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Torsional Rigidity of Beams of given areas with different Cross sections

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Abstract

This paper is aimed at determining among beams with different cross sections whose torsional rigidity is the greatest. That is, to determine the beam, with a particular cross section, that gives the greatest resistance to the twisting moment. The Torsional Rigidity is obtained as the ratio of twisting moment to the angle of twist per unit length. From the table of value of the maximum torsional Rigidity of beams with different cross sections, it is observed that the beam with circular cross sectional area has the greatest torsional rigidity. It is also observed that maximum torsional rigidity of beams with different cross-sectional area is a function of their areas.