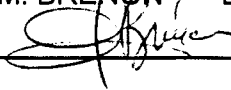


## European ATEX Notified Bodies Group

### Clarification Sheet N° ExNB/98/06/010/CS

Edition 1.0

*Original in English*

<b>Status :</b>	■	question n° ExNB/98(EECS)004	Date : 08/06/98
	■	initial proposal	<b>Proposer :</b> EECS      Date : 08/06/98
	□	responses attached	
<hr/>			
	■	Approved	during 2nd ExNB Meeting 16-17 June 98
	■	authorised	<b>Chairman :</b> M. BRÉNON      Date : 17/06/98
<b>Date of application :</b>		<b>18/06/98</b>	<b>Signature :</b> 

**Subject : Minimum requirement for THREAD ENGAGEMENT/NPT Cable Entry Holes in Flameproof Apparatus to EN 50018**

**Considerations :**

Concern is expressed that European and North American practices, when combined, can lead to unsafe conditions.

The minimum requirement for thread engagement for a threaded flameproof joint is five threads. For NPT threads, at the extremes of the standard tolerance of  $\pm 1$  thread (8.1 and 8.2 of ANSI/ASME B1.20.1-1983) on both entry device and entry hole, the engagement is reduced to approximately 3 1/2 threads.

It is understood that UL, FM and CSA consider the five thread engagement to be sacrosanct and that, to ensure it, they require manufacturers to oversize entry holes, beyond the normal tolerances given in the NPT standard. For example FM typically require 1/2 to 3 1/2 oversize and CSA 1/2 to 2 1/2 oversize. For North American installation practice, using conduit threaded on site, this is not a problem since there is no physical limit to the conduit engagement.

However, cable entry devices, glands and adapters representative of European practice have a hexagonal shoulder that limits engagement. The prospect of a 5 thread cable entry device (being 1 thread small, as permitted) fitted to an entry hole 3 1/2 threads oversize, clearly represents a potential danger.

In the HoTL Flameproof Experts Group and the standards bodies, several years ago, this subject was discussed and it was agreed that European certification practice should follow the standard for NPT threads, and not North American certification practice. Since compliance with the  $\pm 1$  thread tolerance of the NPT standard was not believed to lead to a dangerous situation, it was decided to take no action at that time. (Three and a half threads tight engagement of a tapered thread was thought to be as safe as five threads engagement of a non-tapered thread).

With the writing of the second edition of EN 50018, the additional requirement of Table 4 was introduced, requiring six threads on each part of a taper joint, and adding a note that, on extremes of tolerance, this may not guarantee five threads engagement.

It has been advised that some certificates issued in Europe have followed North American practice, possibly through a misunderstanding of the problem, or a lack of knowledge of the earlier discussions.

The following clarification is authorised.

**Clarification :**

Where flameproof equipment is provided with taper thread entry holes, suitable for the reception of compatible thread cable entry devices, the  $\pm 1$  thread tolerance given in clauses 8.1 and 8.2 of ANSI/ASME B1.20.1-1983 shall be maintained.

This ExNB Clarification Sheet has the sole purpose of clarifying the application of the EN Standards and/or of the requirements of Directive 94/9/EC and related documents. It does not in any way change the content of the standards and/or of the requirements. It remains valid until a different answer is received from the European Commission or the relevant standards body.