(d) door spigot when the door is in the central position shall have a clearance of approximately 105mm all around and at no point shall the clearance exceed 3mm. The spigot depth shall be sufficient to trap the gasket;

(e) the nuts shall be of appropriate material compatible to that of bolts and be placed on the seating surface;

(f) the cross-bars shall be of substantial proportions and of mild or wrought steel.

Note:- Eye bolts of suitable legs on the door plate or headed bolts engaging with slotted sections on the door plate may be used instead of studs.

The minimum calculated thickness of the door of the flat plat construction (i.e. unstiffened made from one plate shall be not less than that determined by the following formula:-

$$t = \sqrt{\frac{0.35\ Pxd^2 + W}{f}}$$ for a circular door

$$t = \sqrt{\frac{0.35\ P\ (2-a/b)\ x\ a^2 + W}{f}}$$ for an elliptical door

where,

t is the minimum calculated thickness of the flat door (in mm)

P is the working pressure of boiler (in N/mm^2)

d is the diameter of the opening to which the door is fitted, if round (in mm)

a is the minor axis of the opening to which the door is fitted if elliptical (in mm)

b is the major axis of the opening to which the door is fitted, if elliptical (in mm)

W is the full load capacity of one stud (effective stud area X design stress value at design temperature) in (N)

f is the maximum allowable stress of the plate at the design temperature (in N/mm^2)

Note: A design stress of value of $50N/mm^2$ may be used for carbon steel bolts for design temperature not exceeding 300 ºC.";