
EXPLANATORY NOTES

MATERIAL

The structural components referred to in this handbook are of steel to BS 4360, 'Weldable structural steels' and/or its related equivalents.

SECTIONS

The universal beams and columns and tees cut therefrom, the joists, channels, universal bearing piles and rolled tees are generally as listed in BS 4: Part 1: 1980. Some other joists, universal bearing piles and rolled tees in regular production are also included.

N.B. The universal beams listed in pages 44 and 45 all have 2° 52' tapered flanges.

Column core. This section, although listed separately, is rolled in the serial size 356 mm x 406 mm. It is the most appropriate one to be used as the core of a built-up stanchion if a heavier section than those rolled is required.

DIMENSIONAL UNITS

The dimensions of sections are given in millimetres (mm) and the calculated properties (centroidal distances, cross-sectional areas, radii of gyration, moments of inertia, elastic and plastic moduli) are given in centimetre (cm) units. Surface areas are in square metres (m²). For tolerances on dimensions and shape, reference should be made to BS 4848: Part 2.

OTHER UNITS

The units of force, mass and acceleration are those of the Systeme International (SI). They are the Newton (N), the kilogramme (kg) and the metre per second per second (m/s²) so that 1N = 1kg x 1m/s². The acceleration due to gravity varies slightly from place to place and for convenience a 'standard' value of 9.80665 m/s² has become generally accepted in structural engineering. With this convention, the force exerted by a mass of 1kg under the action of gravity is the 'technical unit' of 9.80665N. In the same way 9.80665 kilonewtons (kN) is the force exerted by a mass of 1 tonne (1000 kg) under gravity, and 1kN the force from a mass of 0.102 tonne.