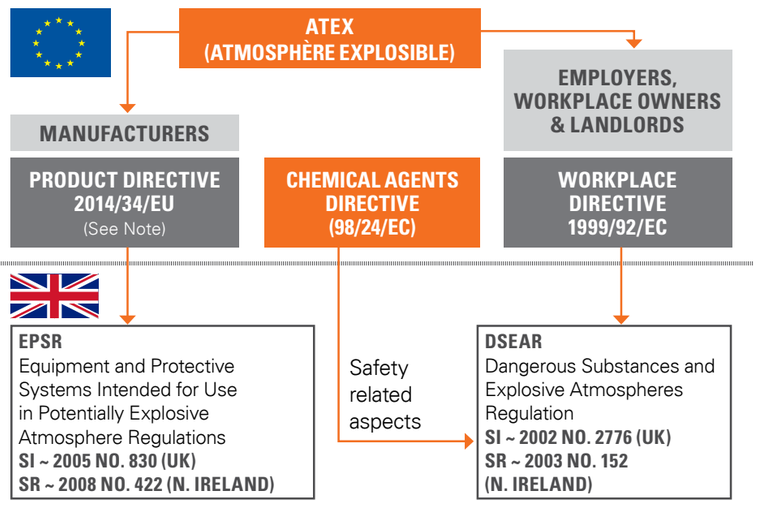
3 ATEX AND DSEAR: GUIDANCE FOR END USERS

RELATIONSHIP BETWEEN EUROPEAN AND UK LEGISLATION



NOTE: ATEX PRODUCT DIRECTIVE 94/9/EC HAS BEEN SUPERSEDED BY NEW DIRECTIVE 2014/34/EU, THE NEW DIRECTIVE IS APPLICABLE FROM 20/4/16. RELEVANT STATUTORY INSTRUMENTS ARE ALSO DUE TO CHANGE IN 2016.

ATEX WORKPLACE DIRECTIVE AND DSEAR COMPLIANCE OVERVIEW

PROVISIONS	DSEAR (UK)	ATEX 1999/92/EC	GUIDANCE
Assess the risks and identify the necessary control measures	Reg 5	Article 4.1	HSE ACOP L138
Implement the necessary technical and organisational measures including suitable provision for accidents, incidents and emergencies.	Reg 6, Schedule 1	Article 3	HSE ACOP L138
Classify the areas where potentially explosive atmospheres may exist into zones	Reg 7, Schedule 2	Article 7.1	EN 60079-10-1 EN 60079-10-2 Industry Codes
Mark the classified areas using the appropriate warning signs	Reg 7, Schedule 4	Article 7.3	
Inspect, assess, modify or replace the equipment on the basis of the level of risk and the ability of the equipment to create a source of ignition	Reg 5 & 6, Schedule 1	Article 3 & 4.1	EN 60079-14 EN 60079-17 EN 60079-19
Ensure personnel at risk, and others who may be affected, receive appropriate training	Reg 9	Annex II 1.1	
Create and maintain an Explosion Protection Document (EPD–ATEX 99/92/EC requirement only) or equivalent document referencing the necessary information (UK only) for the identified hazardous areas. Documentation must include an effective equipment maintenance and inspection regime	Reg 5	Article 8	HSE ACOP L138 EN60079-17
Regularly review and audit the areas and systems to ensure that they remain effective	Reg 5	No specific reference	HSE ACOP L138

Note 1: DSEAR Reg 7(4), ATEX 99/92/EC, Annex II 2.8 Prior to new plant and facilities being used for the first time, the overall explosion safety shall be verified by a competent person
Note 2: DSEAR Reg 11 Article 6, where workers from several undertakings are present in same workplace, the employer responsible for that workplace must co-ordinate the health and safety measures

ZONES AND EQUIPMENT CATEGORIES

Zones		BROAD DEFINITIONS OF ZONES (FOR GUIDANCE ONLY)	ATEX EQUIPMENT CATEGORY	EQUIPMENT INTEGRITY REQUIREMENTS
Gases and Vapours	Dusts			
0	20	Explosive atmosphere is present continuously, for long periods or frequently	1	Equipment must be safe under normal operation, expected and rare malfunction
1	21	Explosive atmosphere is likely to occur under normal operation, occasionally	2	Equipment must be safe under normal operation, expected malfunction
2	22	Explosive atmosphere is unlikely to occur in normal operation and, if it does, will persist for a short period only	3	Equipment must be safe under normal operation.

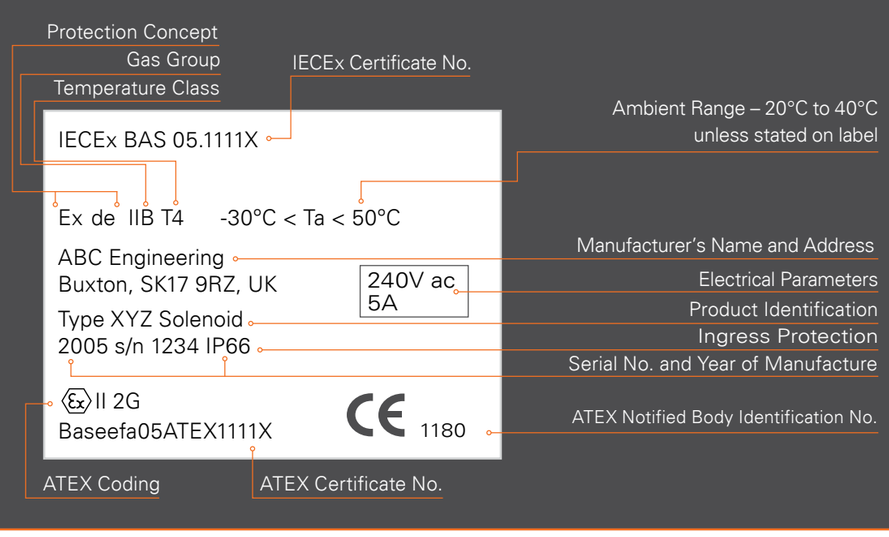
NOTE: ATEX Product Directive 94/9/EC has been superseded by new Directive 2014/34/EU, the new Directive is applicable from 20/4/16.
Relevant Statutory Instruments are also due to change in 2016

RELEVANT STANDARDS AND GUIDANCE

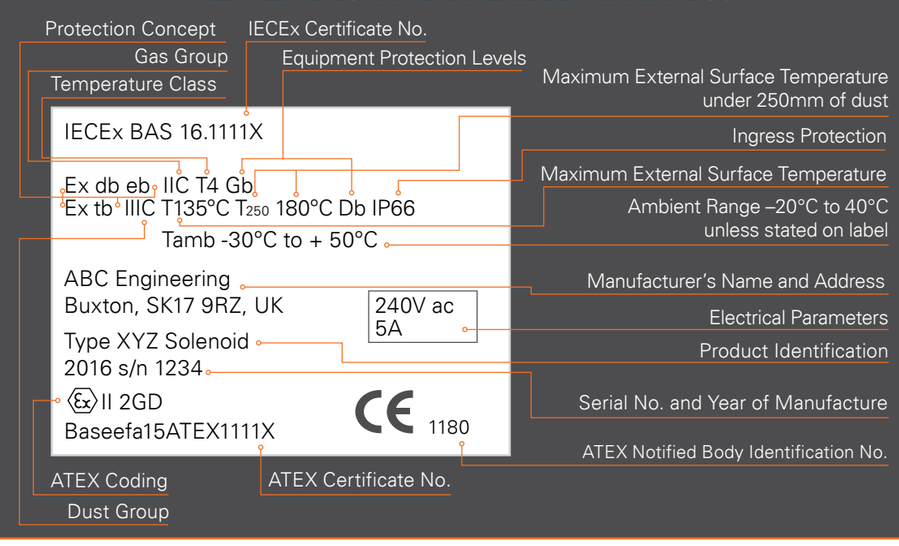
AREA OF GUIDANCE	STANDARD OR APPROVED CODE OF PRACTICE (ACOP)
General Guidance DSEAR Compliance	ACOP L138 Dangerous Substances and Explosive Atmospheres. Available as free download from http://www.hse.gov.uk/pubns/books/l138.htm
Hazardous Area classification	EN 60079-10-1 – Classification of hazardous areas for explosive gas atmospheres EN 60079-10-2 – Classification of areas where combustible dusts are or may be present
Electrical installation of equipment	EN 60079-14 Explosive atmospheres – Part 14: Electrical installations design, selection and erection
Electrical Equipment inspection	EN 60079-17 Explosive atmospheres – Part 17: Electrical installations inspection and maintenance
Non electrical equipment ignition hazard assessment	EN 13463-1 Non-electrical equipment for potentially explosive atmospheres. Basic method and requirements *Note: This standard relates to new equipment but is useful for retrospective assessment of existing equipment*
Electrostatics	PD CLC/TR 60079-32-1: Explosive atmospheres Part 32-1: Electrocstatic hazards, guidance (See part 32-2 for testing).

ATEX CODING

EXISTING LABEL EQUIPMENT MARKINGS



NEWER EQUIPMENT LABEL MARKINGS



GAS GROUPS

GAS GROUP	REPRESENTATIVE TEST GAS
I	Methane (mining only)
IIA	Propane
IIB	Ethylene
IIC	Hydrogen

Gases are classified according to the ignitability of gas-air mixture. Refer to EN 60079-20-1 for classification of common gases and vapours.

DUST GROUPS

DUST GROUP	
IIIA	Combustible flyings
IIIB	Non-conductive dust
IIIC	Conductive dust

TEMPERATURE CLASS

T CLASS	MAXIMUM SURFACE TEMPERATURE
T1	450°C
T2	300°C
T3	200°C
T4	135°C
T5	100°C
T6	85°C

EQUIPMENT PROTECTION LEVEL

EQUIPMENT PROTECTION LEVEL	ZONE
Ga	0
Gb	1
Gc	2
Da	20
Db	21
Dc	22
Ma	Energised*
Mb	De-energised*

*G=gas, D=dust, M=mining *in presence of explosive atmosphere*

INGRESS PROTECTION (IP)

TYPE OF PROTECTION		IP RATING
Hazardous area equipment typically requires a minimum IP rating of IP54 but may be assessed and tested to the higher ratings below:		
Dust	Dust Protected	IP5x
	Dust Tight	IP6x
Water	Protection against – splashing water	IPx4
	Protection against – water jets	IPx5
	Protection against – powered water jets	IPx6
	Protection against – temporary immersion	IPx7
	Protection against – continuous immersion	IPx8

See IEC/EN 60529 for full definitions of IP ratings.

SGS BASEEFA SERVICES

- ATEX and IECEx equipment/component certification
- IECEx Certificate of Personnel Competence
- IEC 61508 certification
- Quality system approval
- Assistance with DSEAR (ATEX user directive) Implementation
- Training and Technical advice
- IECEx Service facility Certification
- Technical file storage
- Testing

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WHEN YOU NEED TO BE SURE

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