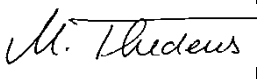


<b>ExNB</b>	<b>Co-ordination of Notified Bodies Directive 2014/34/EU of the European Parliament and of the Council (ATEX)</b>  <i>Equipment and protective systems intended for use in potentially explosive atmosphere</i>	<b>ExNB/CS/002</b>
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<b>Status:</b>	<b>Step*5.2.3</b>	<b>Initial proposal by</b>	CEN TC 305/WG 2	<b>Date:</b>	<b>2017-03-22</b>
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*\*Step refers to ExNB Rules*

<b>Authorised by Chairman: (Step*5.2.4)</b>	<b>Dr. Thedens</b>	<b>Date:</b>	<b>2017-09-19</b>	<b>Signature:</b>	
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**Fan shaft seals, acc. EN 14986**

**Description of situation:**

In EN 14986 - Design of fans working in potentially explosive atmospheres - there are 2 constellations concerning ignition risks by contact between rotating and non-rotating parts:

4.4.2 clearance between rotating elements and the fan casing

4.14 shaft seals.

Shaft seals are commonly understood as the seals between shaft and fan casing. There are no specific requirements for bearing seals in EN 14986.

The requirements for non-contact shaft seals are not applied for seals of the bearings by fan manufacturers because risk analysis shows very low risk for contact. Only very rare heavy damages of ball break will lead to contact between shaft and bearing housing cover. Normal damages are detected by noise or vibrations and will induce an exchange of the bearing during maintenance.

Further an equivalent safety risk for external flammable atmospheres exists for electrical motors of the ignition protection type „d“, where even small gaps are required as part of the protection system.

The clarification is necessary, because there are no general items concerning seals of bearings in EN 80079-36 or EN 80079-37. The requirements for non-contact sealings of cl. 4.14 of EN 14986:2017 are specifically for the sealings between fan shaft and fan housing and could be misleadingly applied for bearing sealings.

**Question:**

Can requirements concerning clearances and permissible material pairings according to EN 14986:2017, cl. 4.14 excluded for non-contact sealings of the fan bearings?

**Answer:**

Requirements concerning minimum clearance and permissible material pairings according to EN 14986:2017, cl. 4.14 are not necessary for non-contact sealings of fan bearings.