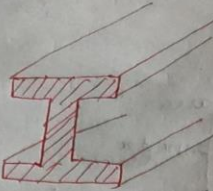




## I-shaped girders, stress due to bending in beam

I-shaped Girders:



A girder is a supporting beam used in construction.

Girders often have an I-beam cross section for strength.

Some has box shape and some has Z shape.

It is mainly used on building of bridges and Iron rails.

The beam with upper and lower section broadened and the middle section tapered so that it can withstand heavy loads over it is called I shape girder.

Due to depression the upper part compressed and lower part expanded.

The stress have a max at top and bottom.

Therefore upper & lower surface of the girder must be stronger than intermediate part.

$$y = \frac{wl^3}{4Ebd^3}$$

APP

They are used in the construction of bridges over rivers.

They are very much useful in the production of iron rails, which are employed in railway tracks.

more stable, strong and high durability. Hence they are used as supporting beams for the ceiling in the construction of buildings.