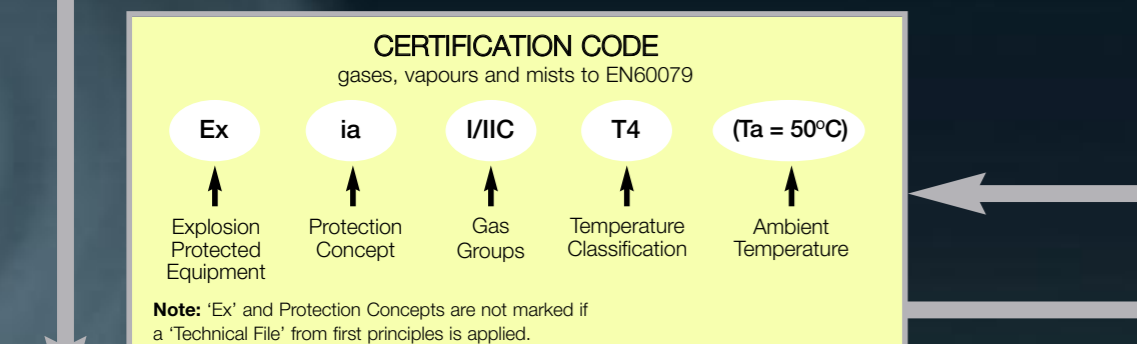
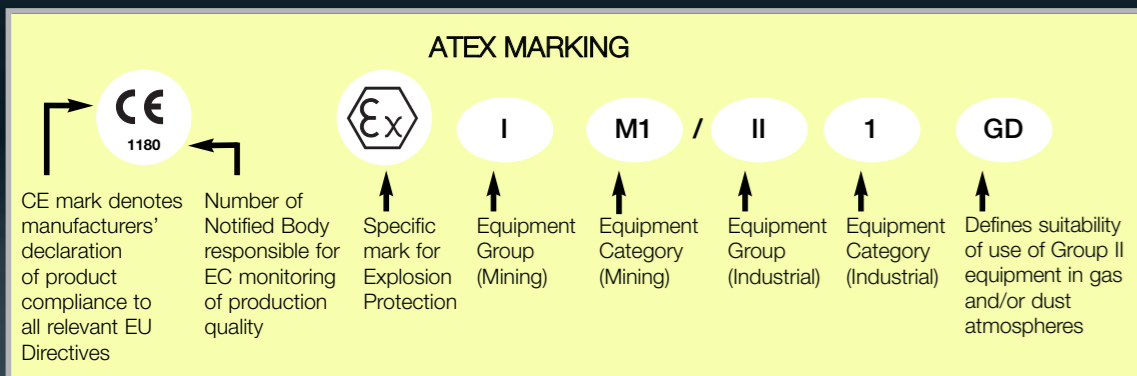


ATEX Explained

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Ex Equipment



EQUIPMENT GROUP & EQUIPMENT CATEGORY table with columns for Equipment Group, Equipment Category, Protection Level, Hazard, and Use.

'CE' MARKING AND THE 94/9/EC ATEX DIRECTIVE ON EQUIPMENT AND PROTECTIVE SYSTEMS INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES.

MANDATORY WITHIN THE EU.

'CE' marking has been introduced as part of the European Union's new approach to technical harmonisation as a means of identifying products that comply with all relevant EC Directives.

Subject to certain safeguards, products bearing the 'CE' mark are permitted to be sold throughout the EU without interference from national regulatory authorities. The Directives have been put in place in order to remove artificial trade barriers within the European Union previously caused by individual countries' national standards, a secondary function is as a means of regulating safety.

The Explosive Atmospheres 94/9/EC ATEX (Equipment) Directive became mandatory on 1 July 2003. On this date the existing Explosive Atmospheres and Gassy Mines Directives were repealed. Since then only equipment and systems 'CE' marked as compliant with the ATEX Equipment Directive (and all other relevant mandatory directives) may be placed on the market within the EU.

The Directive applies to all equipment and systems for use in potentially explosive atmospheres within the EU. The scope of the Directive includes electrical and mechanical equipment for use in Group I (Mining) or Group II (Industrial) applications, both on and offshore and considers risks of ignition of potentially explosive gas, vapour, mist and dust atmospheres. In addition, devices intended for use outside potentially explosive atmospheres that contribute to the safe functioning of equipment and systems with regard to explosion risk are also included.

Compliance of products to the ATEX Equipment Directive, through conformity assessment, takes a modular approach, and is generally in two stages: design and production. A common route to product design compliance is to apply to a Notified Body (Ex - Test House) for an EC Type Examination Certificate. To comply, the equipment or system must meet the Essential Health and Safety Requirements (EHSRs) listed in the Directive. Harmonised EU standards have been adopted by CENELEC and CEN, relating to the design, construction and testing of equipment; a product complying with these standards is deemed to meet the EHSRs to which the standards relate. Where apparatus follows a protection concept not covered by these standards, compliance to the 94/9/EC Directive is still possible by compiling a 'Technical File' from first principles, demonstrating compliance through test and assessment to the EHSRs relating to design and construction of equipment for use in explosive atmospheres.

The production quality stage of the conformity assessment procedures ensure continued product compliance in manufacturing. Typically a manufacturer should have a certified ISO 9000 quality management system and comply with one of the quality modules in the ATEX Equipment Directive, however this will vary depending on product equipment category; equipment used in higher risk areas will require more onerous conformity assessment procedures to be applied.

In addition to the 94/9/EC ATEX (Equipment) Directive, products for use in potentially explosive atmospheres may require to be compliant with other Directives including the 2004/108/EC Electro-Magnetic Compatibility (EMC) Directive. This Directive applies to virtually all electrical and electronic apparatus potentially able to generate interfering emissions or exhibit an undue sensitivity to interference sources.

Once compliance with the relevant Directives is complete and an EC Declaration of Conformity issued by the manufacturer, the 'CE' mark may be applied and the product placed on the market.

The ATEX Equipment Directive in full, and EC Commission guidance on the Directive, may be found on the following website: <http://ec.europa.eu/enterprise/atesx/directive94-9-en.pdf>

99/92/EC ATEX (WORKPLACE) DIRECTIVE ON MINIMUM REQUIREMENTS FOR IMPROVING THE SAFETY AND HEALTH PROTECTION OF WORKERS POTENTIALLY AT RISK FROM EXPLOSIVE ATMOSPHERES.

MANDATORY WITHIN THE EU.

The Directive covers both Group I and Group II activities, on shore and offshore within the EU, and aims to provide a better level of protection for the health and safety of workers in potentially explosive gas, vapour, mist and dust atmospheres. It sets a set of obligations and safety measures for employers, requiring the adoption of a coherent risk assessment based strategy for the prevention of explosions. These obligations include:

- Generation of an explosion protection document, evaluating explosion risk, including: likelihood of the presence of the explosive atmosphere, the presence of ignition sources (including electrostatic discharge), identification of the substances and processes in use, definition of specific measures taken to safeguard the health and safety of workers.
• Classification of areas into zones and marking points of entry with safety signs.
• Appropriate training and supervision for workers.
• Use of written instructions and permits to work.
• Special requirements for work equipment:-
- Equipment in service before 30 June 2003 may continue to be used after this date if it has been risk assessed and the explosion protection document indicates it can be safely used.
- Equipment brought into service after 30 June 2003 must be CE marked as compliant with the 94/9/EC ATEX (Equipment) Directive.
• Due consideration of explosion protection measures, encompassing issues such as:
- Control of releases.
- Use of protective measures appropriate to the greatest potential risk.
- Selection of appropriate equipment by referencing the explosion protection document.
- Ensuring equipment is correctly maintained and operated.
- Minimising the risk of explosion and the effect of explosion in the workplace.
- Provision of suitable warning and escape facilities.

99/92/EC is a separate directive specifically covering workers in explosive atmospheres, working within the more general 89/391/EEC Directive on the introduction of measures to encourage improvements in the safety and health of workers at work.

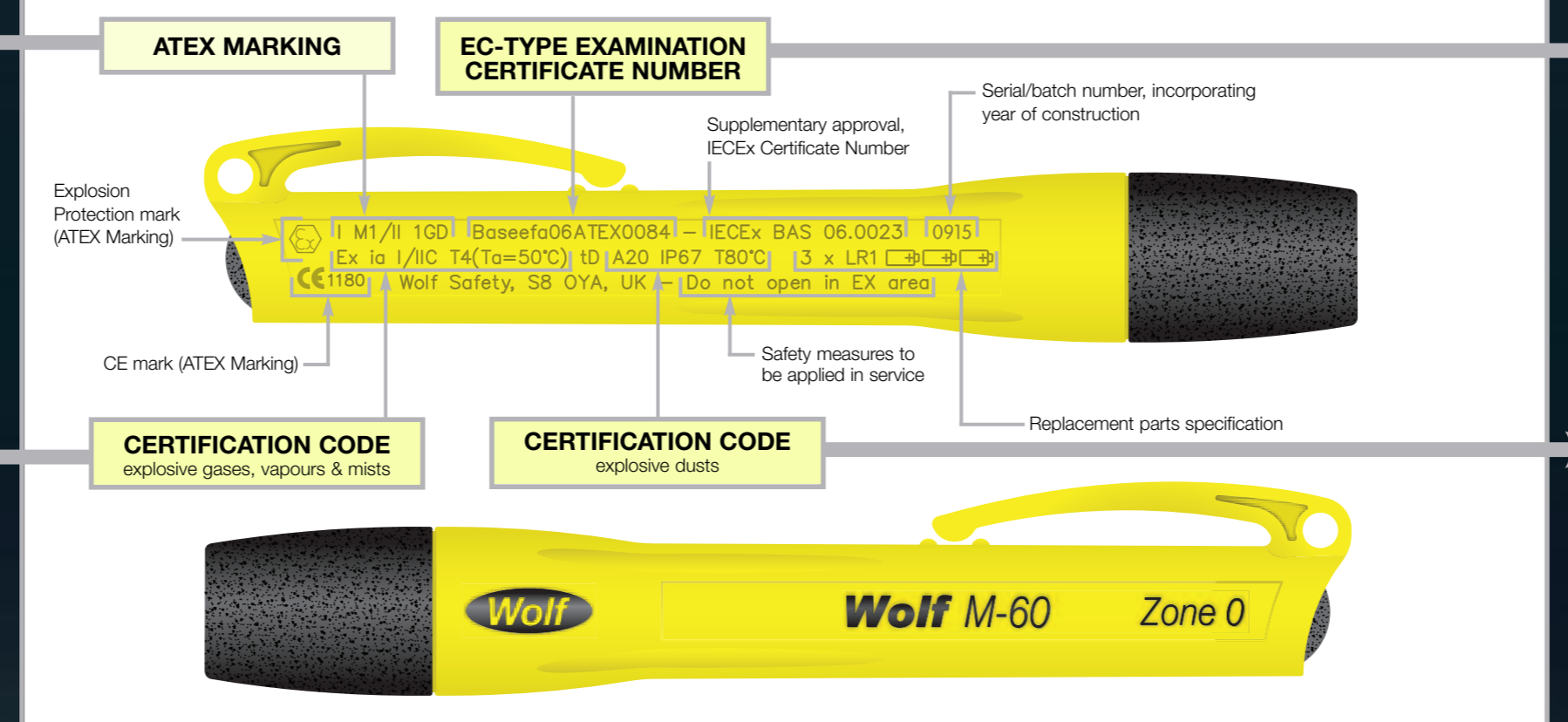
The ATEX Workplace Directive in full may be found on the following website: <http://ec.europa.eu/enterprise/atesx/dir92-en.pdf>

DSEAR - THE DANGEROUS SUBSTANCES AND EXPLOSIVE ATMOSPHERES REGULATIONS 2002.

In the UK the 99/92/EC ATEX Workplace Directive has been implemented as The Dangerous Substances and Explosive Atmospheres Regulation 2002 (DSEAR). These regulations also include the safety aspects of the 99/24/EC Chemical Agents Directive, resulting in flammable and dangerous substances being covered by a single set of regulations, thus reducing the volume of legislation covering this area.

A copy of the DSEAR regulations is available at: <http://www.hms.gov.uk/ahs/2002/20022776.htm>

A guide to DSEAR, published by the Health and Safety Executive can be downloaded at: <http://www.hse.gov.uk/freandexplosion/dsear.htm>

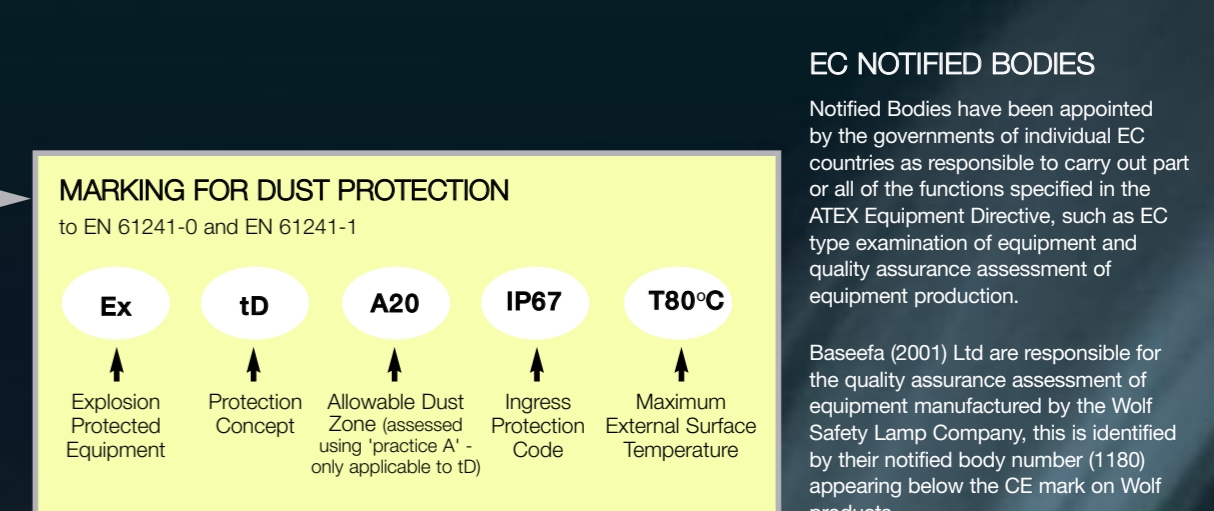
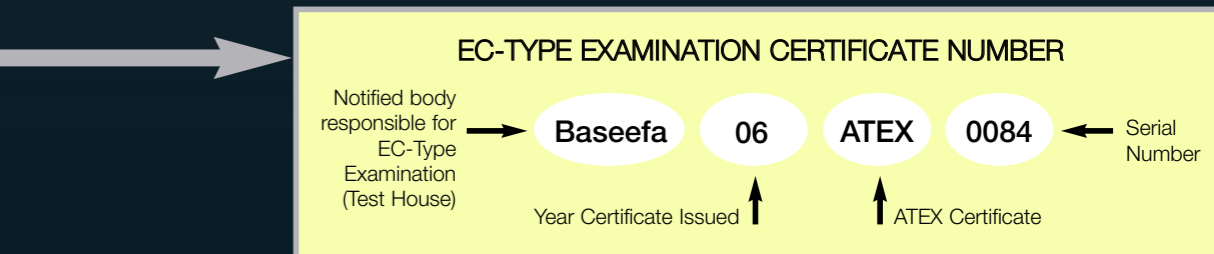
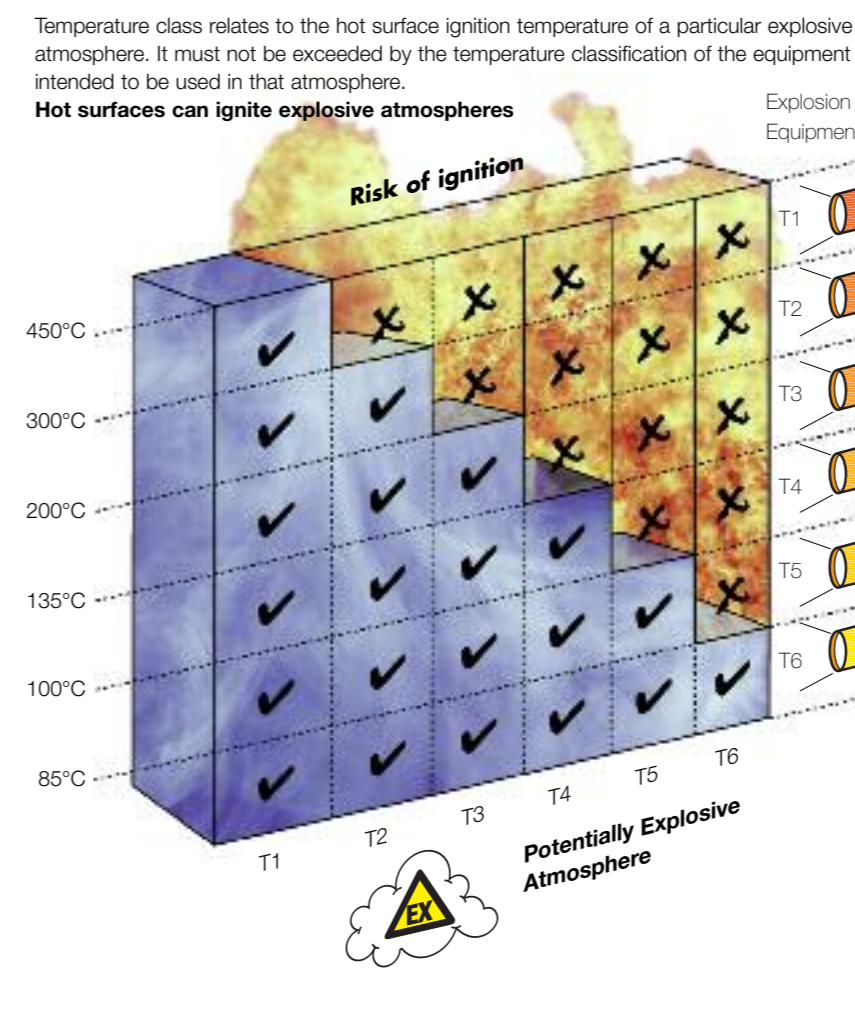


GAS GROUP table with columns for Group, Typical Hazard, Maximum Safe Sparking Energy, Maximum Safe Gap, and Applicable Concepts.

PROTECTION CONCEPTS FOR ELECTRICAL APPARATUS

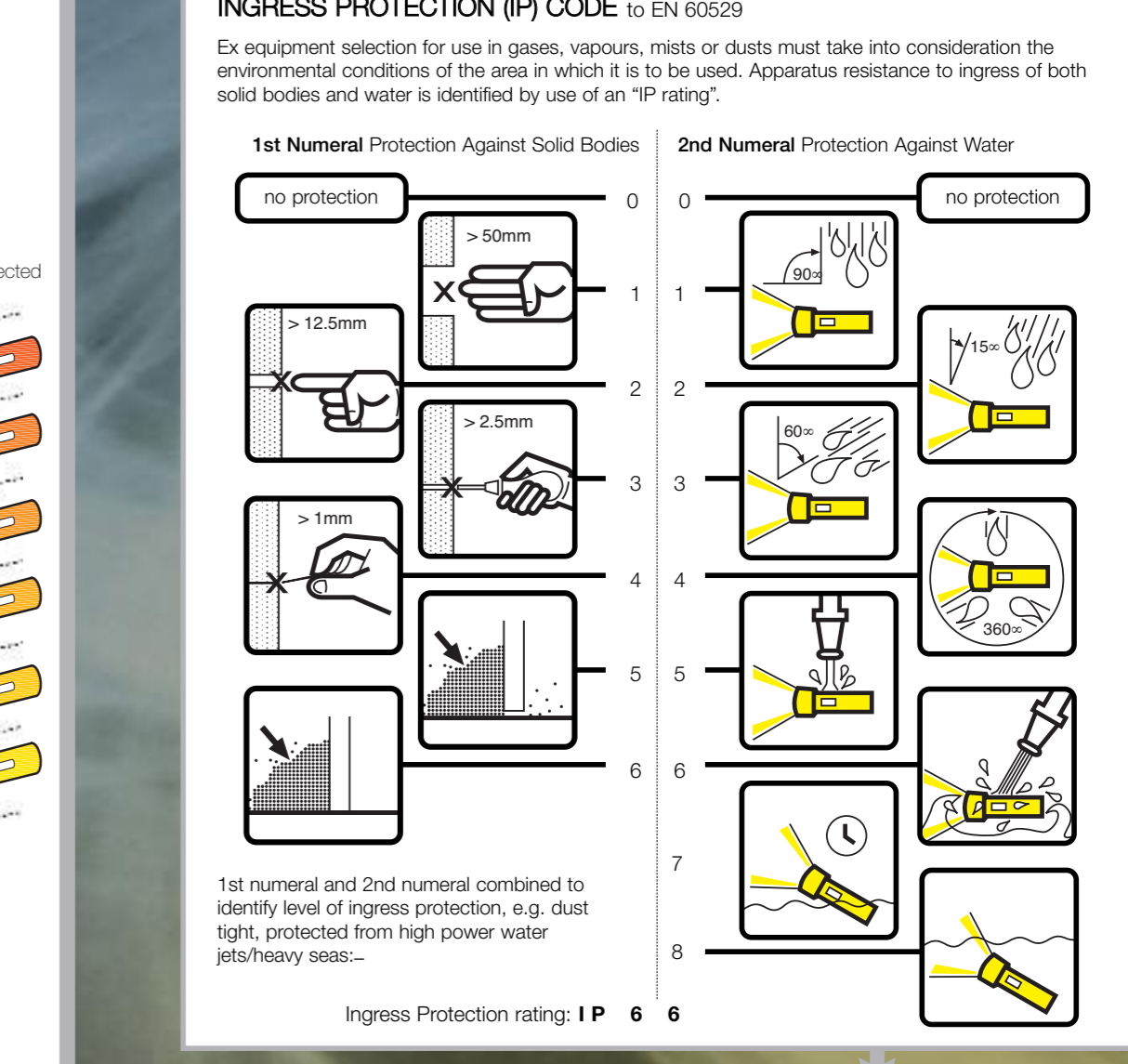
Table with columns for Concept, Symbol, Icon, Description, Category, and EN Standard.

TEMPERATURE CLASS



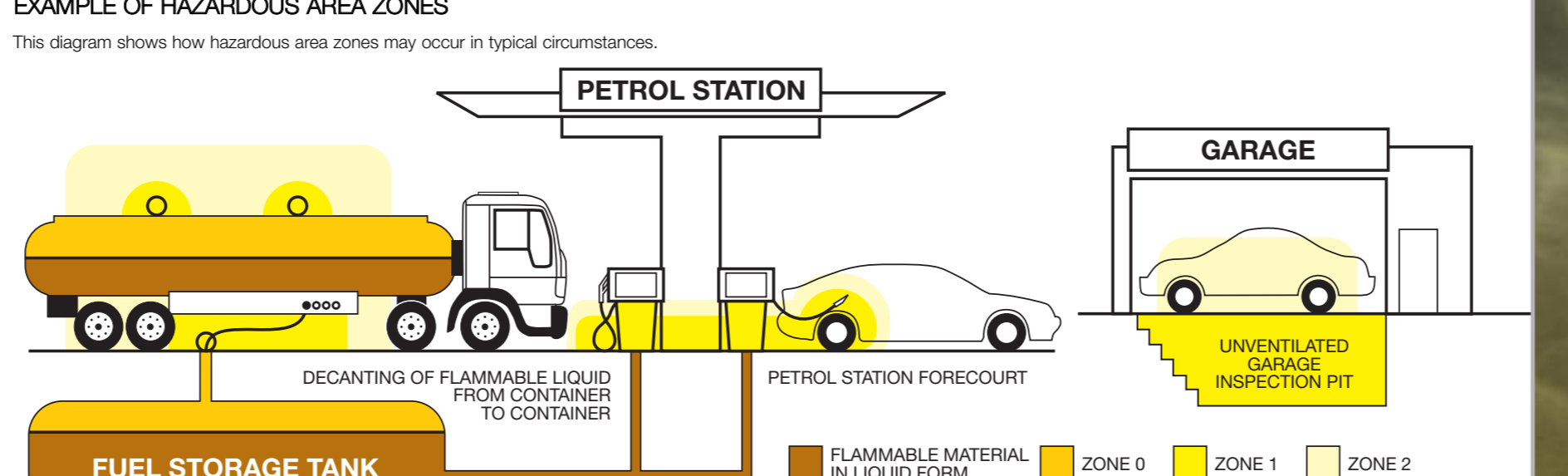
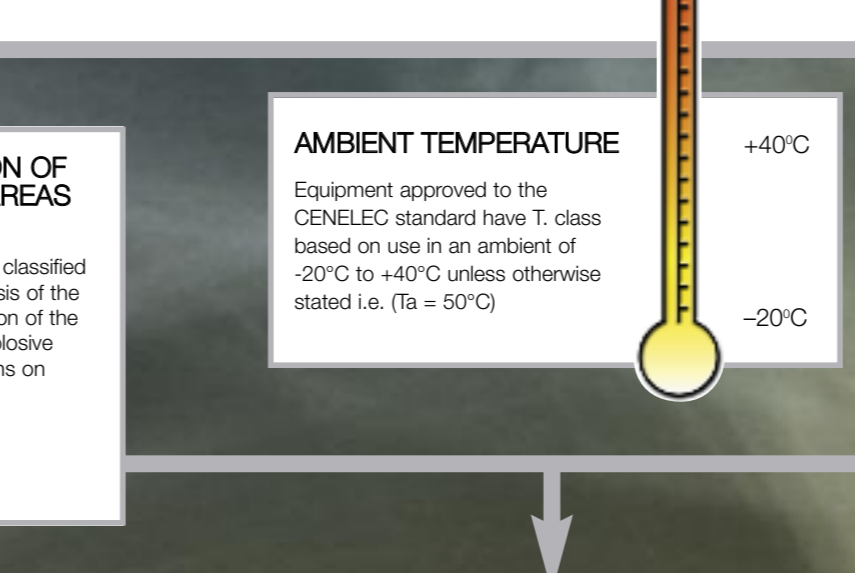
DUST PROTECTION CONCEPTS FOR ELECTRICAL APPARATUS table with columns for Concept, Symbol, Description, Category, and EN Standard.

INGRESS PROTECTION (IP) CODE TO EN 60529



APPARATUS GROUPS AND TEMPERATURE CLASSES FOR COMMON EXPLOSIVE GASES AND VAPOURS table and IGNITION TEMPERATURES FOR COMMON COMBUSTIBLE DUSTS table.

CLASSIFICATION OF HAZARDOUS AREAS table with columns for Area Classification, Zone Criteria, and Zone 0-22.



ASSOCIATED STANDARDS table with columns for Standard Name and Description.

Ex Environment

This guide is provided to aid in the selection of Wolf lighting products for use in potentially explosive atmospheres. Information given is based on practice within the EU, as specified in the requirements of the 94/9/EC ATEX (Equipment) Directive and the 99/92/EC ATEX (Workplace) Directive.



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