



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx INE 13.0024X issue No.:2  
Status: **Current**  
Date of Issue: **2014-07-25** Page 1 of 4

Certificate history:  
Issue No. 2 (2014-7-25)  
Issue No. 1 (2013-11-28)  
Issue No. 0 (2013-5-29)

Applicant: **TechNed BENELUX BV**  
Veersteeg 15  
4212 LR Spijk  
The Netherlands

Electrical Apparatus: **Enclosures type EJB...**  
Optional accessory:

Type of Protection: **d, tb, d [ia Ga] , tb [ia Da]**

Marking: Ex d IIB T6 Gb, Ex d IIB T5 Gb or Ex d IIB T4 Gb  
Ex d [ia Ga] IIB T6 Gb or Ex d [ia IIC Ga] IIB T6 Gb  
Ex tb IIIC T85°C Db, Ex tb IIIC T100°C Db or Ex tb IIIC T135°C Db  
Ex tb [ia Da] IIIC T85°C Db IP66

Approved for issue on behalf of the IECEx  
Certification Body:

Thierry HOUEIX

Position:

Ex Certification Officer

Signature:  
(for printed version)

Date:

2014-07-25



1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://Official IECEx Website).

Certificate issued by:

**INERIS**  
Institut National de l'Environnement Industriel  
et des Risques  
BP n2  
Parc Technologique ALATA  
F-60550 Verneuil-En-Halatte  
France

INERIS is accredited by COFRAC under number 5-0045 for certification of products and services  
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Manufacturer: **TechNed BENELUX BV**  
Veersteeg 15  
4212 LR Spijk  
The Netherlands

Additional Manufacturing  
location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-11 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-31 : 2008</b> Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[FR/INE/ExTR13.0025/00](#)

[FR/INE/ExTR13.0025/01](#)

[FR/INE/ExTR13.0025/02](#)

Quality Assessment Report:

[NL/DEK/QAR11.0036/01](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

These metallic enclosures, of different sizes, are made in stainless steel, or aluminum. They are intended to contain mainly electrical 'NIS' devices and also 'IS' element covered by separated certificates and listed in the technical note.

The cover is fixed by screws with minimum quality A2-70.

### CONDITIONS OF CERTIFICATION: YES as shown below:

The gap of the flanged joint between body and cover is lower or equal to 0.04 mm.

The width of the flameproof joints is superior to those specified in the tables of IEC 60079-1 standard.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Issue n°1

- Modification of the name of the manufacturer which becomes TechNed BENELUX BV
- Possibility to make the enclosure in aluminium 43100 for the body and AW 6082 for the cover.
- Possibility to use these enclosures in dust atmosphere explosive with type protection tb in accordance with IEC 60079-31 standard.

### Issue 2:

- Application of the IEC 60079-11:2011 standard
- Possibility to install inside the enclosure some "IS" elements covered by an IECEx certificate.



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## PARAMETERS RELATING TO THE SAFETY

Maximum supply voltage of "NIS" elements : 5000 V.  
Maximum supply voltage of "IS" elements : 250 V.  
Frequency : 50/60Hz.

The maximum dissipated power is in accordance with the type of enclosure, the temperature class and the ambient temperature as stipulated on the tables below.

These enclosures can be used in range of ambient temperatures from:

- -20°C to 40°C, 50°C or 60°C and from -50°C to 40°C, 50°C or 60°C for Ex d or Ex tb versions.
- -20°C to 40°C, 50°C or 60°C for Ex d [ia Ga] or Ex tb [ia Da] versions.

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

### A - Enclosures without intrinsic safety element:

- TECHNED BENELUX
- 4212 LR Spijk
- The Netherlands
- EJB-(\* )
- IECEx INE 13.0024X
- (Serial number)
- Ex d IIC T(\*\*) Gb
- Ex tb IIIC T(\*\*) Db IP66
- ... °C < Tamb < ... °C (\*\*)
- T.Cable: (\*\*)
- Cable glands: see instructions.

### WARNINGS:

- DO NOT OPEN WHEN ENERGIZED.
- DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

(\* ) One of the following types: EJB-A, EJB-B, EJB-C, EJB-D, EJB-E, EJB-F, EJB-G, and EJB-H.

(\*\* ) See table 1 below.



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## **B - Enclosures with intrinsic safety elements:**

- TECHNED BENELUX
- 4212 LR Spijk
- The Netherlands
- EJB-(\* )
- IECEx INE 13.0024X
- (Serial number)
- Ex d [ia Ga] IIB T6 Gb or Ex d [ia IIC Ga] IIB T6 Gb
- Ex tb [ia Da] IIIC T85°C Db IP66
- ...°C < Tamb < ... °C (\*\*)
- T.Cable: (\*\*)
- Cable glands: see instructions.

## **WARNINGS:**

- DO NOT OPEN WHEN ENERGIZED.
- DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

(\*) One of the following types: EJB-A, EJB-B, EJB-C, EJB-D, EJB-E, EJB-F, EJB-G, and EJB-H.

(\*\*) See tables 2 or 3 below.



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**Table 1: Enclosure without intrinsic safety element**

Type of enclosure	Temperature class		Maximum power dissipated (W)			Cable temperature
	Gas	Dust	40°C	50°C	60°C	
EJB-A	T6	T85°C	80	60	35	NC
	T5	T100°C	120	95	75	95°C
	T4	T135°C	205	180	155	135°C
EJB-B	T6	T85°C	125	90	55	85°C
	T5	T100°C	180	145	110	100°C
	T4	T135°C	305	270	235	135°C
EJB-C	T6	T85°C	210	150	95	85°C
	T5	T100°C	295	235	180	100°C
	T4	T135°C	500	440	380	135°C
EJB-D	T6	T85°C	255	185	115	85°C
	T5	T100°C	360	290	220	100°C
	T4	T135°C	610	535	465	135°C
EJB-E	T6	T85°C	275	200	125	95°C
	T5	T100°C	390	315	240	115°C
	T4	T135°C	655	580	505	160°C
EJB-F	T6	T85°C	365	265	165	95°C
	T5	T100°C	515	415	315	115°C
	T4	T135°C	850	755	660	160°C
EJB-G	T6	T85°C	430	315	195	95°C
	T5	T100°C	610	495	375	115°C
	T4	T135°C	1020	905	790	160°C
EJB-H	T6	T85°C	535	390	245	95°C
	T5	T100°C	610	460	320	115°C
	T4	T135°C	1260	1120	975	160°C



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**Table 2: Enclosure with intrinsic safety elements without thermal sensor for temperature class T6/T85 °C.**

Type of enclosure	Ambient temperature of the intrinsic safety element	Maximum dissipated power for ambient		
		40 °C	50 °C	60 °C
EJB-A	60 °C	10 W	NC	NC
	70 °C	30 W	10 W	NC
	80 °C	45 W	30 W	10 W
EJB-B	60 °C	20 W	NC	NC
	70 °C	40 W	20 W	NC
	80 °C	60 W	40 W	20 W
EJB-C	60 °C	35 W	NC	NC
	70 °C	65 W	35 W	NC
	80 °C	100 W	65 W	35 W
EJB-D	60 °C	40 W	NC	NC
	70 °C	85 W	40 W	NC
	80 °C	130 W	85 W	40 W
EJB-E	60 °C	50 W	NC	NC
	70 °C	100 W	50 W	NC
	80 °C	145 W	100 W	50 W
EJB-F	60 °C	65 W	NC	NC
	70 °C	130 W	65 W	NC
	80 °C	190 W	130 W	65 W
EJB-G	60 °C	80 W	NC	NC
	70 °C	155 W	80 W	NC
	80 °C	225 W	155 W	80 W
EJB-H	60 °C	100 W	NC	NC
	70 °C	190 W	100 W	NC
	80 °C	280 W	190 W	100 W





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**Table 3: Enclosure with intrinsic safety elements and with a thermal probe.**

Type of enclosure	Temperature class		Maximum power dissipated and ambient temperature			Cable temperature
	Gas	Dust	40 °C	50 °C	60 °C	
EJB-A	T6	T85 °C	80 W	60 W	35 W	NC
EJB-B	T6	T85 °C	125 W	90 W	55 W	85 °C
EJB-C	T6	T85 °C	210 W	150 W	95 W	85 °C
EJB-D	T6	T85 °C	255 W	185 W	115 W	85 °C
EJB-E	T6	T85 °C	275 W	200 W	125 W	95 °C
EJB-F	T6	T85 °C	365 W	265 W	165 W	95 °C
EJB-G	T6	T85 °C	430 W	315 W	195 W	95 °C
EJB-H	T6	T85 °C	535 W	390 W	245 W	95 °C

Characteristics of the thermal probe installed in the enclosure for the maximum power dissipated in table 3.

Ambient temperature range of the enclosure	Ambient temperature of the intrinsic safety element	Threshold of release of the thermal probe
40 °C	≥ 60 °C	55 °C ± 5 °C
50 °C	≥ 70 °C	65 °C ± 5 °C
60 °C	≥ 80 °C	75 °C ± 5 °C



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## ROUTINE EXAMINATIONS AND TESTS

### For using at ambient temperature down to -20 °C:

In accordance with clause 16.1 of the EN/IEC 60079-1 standard each apparatus defined above has to have successfully passed, before delivery, an overpressure test of a period comprised between 10 and 60 seconds under:

- 9.5 bar for enclosure EJB-A.
- 13.5 bar for enclosures EJB-B to EJB-G.
- 12.2 bar for enclosure EJB-H.

### For using at ambient temperature down to -50 °C:

In accordance with clause 16.1 of the EN/IEC 60079-1 standard each apparatus defined above has to have successfully passed, before delivery, an overpressure test of a period comprised between 10 and 60 seconds under:

- 12.5 bar for enclosure EJB-A.
- 16.7 bar for enclosures EJB-B to EJB-G.
- 15.3 bar for enclosure EJB-H.