



INERIS

INSTITUT NATIONAL DE L'ENVIRONNEMENT
INDUSTRIEL ET DES RISQUES

Parc Technologique ALATA
B.P. N°2 - 60550 Verneuil-en-Halatte - France
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Télex : 140 094 F

- (2) **Equipment and protective systems intended for use in potentially explosive atmospheres
Directive 94/9/EC**

(1) **EC-TYPE EXAMINATION CERTIFICATE**

- (3) Number of the EC type examination certificate: **INERIS 02ATEX0071 X**

- (4) Protective system or equipment:

ENCLOSURE TYPE EJB ./.-.

(The type is completed by numbers and/or letters corresponding to manufacturing variation)

- (5) Manufacturer: **YSEBAERT N.V**
(6) Address: **Bisschoppenhoflaan, 583
B-2100 ANTWERPEN -DEURNE**

- (7) This protection system or equipment and any other acceptable alternative of this one are described in the annex of this certificate and the descriptive documents quoted in this annex.

- (8) The INERIS, notified body and identified under number 0080, in accordance with article 9 of Council Directive 94/9/EC of the 23rd March 1994, certifies that this protection system or equipment fulfils the Essential of Safety Requirements relating to the design and construction of equipment and protection systems intended for use in potentially explosive atmospheres, described in appendix II of the Directive.

The examinations and the tests are consigned in official report N°45146/02.

- (9) The respect of the Essential Health and Safety Requirements is ensured by:

- conformity with:


EN 50 014	of June	1997 + A1 and A2
EN 50 018	of November	2000
EN 50 020	of August	1994
EN 50 281-1-1	of September	1998 + A1

- specific solutions adopted by the manufacturer to meet the Essential Health and Safety Requirements described in the descriptive documents.

- (10) Sign X, when it is placed following the Number of the EC type examination certificate, indicates that this equipment and protection system is subjected to the special conditions for safe use, mentioned in the annex of this certificate.

(11) This EC type examination certificate refers only to the design and the construction of the apparatus or protection system specified. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system, these are not covered by this certificate.

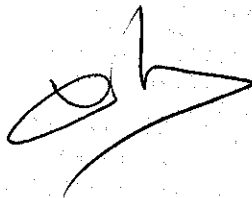
(12) The marking of the equipment or the protection system will have to contain:

 II 2 GD

EEx d IIB T6 or T5 or T4 or EEx d [ia] IIB T6 or EEx d [ib] IIB T6

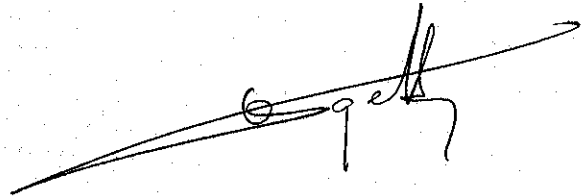
IP65 T85°C or T100°C or T135°C

Verneuil-en-Halatte, 2002 11 15



X. LEFEBVRE

Engineer at the Laboratory of Certification of
Materials ATEX



The Director of the Organisation Certified,
By delegation
B. PIQUETTE
Deputy manager of Certification



(13)

ANNEX

(14)

EC TYPE EXAMINATION CERTIFICATE N° INERIS 02ATEX0071 X

(15)

DESCRIPTION OF THE EQUIPMENT OR THE PROTECTION SYSTEM

Metallic enclosures of different sizes intended to contain equipment defined in technical note. These enclosures can be fitted with any control auxiliaries and lighting.

These enclosures can be fitted with drain and/or breather devices types ECR-1 and ECR-2. The cover can be move with hinges fixed on the body.

Enclosures present a degree of protection IP65 according to European standard EN 60 529.

Enclosures can be fitted with IS elements and None IS elements or only with IS elements. Different elements of intrinsic safety are defined in technical note and are of a certified type.

When boxes contain both IS and None IS elements, they are fitted with internal thermal probe.

Enclosures in EEx d variation, can be used at an ambient temperature lower than -20°C , (-30°C maxi).

Enclosures in EEx d[ia] or d[ib] variation, can be used at an ambient temperature lower than -20°C , (-25°C maxi).

PARAMETERS RELATING TO THE SAFETY

For using in ambient temperatures inferior to -20°C (-30°C maxi), the manufacturing is previewed by the manufacturer under his responsibility.

Type test have been performed under ambient temperatures required by standards

Supply voltage : from 12 to 440 V(DC) or
 from 24 to 690 V(AC)
 Frequency : 50 / 60 Hz

Power of lamps fitting with signal lamps
 - 5 watts for incandescent lamps with T4 temperature class
 - 1 watt for LED

Power of anti moisture resistance :250W

Thermal probe characteristic :
 Limit of release : 50 °C ± 5°C.

Maximum dissipated powers:

EEx d enclosure for an ambient temperature of 40°C

Box Type	Dissipated maximum power (W) according temperature class			
	T6	T5	T4	I max (A)
EJB 2 ; 3 ; 3A	30	40	60	50
EJB 4 ; 5	50	65	100	100
EJB 6	100	130	190	180
EJB 8 ; 9	180	230	350	260
EJB 10 ; 11	225	315	400	350
EJB 12	300	380	450	350
EJB 13	350	430	500	800
EJB 13A	400	480	530	800

EEx d enclosure for an ambient temperature of 50°C

Box Type	Dissipated maximum power (W) according temperature class			
	T6	T5	T4	I max (A)
EJB 2 ; 3 ; 3A	20	30	45	50
EJB 4 ; 5	35	45	75	100
EJB 6	75	95	140	180
EJB 8 ; 9	135	170	260	260
EJB 10 ; 11	165	235	300	350
EJB 12	225	285	335	350
EJB 13	260	320	375	800
EJB 13A	300	360	395	800

EEx d enclosure for an ambient temperature of 55°C

Box Type	Dissipated maximum power (W) according temperature class			
	T6	T5	T4	I max (A)
EJB 2 ; 3 ; 3A	15	25	35	50
EJB 4 ; 5	30	40	60	100
EJB 6	60	80	115	180
EJB 8 ; 9	110	140	210	260
EJB 10 ; 11	135	190	240	350
EJB 12	180	230	270	350
EJB 13	210	260	300	800
EJB 13A	240	290	320	800

EEx d enclosure containing only terminals

Terminal Section	Maximum Intensity (A)	Maximum number of terminals	Terminal Section	Maximum Intensity (A)	Maximum number of terminals
2,5 mm ²	16 A	(*)	50 mm ²	125 A	(*)
4 mm ²	25 A	(*)	70 mm ²	160 A	(*)
6 mm ²	32 A	(*)	95 mm ²	200 A	(*)
10 mm ²	40 A	(*)	120 mm ²	250 A	(*)
16 mm ²	63 A	(*)	185 mm ²	315 A	(*)
25 mm ²	80 A	(*)	240 mm ²	400 A	(*)
35 mm ²	100 A	(*)			(*)

(*) The maximum permitted number of terminals is a function of the maximum dissipated power in the enclosure; the powers are the suitable ones in tables above for EEx d variations.

EEx d [ia] or [ib] enclosure for an ambient temperature of 40°C

Box type	Power (W)	Maximum number of IS elements
	Class T6	
EJB 2 ; 3 ; 3A	25	4
EJB 4 ; 5	30	6
EJB 6	50	8
EJB 8 ; 9	80	8
EJB 10 ; 11	140	10
EJB 12	200	12
EJB 13	260	20
EJB 13A	360	20

Enclosures EEx d fitted with a glass window for an ambient temperature : 40°C

Box Type	Dissipated maximum power (W) according to temperature class		
	T6	T5	T4
EJB 2-3-3A	24	34	54
EJB 4-5	40	55	90
EJB 6	80	110	171
EJB 8-9	144	195	315
EJB 10-11	180	268	360
EJB 12	240	323	405
EJB 13	280	365	450
EJB 13A	320	408	477

Enclosures EEx d fitted with a glass window for an ambient temperature: 50°C

Box type	Dissipated maximum power (W) according to temperature class		
	T6	T5	T4
EJB 2-3-3A	16	25	40
EJB 4-5	28	38	67
EJB 6	60	80	126
EJB 8-9	108	144	234
EJB 10-11	132	200	270
EJB 12	180	242	301
EJB 13	208	272	337
EJB 13A	240	306	355


Enclosures EEx d fitted with a glass window for an ambient temperature: 55°C

Type box	Dissipated maximum power (W) according to temperature class		
	T6	T5	T4
EJB 2-3-3A	12	21	31
EJB 4-5	24	34	54
EJB 6	48	68	103
EJB 8-9	88	119	189
EJB 10-11	108	161	216
EJB 12	144	195	243
EJB 13	168	221	270
EJB 13A	192	246	288

MARKING

Marking must be readable and indelible; it must comprise the following indications:

A) Enclosure without intrinsic safety element :

- **YSEBAERT N.V**
Bisscoppenhoflaan, 583
B-2100 ANTWERPEN -DEURNE
- EJB ./.-. (1)
- INERIS 02ATEX0071 X
- (Serial number)
- (year of construction)
-  II 2 GD
- EEx d IIB (*)
- T.Amb : (**)
- (***)
- (****)
- DO NOT OPEN WHEN ENERGIZED

(1) Type is completed by numbers and/or letters corresponding to manufacturing variation.


for use in explosive gas atmospheres

- (*) T6 or T5 or T4
- (**) -30°C to 40°C or -30°C to 50°C or -30°C to 55°C
- (****) T.cable : 90°C for temperature class T4

for use in explosive dust atmospheres

- (*) T85°C or T100°C or T135°C
- (**) -30°C to 40°C or -30°C to 50°C or -30°C to 55°C
- (***) IP65
- (****) T.cable : 90°C for T135°C

B) Enclosures with intrinsic safety elements :

- **YSEBAERT N.V**
Bisschoppenhoflaan, 583
B-2100 ANTWERPEN -DEURNE
- EJB ./.-. (1)
- INERIS 02ATEX0071 X
- (Serial number)
- (year of construction)
-  **II 2 GD**
- EEx d [*] IIB (**)
- T.Amb : (***)
- (****)
- DO NOT OPEN WHEN ENERGIZED

(1) Type is completed by numbers and/or letters corresponding to manufacturing variation.

for use in explosive gas atmospheres

- (*) [ia] or [ib]
- (**) T6
- (***) -25°C to 40°C

for use in explosive dust atmospheres

- (*) [ia] or [ib]
- (**) T85°C
- (***) -25°C +40°C
- (****) IP65

The whole of marking can be carried out in the language of the country of use.

The protection apparatus or system must also carry the marking normally envisaged by the standards of construction which relate to it.

ROUTINE EXAMINATIONS AND TESTS

Each example of the equipment hardware defined above must have successfully passed before delivery an overpressure test in accordance with section 16.1 of standard EN 50 018, of a period comprised between 10 and 60 seconds under :

- 11,5 bar for EJB2 to EJB 12
- 9 bar for EJB 13 and EJB 13A.

(16) DESCRIPTIVE DOCUMENTS

The technical report is composed of the documents quoted hereafter, constituting the descriptive file of the apparatus, object of this certificate.

- Descriptive Notice TN-10-2002-01 (14 pages) signed on 2002.10.15
- Instruction Notice (5 pages) signed on 2002.10.15
- Plan n° C10200000 Rev 0 of 2000.02.02 signed on 2002.10.15
- Plan n° C10200001 Rev 0 of 2000.02.02 signed on 2002.10.15
- Plan n° C10200002 Rev 0 of 2000.02.02 signed on 2002.10.15
- Plan n° C10200003 Rev 0 of 2000.02.02 signed on 2002.10.15
- Plan n° C10200004 Rev 0 of 2000.02.02 signed on 2002.10.15
- Plan n° C10200005 Rev 0 of 2002.10.15 signed on 2002.10.15
- Plan n° C11200001 Rev 1 of 2002.06.27 signed on 2002.10.15
- Plan n° C11200002 Rev 1 of 2002.10.14 signed on 2002.10.15
- Plan n° C11200003 Rev 1 of 2002.06.27 signed on 2002.10.15
- Plan n° C11200004 Rev 0 of 2000.02.02 signed on 2002.10.15
- Plan n° C11200005 Rev 0 of 2000.02.02 signed on 2002.10.15
- Plan n° C11200006 Rev 0 of 2000.02.02 signed on 2002.10.15
- Plan n° C10200006 Rev 0 of 2002.02.13 signed on 2002.10.15
- Addendum 1 to the descriptive Notice TN-10-2002-01 (4 pages) signed on 2002.10.16

(17) SPECIAL CONDITIONS FOR SAFE USE

The yield stress of the fastener elements of each part the flame proof casing must be at least equal to 450 N/mm².

Enclosures EEx d variations are intended to be used in an ambient temperatures range of -30°C to 55°C.

Enclosures EEx d [ia] or EEx d [ib] variations are intended to be used in an ambient temperatures range of -25°C to 40°C.

User shall connect on intrinsic safety terminals only elements which maximum characteristics shall be below or equal to characteristics defined in technical note.

The interconnection of external circuit to this material shall be in accordance with intrinsic safety.

Enclosures containing None IS and IS shall be fitted with an internal probe switching off enclosure when thermal probe is at his rate i.e. 50°C± 5°C.

For use in potentially explosive atmospheres due to combustible dust:

- The surface of joint flanged gap between cover and body shall be covered with grease, for example silicone and cable entries shall be of a degree of protection at least IP6X.
- User shall perform a regular cleaning of enclosure to limit dust layers on enclosure sides.

These special conditions are defined in instruction notice.

(18) ESSENTIAL REQUIREMENTS OF SAFETY AND HEALTH

The respect of the Essential Health and Safety Requirements is ensured by:

- conformity to the European standards EN 50 014, EN 50 018, EN 50 020 and EN 50 281-1-1
- the whole of the provisions adopted by the manufacturer and described in the descriptive documents.

ADDITION

(3) INERIS 02ATEX0071X/01

(4) ENCLOSURE TYPE EJB ./.-.

(5) Made by YSEBAERT N.V.

(15) **PURPOSE OF THE ADDITION**

As a variation:

Up dating of descriptive documents.

Application of new standards :

EN 60079-0 : 2006, 60079-1 : 2004, 60079-11 : 2007,

EN 61241-0 : 2006, 61241-1 : 2004, 61241-11 : 2006,

IEC 60079-0 : 2004, 60079-1 : 2003, 60079-11 : 2006,

IEC 61241-0 : 2004, 61241-1 : 2004, 61241-11 : 2005.

New address: Koralenhoeve, 13 - 2160 Wommelgem - Belgium

PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety are unchanged.

MARKING

The marking is modified as follows:

A) Enclosure without intrinsic safety element :

YSEBAERT N.V.

Koralenhoeve, 13


2160 Wommelgem - Belgium

EJB ./.-.

INERIS 02ATEX0071X

(Serial number)

(Year of construction)

 II 2 GD

Ex d IIB (*) or Ex d IIB+H2 (*)

Ex tD A21 IP65 or IP66 or IP67 (*)

T.Amb : (**)

T.cable : 90°C for T135°C (T4) or 110°C for T200°C (T3)

for use in explosive gas atmospheres

(*) T6 or T5 or T4 or T3

(**) -50°C to 40°C or -50°C to 50°C or -50°C to 55°C or

-20°C to 50°C or -20°C to 55°C

for use in explosive dust atmospheres

(*) T85°C or T100°C or T135°C or T200°C

(**) -50°C to 40°C or -50°C to 50°C or -50°C to 55°C or
-20°C to 50°C or -20°C to 55°C

B) Enclosure with intrinsic safety element "ia" :


YSEBAERT N.V.

Koralenhoeve, 13

2160 Wommelgem - Belgium

EJB ./.-.

INERIS 02ATEX0071X

 II 2 (1) GD

Ex d [ia] IIB or Ex d IIB+H2 T6

Ex tD [iaD] or [ia] A21 IP65 or IP66 or IP67 T85°C

T.Amb : -25°C to 40°C or T.Amb :-50°C to 40°C

C) Enclosure with intrinsic safety element "ia" or "ib" :


YSEBAERT N.V.

Koralenhoeve, 13

2160 Wommelgem - Belgium

EJB ./.-.

INERIS 02ATEX0071X

 II 2 (2) GD

Ex d [ia] or [ib] or [ia/ib] IIB or IIB+H2 T6

Ex tD [iaD] or [ibD] or [iaD/ibD] or [ia] or [ib] or [ia/ib] A21 IP65 or IP66 or IP67 T85°C

T.Amb : -25°C to 40°C or T.Amb :-50°C to 40°C

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.

ROUTINE EXAMINATIONS AND TESTS

The routine examinations and tests are modified as follows:

For an use under a minimum ambient temperature between -20°C and -50°C, the routine test prescribed by the basic certificate has to be performed under the value of 17 bar.

(16) DESCRIPTIVE DOCUMENTS

The descriptive documents quoted hereafter constitute the technical documentation describing the modification of the equipment, subject of this present addition.

- Index of descriptive document (4 pages).

(17) SPECIAL CONDITIONS FOR SAFE USE

The special conditions defined in the basic certificate are modified as follows :

Enclosures Ex d variations are intended to be used in an ambient temperatures range of -50°C to 55°C.

Enclosures Ex d [ia and/or ib] or Ex tD [iaD and/or ibD] variations are intended to be used in an ambient temperatures range of -25°C to 40°C. For lower temperature, a special variation is defined.

These special conditions are defined in instruction notice.

(18) ESSENTIAL SAFETY AND HEALTH REQUIREMENTS

The respect of the Essential Health and Safety Requirements is completed as follows:

- Conformity to the standards EN 60079-0:2006, EN 60079-1:2004, EN 60079-11:2007, EN 61241-0:2006, EN 61241-1:2004, EN 61241-11:2006, IEC 60079-0:2004, IEC 60079-1:2003, IEC 60079-11:2006, IEC 61241-0:2004, IEC 61241-1 : 2004, IEC61241-11 : 2005.
- All provisions adopted by the manufacturer and defined in the descriptive documents.

Verneuil-en-Halatte, 2008 04 21



X. LEFEBVRE

Project Manager at the ATEX
Equipment Evaluation Laboratory



Director of the Certifying Body,
By delegation
T. HOUeix
Certification Officer
Certification Division