

Indian Standard EXPLOSIVE ATMOSPHERES

PART 26 EQUIPMENT WITH EQUIPMENT PROTECTION LEVEL (EPL) Ga

1 Scope

This part of IEC 60079 specifies the particular requirements for construction, test and marking for electrical equipment that provides equipment protection level (EPL) Ga. This electrical equipment, within the operational parameters specified by the manufacturer, ensures a very high level of protection that includes rare faults related to the equipment or two faults occurring independently of each other.

NOTE 1 A malfunction may result from a failure of the component parts of the electrical equipment or from anticipated externally applied influences. Two independent malfunctions which may occur more frequently and which, separately, would not create an ignition hazard but which, in combination, could create a potential ignition hazard, should be regarded as occurring together to form a rare fault.

NOTE 2 This electrical equipment is intended for use in zone 0 hazardous areas, in which explosive gas atmospheres caused by mixtures of air and gases, vapours or mists under normal atmospheric conditions are present continuously, for long periods or frequently.

This standard also applies to equipment mounted across a boundary where different protection levels may be required.

EXAMPLE: In the wall of a storage vessel containing zone 0 with an ambient defined as zone 1.

This standard also applies to equipment installed in an area requiring a lower protection level, but electrically connected to equipment with equipment protection level (EPL) Ga (associated apparatus).

This standard supplements the general requirements in IEC 60079-0 and the requirements of the standardized types of protection, in accordance with the IEC 60079 series, to adapt the level of safety provided by those standards in order to provide EPL Ga.

NOTE 3 In designing equipment for operation in explosive gas atmospheres under conditions other than the atmospheric conditions given in IEC 60079-0, this standard may be used as a guide. However, additional testing is recommended related specifically to the intended conditions of use. This is particularly important when the types of protection 'Flameproof enclosures' (IEC 60079-1) and 'Intrinsic safety' (IEC 60079-11) are applied.

NOTE 4 The classification of hazardous areas in zones is defined in IEC 60079-10.

NOTE 5 There may be other non-electrical sources of ignition (for example ultrasonic, optical or ionizing radiation) that are not addressed by this standard; these should also be taken into consideration (see, for example, EN 1127-1).

NOTE 6 This concept provides equipment protection level (EPL) Ga. For further information, see Annex A.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60079-0:2004, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*

IEC 60079-1, *Electrical apparatus for explosive gas atmospheres – Part 1: Flameproof enclosures "d"*

IEC 60079-10, *Electrical apparatus for explosive gas atmospheres – Part 10: Classification of hazardous areas*

IEC 60079-11, *Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"*

IEC 60079-18, *Electrical apparatus for explosive gas atmospheres – Part 18: Construction, test and marking of type of protection encapsulation "m" electrical apparatus*

IEC 60695-11-10, *Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods*