

Explosion Proof Materials





**EXPLOSIEVRIJ MATERIAAL
DISTRIBUTIE - ONTWERP - OMBOUW**

AARDINGSCONTROLE - AARDINGSTANGEN - AFTAKDOZEN - AKOESTISCH ALARM -
BEDIENINGSKASTEN - BLINDSTOPPEN - DOMPELELEMENTEN - DRUKKNOPPEN -
EINDELOOPSCHAKELAARS - HANDPROJECTOREN - INTERFONIE - KABELHASPELS -
KETELVERLICHTING - KLEMMENKASTEN - MOTOREN - MOTORSCHAKELAARS - NOODVERLICHTING -
OPTISCH ALARM - OVERDRUKKASTEN - POTENTIOMETERS - PORTAALKRANEN - ROLBRUGGEN -
RUIIMTEVERWARMING - SCHAKELAARS - SCHIJNWERPERS - SIGNALISATIELAMPEN -
STOPCONTACTEN - TAKELS - TELEFOONTOESTELLEN - THERMOSTATEN - TL-VERLICHTING -
VENTILATOREN - VERKEERSLICHTEN - VERWARMINGSELEMENTEN - WARTELS ...

**MATERIEL ANTIDFLAGRANT
DISTRIBUTION - DEVELOPPEMENT - ADAPTION**

ARMOIRES A SURPRESSION - AVERTISSEURS ACOUSTIQUES - BLOCS DE SECOURS -
BOITES A BORNES - BOITES DE COMMANDE - BOITES DE DERIVATION - BOUCHONS -
BOUTONS POUSSOIRS - CHAUFFAGE DE LOCAUX - DETECTION DE MISE A LA TERRE -
DISCONTACTEURS - ECLAIRAGES FLUO - ELEMENTS D'IMMERSION - ENROULEURS DE CABLE -
FEUX D'ALARMES - FEUX DE CIRCULATION INTERPHONIE - INTERRUPTEURS -
INTERRUPTEURS FIN DE COURSE - VOYANTS LUMINEUX - VENTILATEURS - MOTEURS - PALANS -
PINCES DE MISE A LA TERRE - PONTS ROULANTS - PORTIQUES - PRESSE - ETOUPE ...

**EQUIPMENT FOR HAZARDOUS AREAS
DISTRIBUTION - DESIGN - MODIFICATION**

EARTHINGCONTROL - EARTHING CLAMPS - JUNCTION BOXES - ACOUSTICAL WARNINGS -
CONTROL BOXES - SAFETY PLUGS - IMMERSION HEATERS - PUSH BUTTONS - LIMIT SWITCHES -
HANDFLOODLIGHTS - INTERPHONES - CABLE REELS - TANK LIGHTING - CONNECTION BOXES -
MOTORS - MOTORSWITCHES - EMERGENCY LUMINAIRES OPTICAL WARNINGS - PRESSURE BOXES -
POTENTIOMETERS - CRANES - GANTRY CRANES - AIRHEATING - SWITCHES - FLOODLIGHTS -
WARNING LIGHTS - SOCKETS AND PLUGS - HOISTS - TELEPHONES - THERMO SWITCHES -
FLUORESCENT LUMINAIRES - FANS - TRAFFIC LIGHTS - HEATING ELEMENTS - CABLE GLANDS

Designation examples:

Use in gaseous atmospheres:
II 1 G EEx ia IIC T4

Use in dusty atmospheres:
II 2 D T90°C IP64

Use for mining applications:
I M2 EEx ia I

Temperature classes:

In the event of a malfunction, the maximum temperature of a surface that may be exposed to gas (in normal use with „n“ type of protection). (Should not be used for dust ex-designations.)

- T1 = 450°C
- T2 = 300°C
- T3 = 200°C
- T4 = 135°C
- T5 = 100°C
- T6 = 85°C

IP Code

(Data only for devices used in areas rendered potentially explosive by dust)

Figure 1 Contact and foreign body protection:

- 5 = Protection against dust deposits
- 6 = protection against dust penetration

Figure 2 Water protection

Protection against:

- 0 = (no protection)
- 1 = vertically falling drip water
- 2 = drip water on operating device inclined to 15°
- 3 = spray water
- 4 = spray water
- 5 = jet water
- 6 = strong jet water
- 7 = temporary immersion
- 8 = continuous immersion

Explosion group

(Data only for devices used in areas rendered potentially explosive by gas)

- I = Methane (mining)
- IIA = such as Propane
- IIB = such as Ethylene
- IIC = most dangerous group (e.g. hydrogen)



II 1 G

Ex

d

IIC

T4



II 2 D

Ex

td

A21

T90°

IP64

Device group

- I = Mining
- II = all other explosive areas

Category

- 1 = can be used in Zones 0 or 20
- 2 = can be used in Zones 1 or 21
- 3 = can be used in Zones 2 or 22
- M1 = Mining
(In case of firedamp, continuation of operation is possible)
- M2 = Mining
(Must be switched off in case of firedamp)

Atmosphere

- G = Gas
- D = Dust
(Mining – no details)

Types of protection:

- o = oil immersion
- p = high-pressure encapsulation
- q = sand encapsulation
- d = pressure-resistant encapsulation
- e = increased safety
- ia = intrinsic safety (permitted for Zone 0*)
*depending on the device category
- ib = intrinsic safety (sufficient for Zone 1 (+ 2))
- ma = cast encapsulation (for Zone 0*)
- mb = (sufficient for Zone 1 (+ 2))
- s = special protection
- n = normal operation In normal conditions (only for Zone 2)
- nA = non-sparking
- nC = enclosed break
- nR = vapour-proof housing
- nL = energy limited
- nZ = high-pressure encapsulation
- op = optical radiation (is, pr, sh)
- tD = protected by housing (dust)
- pD = high-pressure encapsulation (dust)
- iD = intrinsic safety (dust)
- mD = cast encapsulation (dust)

Max. surface temperature

(Data for devices used in areas rendered potentially explosive by dust - rarely also used in gas ex marking.)

Maximum temperature of a surface during a machine error (normal operation in the case of category 3 devices) that can be reached by the ex atmosphere.

Evaluation by the user:

- a.) Limit temperature 1 = 2/3 of min. igniti on temperature of dust present
- b.) Limit temperature 2 = min. glow temperature of dust present minus 75k (applies for layer thicknesses of up to 5mm)

The smaller value for the limit temperature must be above the indicated max. surface temperature of the device.

Zone

Procedure for determining the housing's leak tightness (A or B)



Explosion Proof Materials



Explosievelige verlichting
Verhoogde veiligheid "e"
Drukvaste armaturen "d"
Noodverlichting
Schijnwerpers
Klok armaturen
Draagbare verlichting

Explosionproof lighting
Increased safety "e"
luminaires
Flameproof luminaires "d"
Self-contained emergency
lighting
Floodlights
Lanterns
Portable lights

Eclairage Antidéflagrant
Les luminaires sécurité
augmentée "e"
Les luminaires antidéfla-
grants "d"
Les blocs autonomes
d'éclairage de sécurité
Les projecteurs
Les lanternes
Les portables



Explosievelige klemmenkas-
ten en bedieningspanelen -
inox / aluminium / polyester

Explosionproof terminal boxes
and control panels - GRP /
stainless steel / aluminium

Coffrets et panneaux de
commande antidéflagrants -
polyester / inox / aluminium



Explosievelige optische en
akoestische signalisatie
Detectors

Explosionproof sounders and
beacons
Signalling devices
Detectors

Signalisation optique et acous-
tique antidéflagrants
Detecteurs



Explosievelige Ventilatoren
en HVAC materiaal volledig
in overeenstemming met
ATEX richtlijn 94/9/EC voor
gebruik in explosiegevaarlijke
omgeving.

Explosionproof Fans and
HVAC equipment
fully compliant with the ATEX
directive 94/9/EC for use in
hazardous areas

Ventilateurs et équipement
HVAC antidéflagrant con-
forme au directive ATEX
94/9/EC destinés à être
utilisés en atmosphères
explosibles



Explosievelige Motoren en Elektromagnetische componenten

Explosionproof motors and electromagnetic components

Moteurs et systèmes électromagnétiques antidéflagrants



Explosievelige telefonie, Intercom en PA/GA systemen

Explosionproof telephones, Intercom and PA/GA systems
Communications equipment

Telephones, Intercom et systèmes PA /GA antidéflagrants



Explosievelig Installatiemateriaal
Schakelaars
Kabelwartels
Stekkers en stopcontacten
Motorschakelaars
Aftakdozen
Veiligheidsschakelaars

Explosionproof installation material
Switches
Cable glands
Sockets and plugs
Motor controllers
Pulling boxes
Safety switches

Materiel d'installation antidéflagrant
Interrupteurs- commutateurs
Presse étoupe
Prises et fiches
Démarrage moteur
Boites de dérivation
Interrupteurs de sécurité



Explosievelige aardingsystemen
aardingstangen
oprollers

Explosionproof earth detection systems
cable reels
clamps

Systèmes pour contrôle de mise a la terre
enrouleurs
pinces antidéflagrants



Explosion Proof Materials



Explosievelige verwarming

- Luchtverhitters HVAC
- Regelingen
- Duct Heaters
- Gas Heaters
- process heaters
- Ribbenbuis kachel
- Ruimte verwarming

Explosionproof heating

- Air heaters HVAC
- Controls
- Duct heaters
- Gas heaters
- Process heaters
- Fin tube heater
- Space heaters

Chauffages antidéflagrants

- Réchauffeurs d'air HVAC
- Boitiers de thermostats/transmetteurs
- Réchauffeurs de conduites
- Réchauffeurs de Gaz
- Thermoplongeurs
- Radiateurs
- Radiateurs soufflants



Explosievelige instrumentatie

Explosionproof instrumentation

Instrumentation anti-déflagrante



Explosievelige rolbruggen en takels in overeenstemming met ATEX richtlijn 94/9/EC voor gebruik in explosiegevaarlijke omgeving.

Explosionproof electric hoists and cranes fully compliant with the ATEX directive 94/9/EC for use in hazardous areas.

Palans et Ponts roulants antidéflagrants conforme au directive ATEX 94/9/EC destinés à être utilisés en atmosphères explosibles.





Speciale constructies in overeenstemming met ATEX richtlijn 94/9/EC voor gebruik in explosiegevaarlijke omgeving.

Special constructions fully compliant with the ATEX directive 94/9/EC for use in hazardous areas.

Transformations et constructions spéciales conforme au directives ATEX 94/9/EC destinés à être utilisés en atmosphères explosibles.



Vonkvrije materialen/
Gereedschappen

Sparkfree materials/
Tools

Matériel/
Outils anti étincelles



Nota's - Notes

Voor al uw ATEX geclasseerde zones staat een gespecialiseerd EAV team te uwer beschikking.
For all your projects in Hazardous environments we have a specialized EAV team at your service.
Pour tout vos projets en zone ATEX, EAV a une équipe spécialisée à votre disposition.



EAV nv
Bijenstraat 5
B - 9051 Sint-Denijs-Westrem
BELGIUM

Tel +32 (0) 9 281 16 11
Fax +32 (0) 9 281 16 03

www.eav.be
info@eav.be

Explosion Proof Materials

