UNIT I INTRODUCTION AND ALLOWABLE STRESS DESIGN

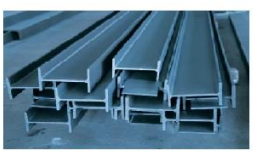
1.3 Indian structural steel products

India is the 2nd largest steel producer in the world and also approaching towards a full quality regime. To achieve the objective of full quality regime, it is necessary to bring all the relevant Indian steel standards under the ambit of the steel quality control order. In India, Bureau of Indian Standards (BIS) is the National Standards Body, who are engaged in formulation and implementation of National Standards knows as Indian Standards

Rolled beams: ISJB – Indian standard junior beams ISLB - Indian standard lightweight beams ISMB - Indian standard medium weight beams ISWB - Indian standard wide flange beams ISHB - Indian standard heavy weight beams ISSC - Indian standard column section	**Channel Section** ISJC- Indian standard junior channels ISLC- Indian standard light channels ISMC- Indian standard medium channels
T sections ISJT- Indian standard junior T beams ISLT- Indian standard lightweight T beams ISST- Indian Standard **Long** Legged Tee Bars ISMT- Indian standard medium weight T beams	**Rolled bars** ISRO- Indian standard round bars ISSO- Indian standard square bars **Tubular section** ISLT ISMT ISHT

Angle section

Tube Section



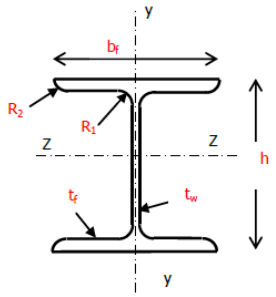
I Section

T-Section

Angle section

ISLB – Light beams (not commonly produced) are used for roof beams, vehicle frames in trucks etc.

ISMB – Medium beams are the most commonly produced and used as elements in frames, floor beams etc. they have high moment of inertia about Z – axis when compared with (minor) Y – axis. The lateral buckling strength is not high as the radius of gyration about Y – axis is low.



ISHB – Heavy beams even though have radii of gyration close to the corresponding medium beams the thickness of flanges and web are on the higher side. They provide more area of cross section and occupy less space. Only limited number of sections are produced in India.

ISWB or ISWF – Wide flange beams have high radius of gyration about minor Y –axis when compared with their counter parts of ISMB or ISHB, therefore, they have relatively higher lateral buckling capacity and be efficiently used as columns in buildings. Wide flange sections are limited in market.

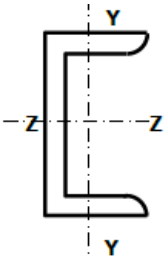
Rolled steel Channel sections:

ISJC – Indian Standard Junior Channels

ISLC – Indian Standard Light Channels

ISMC – Indian Standard Medium Channels

ISHC – Indian Standard Heavy Channels



Rolled steel T- sections:

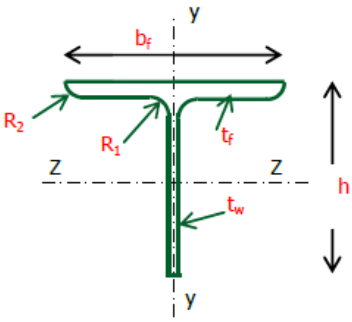
ISNT – Indian Standard Normal Tee section ISNT is having width of flange equal to the depth of section.

ISHT– Indian Standard WIDE FLANGE Tee section, ISHT is having width of flange equal to twice the depth of the section.

ISST – Indian Standard short Tee section. ISST is having the width of flange shorter than the depth of the section.

ISLT– Indian Standard Light Tee section. It is having light weight.

ISJT– Indian Standard Junior Tee section



Rolled steel Angle sections:

ISI hand book gives three series of angle sections

a) Equal angle section designated by ISA (Indian standard equal angles)

b) Unequal angle section designated by ISA (Indian standard unequal angles)