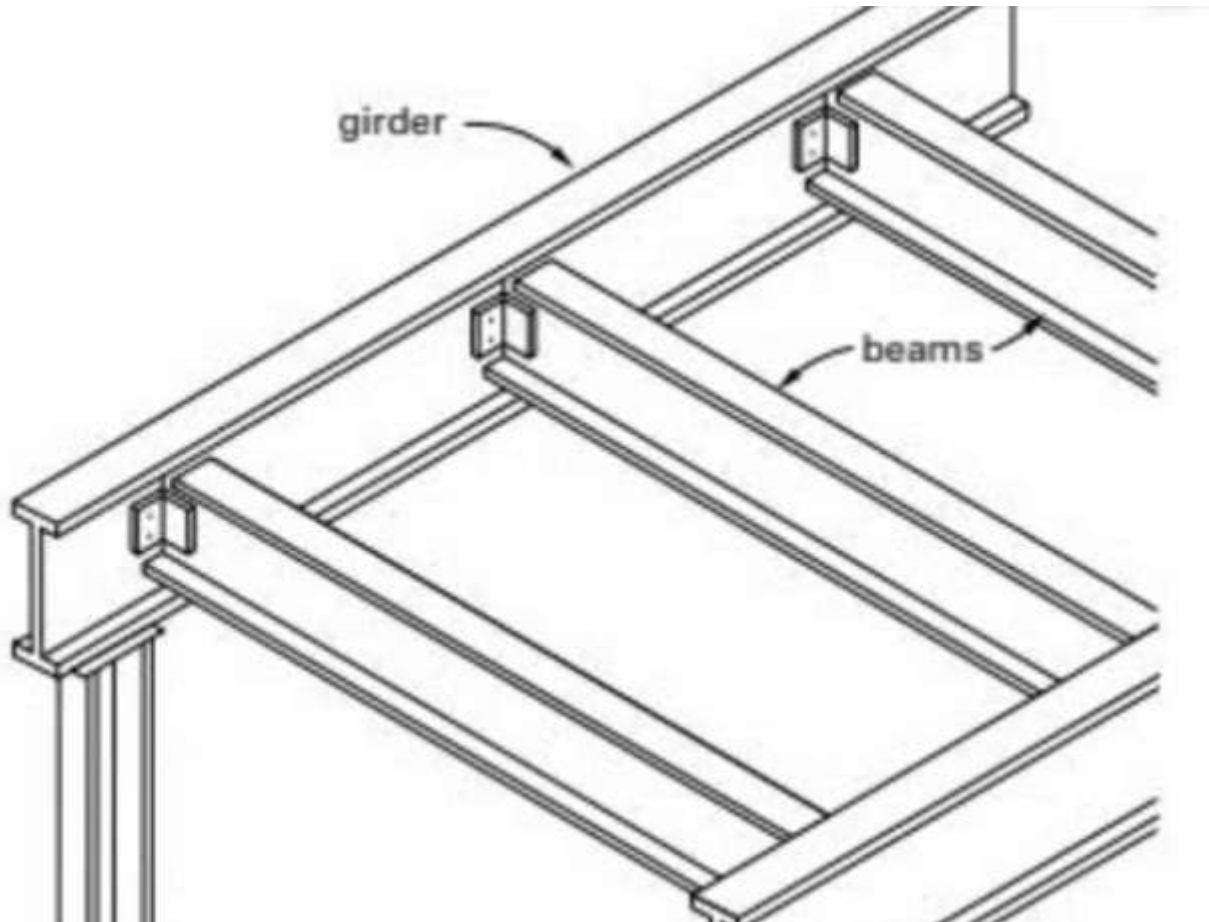
GIRDER

It is the main horizontal support of a structure which supports smaller beams.





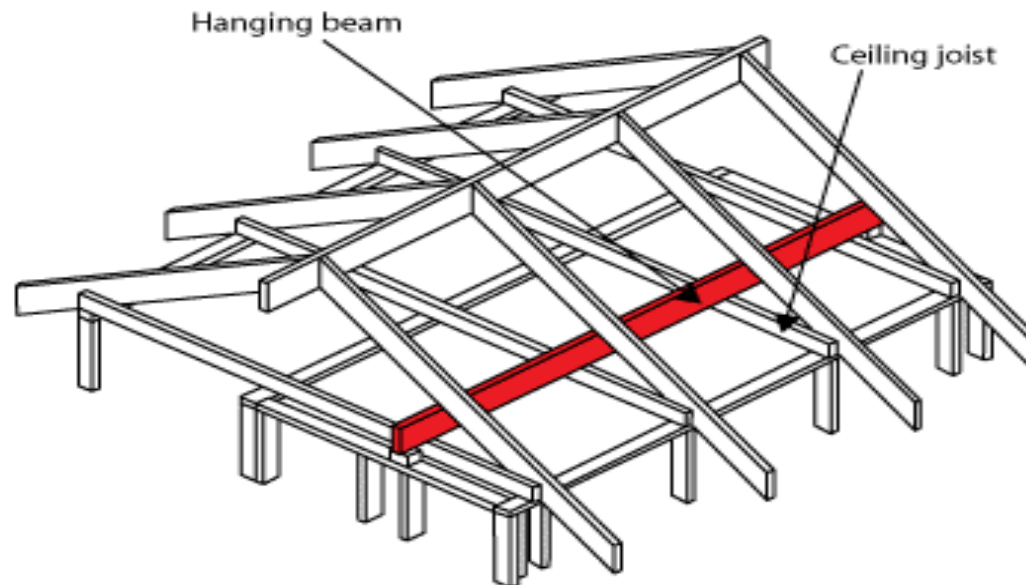
GIRDER

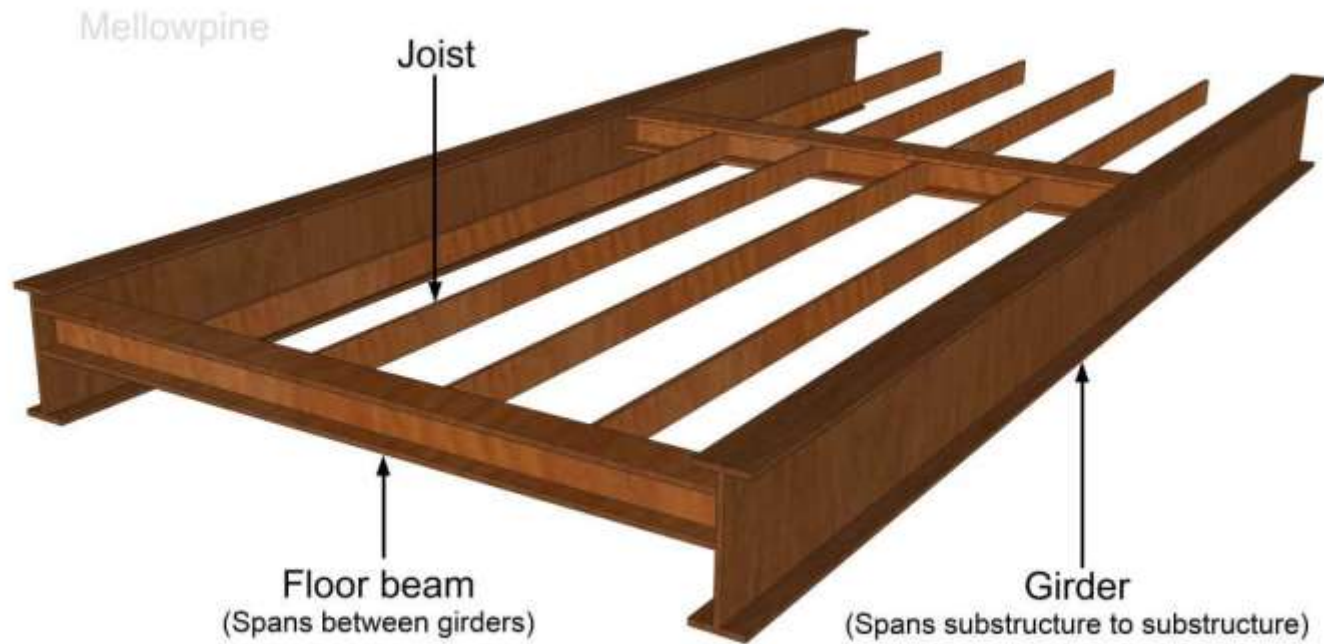




JOIST

A joist is a horizontal member that generally runs across a building and is supported by a beam.







LINTEL

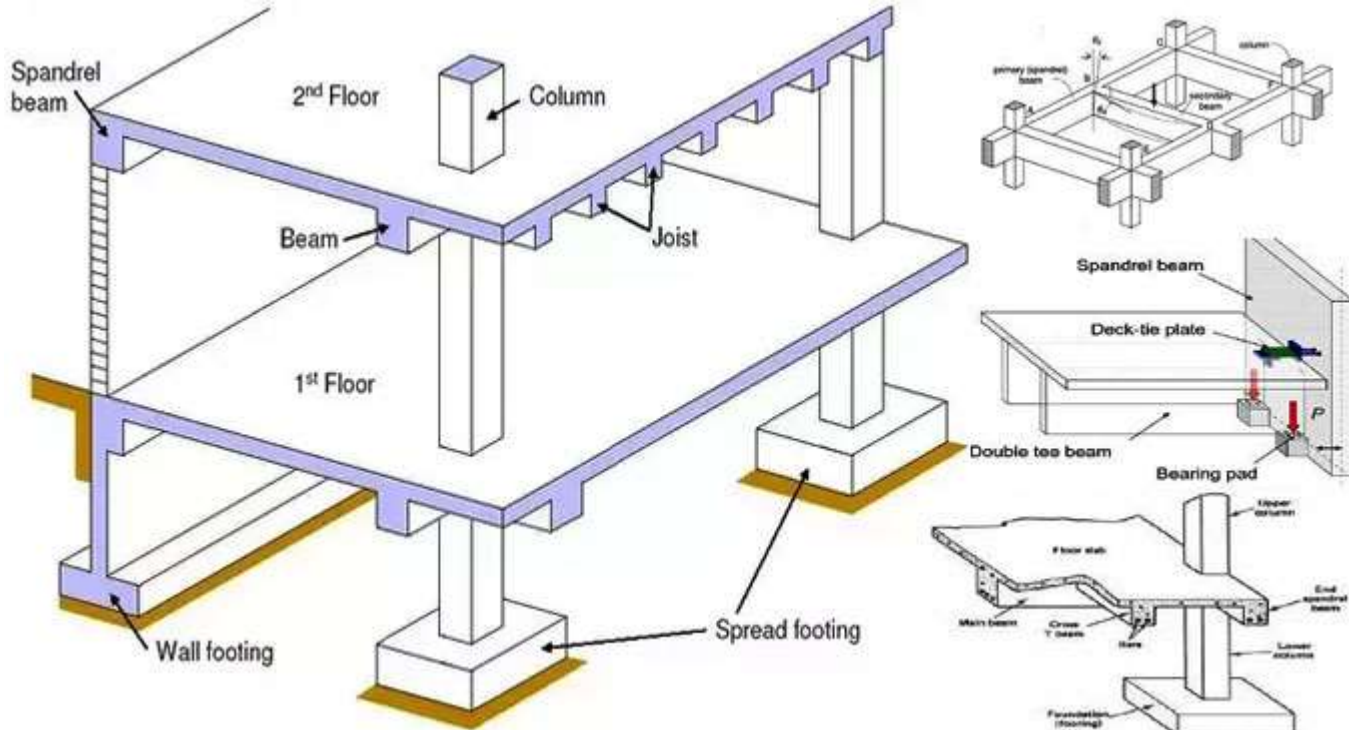
A lintel or lintol is a type of beam (a horizontal structural element) that spans openings such as portals, doors, windows and fireplaces.





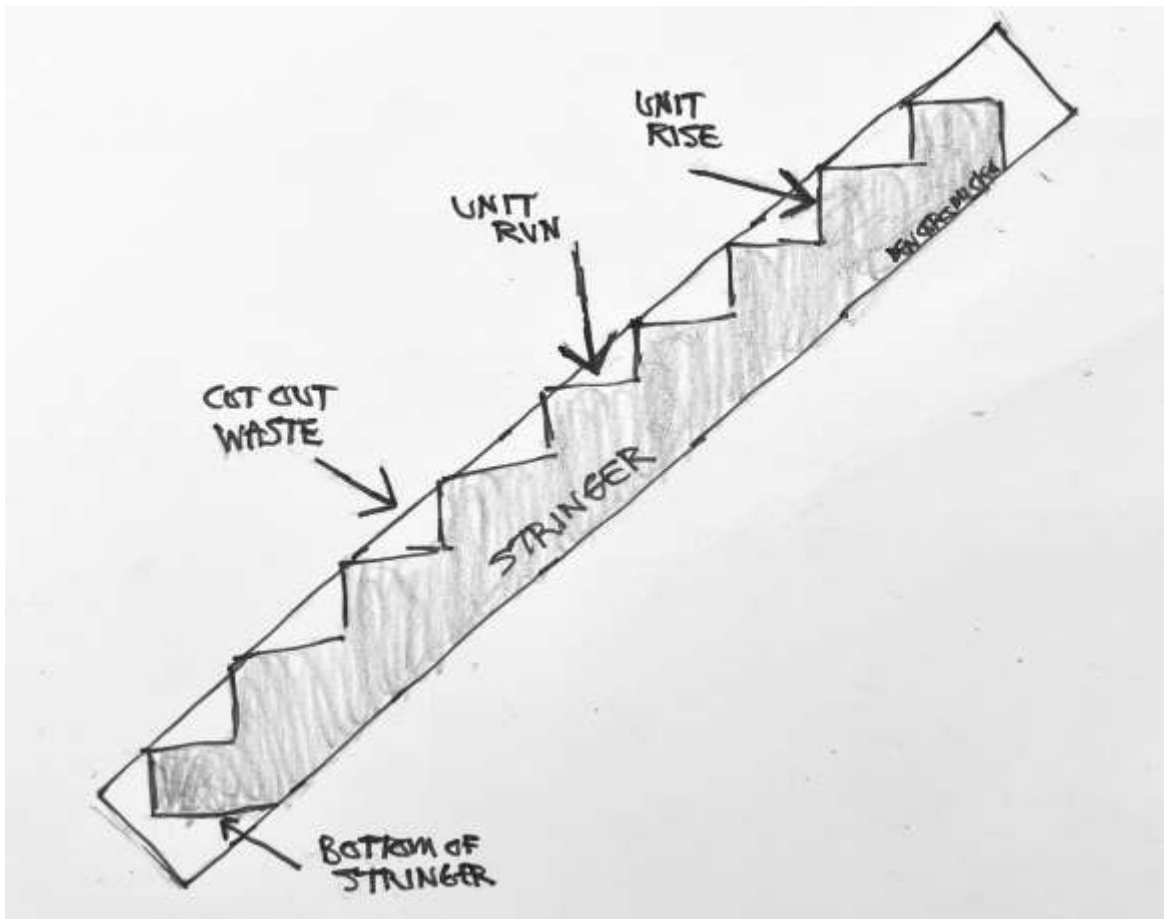
SPANDRELS

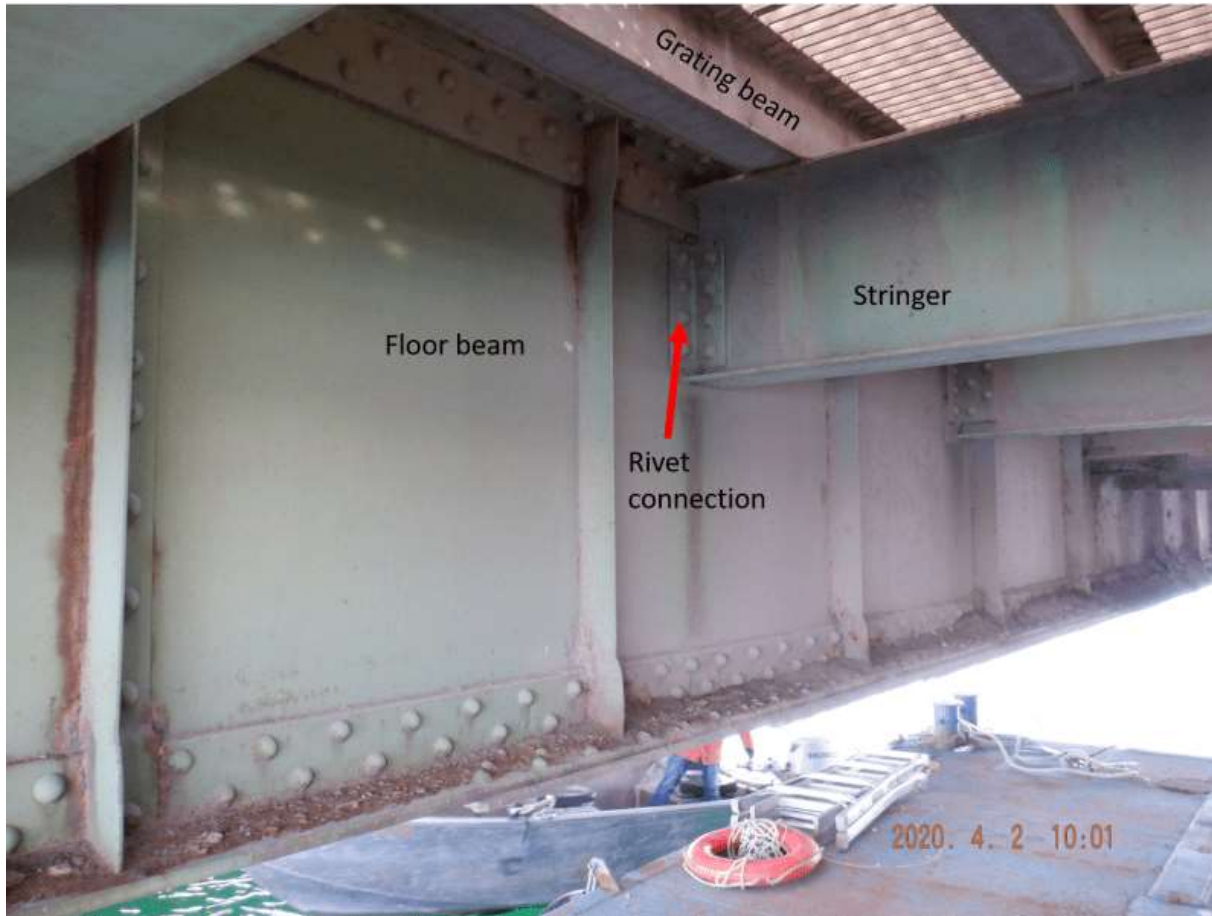
In steel or concrete structures, the spandrel beam is the exterior beam that stretches horizontally from one column to another column.





STRINGER







CLASSIFICATION OF BEAMS

Based on Supports:

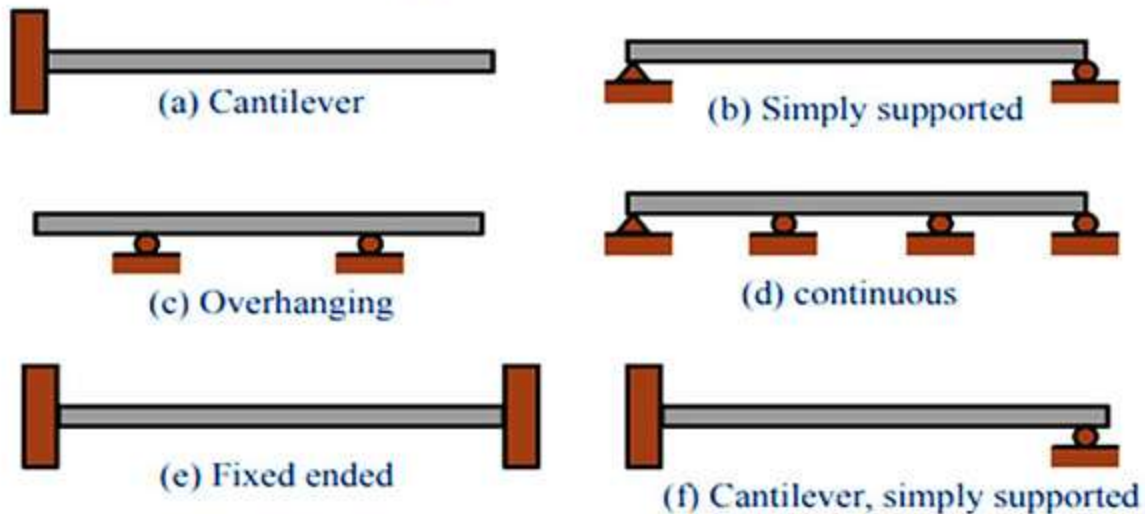
- Simply Supported Beam
- Cantilever Beam
- Fixed Beam
- Continuous beam
- Overhanging Beam



SIMPLY SUPPORTED BEAM

A simply supported beam is one that rests on two supports and is free to move horizontally

Types of Beams





CLASSIFICATION OF BEAMS

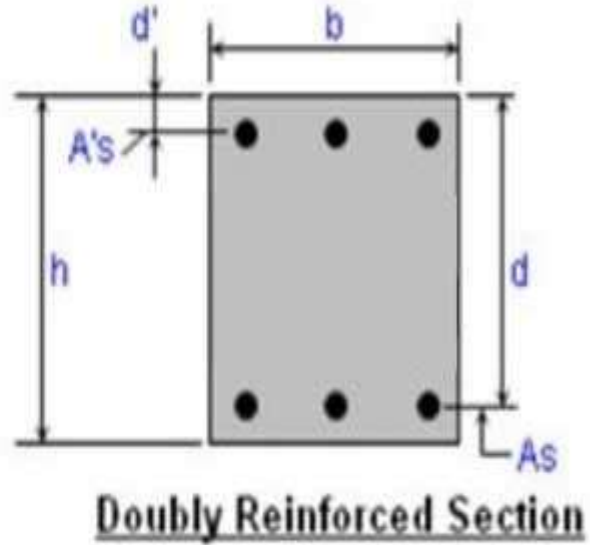
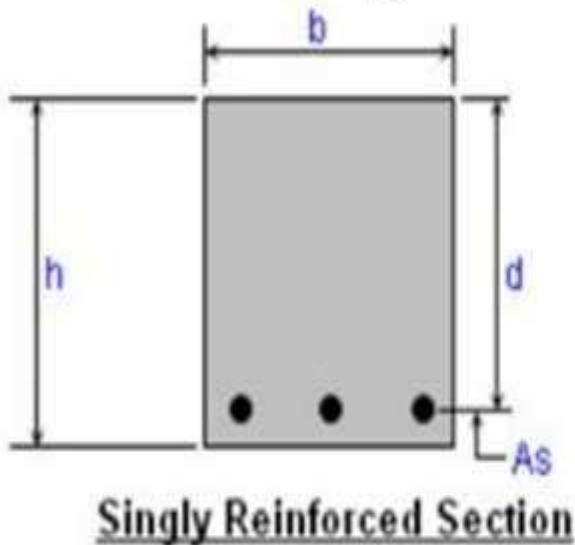
Based on reinforcement arrangement:

Single reinforced beams(SRB)- Main reinforcement(10 to 40mm) is placed only at the bottom of the beam

Double reinforced beams (DRB)- Main reinforcement is provided at the top and bottom



Singly reinforced and Doubly Reinforced Beam





Thank You!!