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# SYNOPSIS

**DOC. ETD 22 (14264)**
**IS/IEC 60079-0 : 2017**

**IS and Title:**

IS/IEC 60079-0 : 2017 EXPLOSIVE ATMOSPHERES : PART 0 EQUIPMENT — GENERAL REQUIREMENTS (*Third Revision*)

## SCOPE:

This part of IS/IEC 60079 specifies the general requirements for construction, testing and marking of Ex Equipment and Ex Components intended for use in explosive atmospheres.
The standard atmospheric conditions (relating to the explosion characteristics of the atmosphere) under which it may be assumed that Ex Equipment can be operated are:

- temperature –20 °C to +60 °C;
- pressure 80 kPa (0.8 bar) to 110 kPa (1.1 bar); and
- air with normal oxygen content, typically 21 % v/v.

This part of IS/IEC 60079 and other standards supplementing this standard specify additional test requirements for Ex Equipment operating outside the standard temperature range, but further additional consideration and additional testing may be required for Ex Equipment operating outside the standard atmospheric pressure range and standard oxygen content.
Such additional testing may be particularly relevant with respect to Types of Protection that depend on quenching of a flame such as 'flameproof enclosures "d"' (IS/IEC 60079-1) or limitation of energy, 'intrinsic safety "i"' (IS/IEC 60079-11).

NOTE 1 Although the standard atmospheric conditions above give a temperature range for the atmosphere of -20 °C to +60 °C, the normal ambient temperature range for the Ex Equipment is –20 °C to +40 °C, unless otherwise specified and marked. See 5.1.1. It is considered that –20 °C to +40 °C is appropriate for many items of Ex Equipment and that to manufacture all Ex Equipment to be suitable for a standard atmosphere upper ambient temperature of +60 °C would place unnecessary design constraints.

NOTE 2 Requirements given in this standard result from an ignition hazard assessment made on equipment. The ignition sources taken into account are those found associated with this type of equipment, such as hot surfaces, electromagnetic radiation, mechanically generated sparks, mechanical impacts resulting in thermite reactions, electrical arcing and static electric discharge in normal industrial environments.

NOTE 3 Where an explosive gas atmosphere and a combustible dust atmosphere are, or can be, present at the same time, the simultaneous presence of both often warrants additional protective measures. Additional guidance on the use of Ex Equipment in hybrid mixtures (mixture of a flammable gas or vapour with a combustible dust or combustible flyings) is given in IS 16724: 2018/ IEC 60079-14.

IEC 60079 does not specify requirements for safety, other than those directly related to the explosion risk. Ignition sources like adiabatic compression, shock waves, exothermic chemical reaction, self-ignition of dust, naked flames and hot gases/liquids, are not addressed by this standard.