

**IEC/SANS 60079-1 CLAUSE 11.6 MATERIAL SURROUNDING THREADED BOLT HOLES, CLEARANCE HOLES (TOMAH)**

The requirement of this clause is as follows:

“In the case of holes for screws or studs which do not pass through the walls of flameproof enclosures, the remaining thickness of the wall of the flameproof enclosure shall “be at least one-third of the nominal diameter of the screw or stud with a minimum of 3mm.”

The laboratory assesses this clause as below:

**Clearance holes :**

The standard does not provide guidance regarding the remaining material thickness for clearance holes (see figure 1 (C) below). The standard only has a H13 requirement for these holes as per SANS 60079-0 Clause 9.3.2.

The requirement as per Clause 11.6 (SANS 60079-1) is deemed as best practise and will be applied to section E of figure 1.

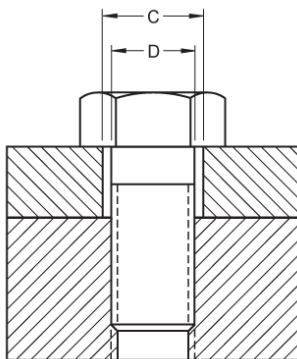


Figure 1 (Clearance Hole)

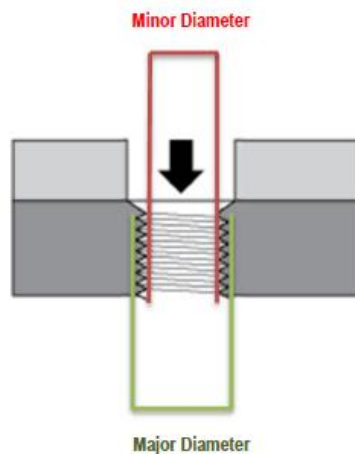


Figure 2 (Threaded Hole)

**Threaded bolt holes:**

Clause 11.6 of SANS 60079-1 is not specific as to where the material thickness should be measured from. As shown in Figure 2 above, one of three points can possibly be used to determine the remaining thickness. This can cause confusion as the dimensional difference between the major and minor diameter measurements might be the difference between a pass/fail criteria.

The laboratory uses the maximum major diameter of the hole as shown in figure 2 (major diameter as per ISO 953-1) in order to determine the remaining material thickness.