Appendix A

INERIS
INSTIUT NATIONAL DE L ENVIRONNEMENT INDUSTRIEL ET DES RISQUES
Potentially Explosive Atmospheres

Equipment for Surface industries Group 11

Zone	0	20	1	21	2	22
Atmosphere nature	G gas	D dust	G gas	D dust	G gas	D dust
Explosive atmosphere	Continuous		Intermittent		Episodic	
Category of equipment to be used according 94/9/EC	1		2		3	

Equipment for mines susceptible to firedamp Group 1

De-energized in the event of an explosive atmosphere	Yes	Yes
Category of equipment to be used according 94/9/EC	M 1	M2

INERIS, notified body Nr 0080, to the Commission of the European Union and international expert on explosion risks, ...
is also, competent for * support to design zoning * verification of installations * analysis and resolution of problems induced by static electricity or lightning * examination and tests according to Factory Mutuals RC carrying out examination and tests as per some international standards or according to specification sheets * training

Appendix 2

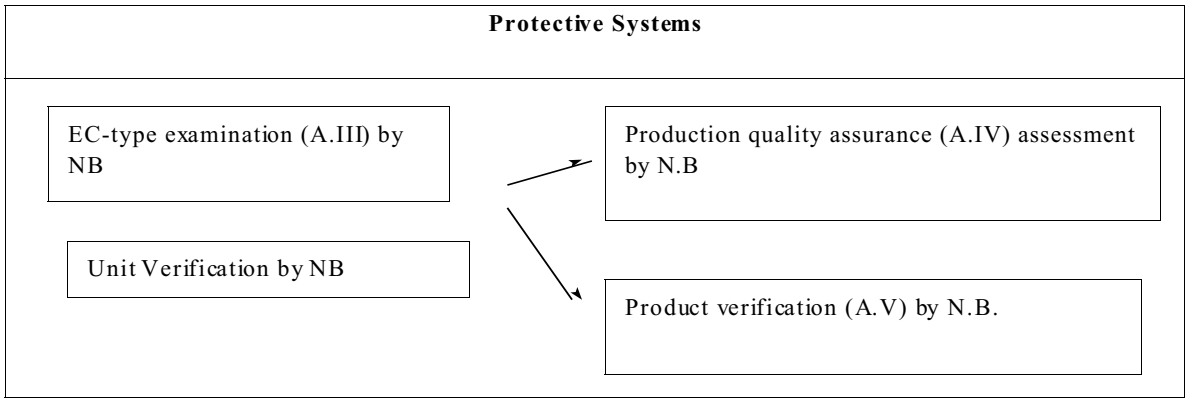
Grouping of electrical apparatus			
Location	IEC/ CENELEC group	Canada - U.S.A. class and group	reference gases *
Mines susceptible to firedamp	I	Gassy Mines	Methane
Other than mines susceptible to firedamp	II A	I D	Propane
	II B	I C	Ethylene
	II C	I B	Hydrogen
		I A	Acetylene

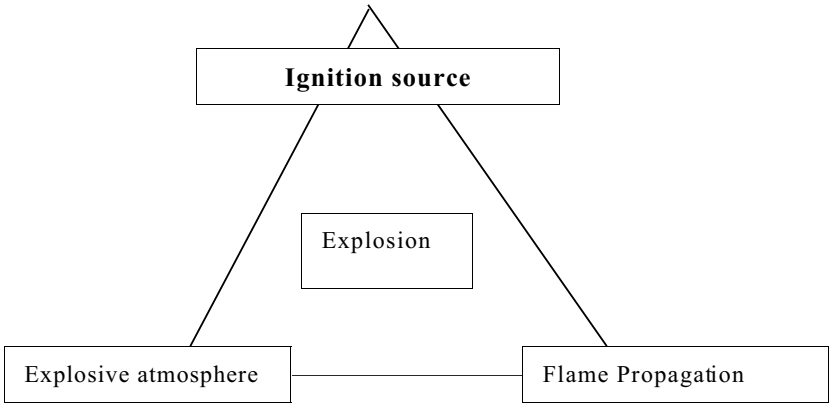
CENELEC and IEC temperature classes

Class	TG	T5	T4	T3	T2	T1
Maximum surface temperature	85 C	100 C	135 C	200 C	300 C	450 C

Appendix 3

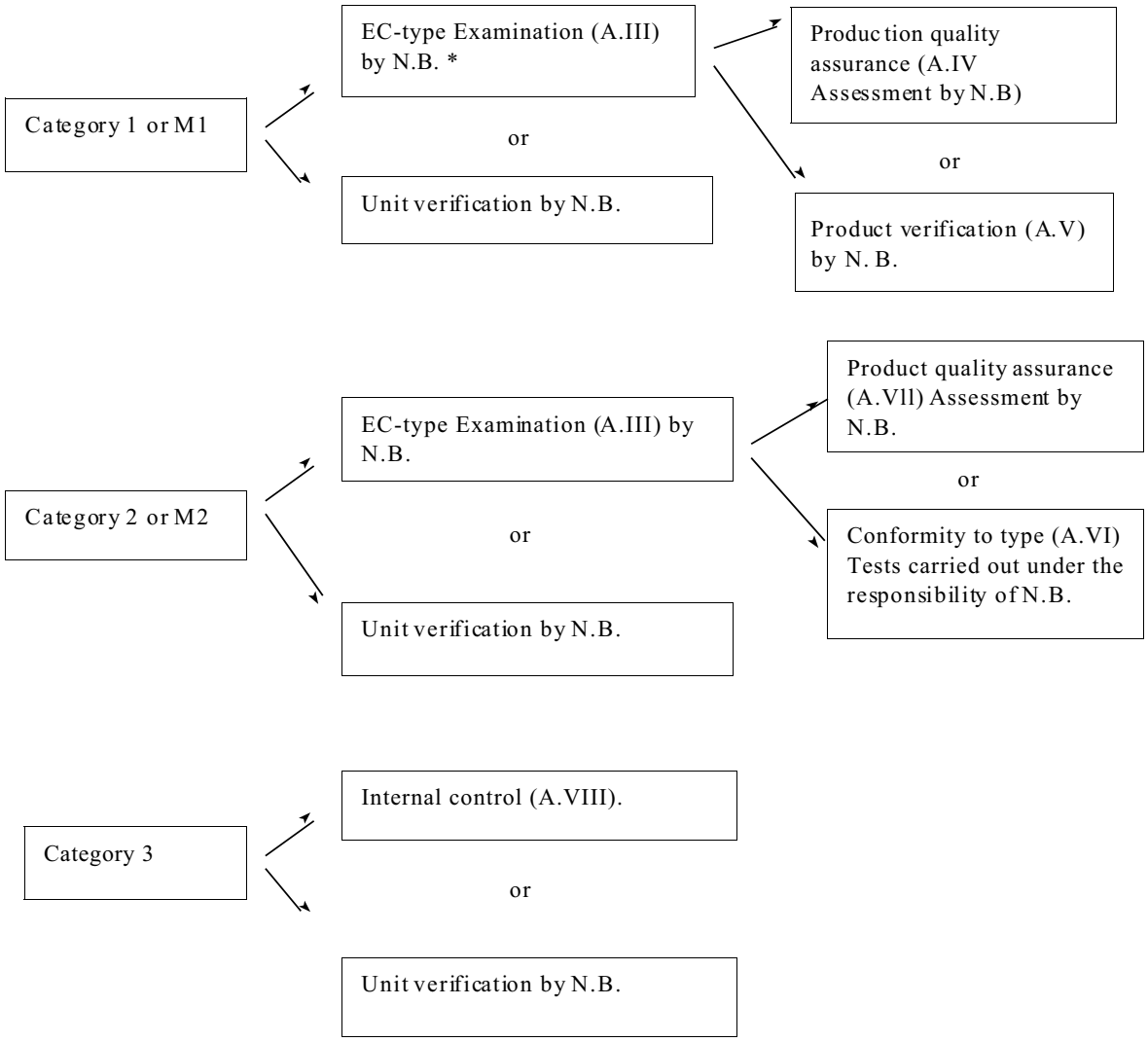
Conformity assessment procedures according 94/9/EC





Appendix 4

Internal combustion engines and electrical equipment

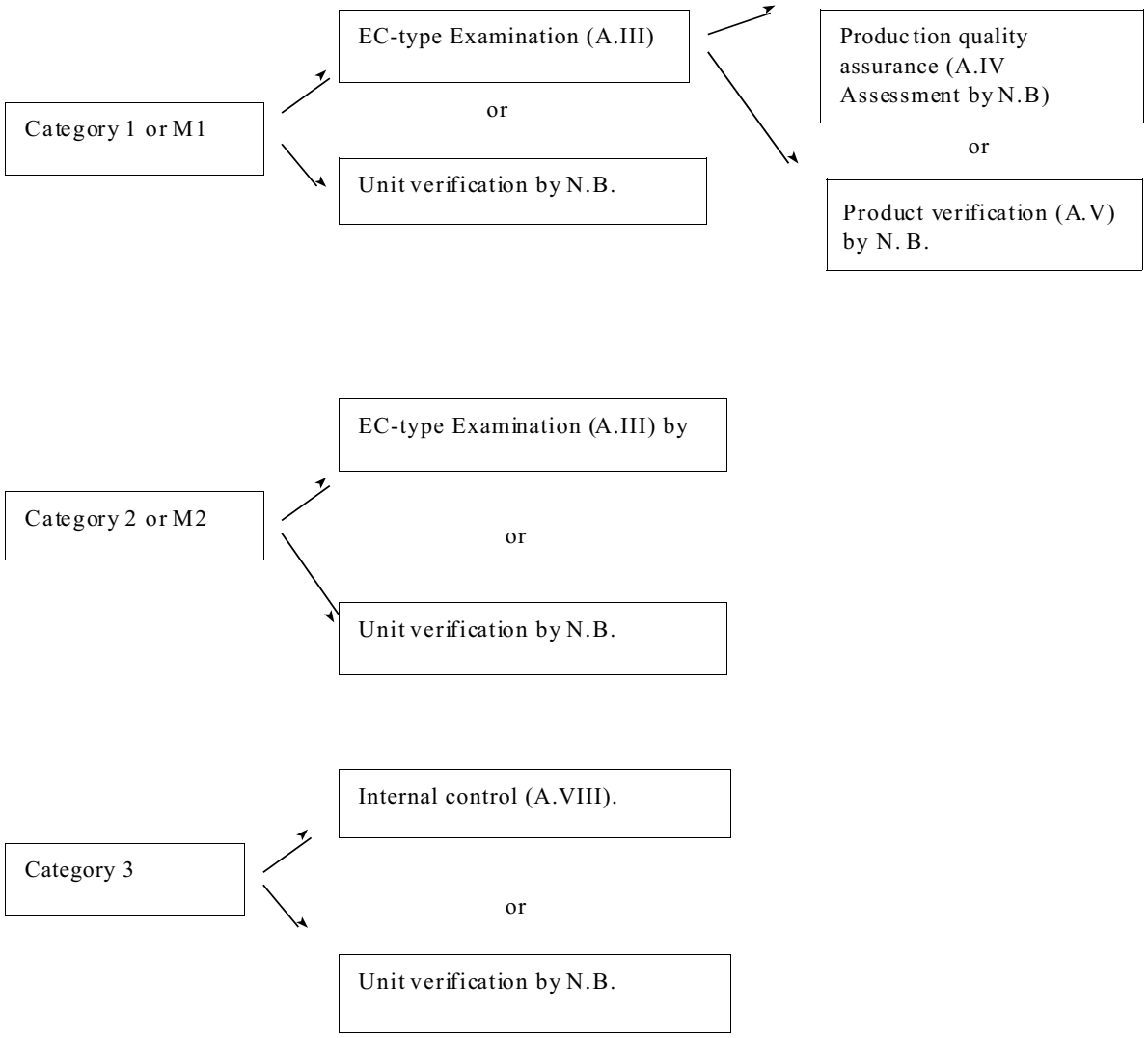


* N.B. = Notified Body

* A.III = Annex III to the Directive 4/9/EC Notified Body

Appendix 5

Other equipment (mechanical, hydraulic, pneumatic, ...)



* N.B. = Notified body

* A.III = Annex III to the Directive 4/9/ECNotified body

Appendix 6

Types of protection			
Type	Sign	IEC	CENELEC
General Requirements	-	79-0	EN 50014
Oil immersion	o	79-6	EN 50015
Pressurized Apparatus	p	79-2	EN 50016
Powder Fill	q	79-5	EN 50017
Flameproof Enclosure	d	79-1	EN 50018
Increased Safety	e	79-7	EN 50019
Intrinsic safety	I	79-11	EN 50020
System i	SYST T	-	EN 50039
Encapsulation	m	79-18	EN 50028
Electrostatic Spraying	-	-	EN 50050
Requirements of selection, ...*	-	-	EN 50053
Caplamps (mines susceptible to firedamp)	-	-	EN 50033

Requirements of the selection, installation and use of electrostatic spraying equipment for flammable materials.

Appendix 7

CE Marking Example	
Name and address of the manufacturer	Metrox 2, rue des Jacobins 92400 Villepinte
CE marking followed by the identification number of the N.B. where such body is involved in the production control stage	CE 0080
Type	KST 820
Serial Number	N 125478
Year of Construction	1996
Specific marking followed by II for group II, 2 for category 2 and G for gas	EX 11 2 G
Complementary marking	EEx d ia IIB T4

Appendix 8

Degrees of protection provided by an enclosure IEC 529 - EN 60 529				
IP X X				
Protection against: - access to hazardous parts - ingress of foreign objects			Protection against ingress of water	
Non protected	0		0	Non protected
Back of hand Solid objects > 50 mm	1		1	Vertically falling water drops
Finger Solid objects > 12 mm	2		2	Vertically falling water drops when enclosure tilted up to 15°
Tool 2,5 mm Solid objects >_ 2,5 mm	3		3	Spraying water with an angle up to 60 from the vertical
Wire 1 mm Solid objects >_ 1 mm	4		4	Splashing water from any direction
Wire 1 mm Dust	5		5	Water jets from any direction
Wire 1 mm Dust tight	6		6	Powerful water jets from any direction
			7	Temporary immersion
			8	Continuous immersion

Appendix 9

INERIS helps you to apply the following directives	
89/336/EEC	Electromagnetic compatibility
94/9/EC	Equipment and protective systems intended for use in potentially explosive atmospheres
89/392/EEC	Machinery
89/686/EEC	Personal protective equipment
93/15/EEC	Explosives for civil use

(1) Certification according <<old approach>>, Directive 76/117/EEC 79/196/EEC et 82/130/EEC, applicable until30.06.2003