



BS 5345 : Part 2 : 1983

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British Standard Code of practice for
Selection, installation and maintenance of electrical
apparatus for use in potentially explosive atmospheres
(other than mining applications or explosive
processing and manufacture)

Part 2. Classification of hazardous areas

Code de bonne pratique pour la sélection, l'installation et l'entretien des
matériels électriques à utiliser dans les atmosphères explosibles (à l'exception
des applications dans les mines ou de la préparation et la fabrication des explosifs
Partie 2. Classification des zones dangereuses

Richtlinie für die Auswahl, Aufstellung und Instandhaltung von elektrischen
Betriebsmitteln für explosionsgefährdete Bereiche (außer für Verwendung
im Bergbau oder bei der Verarbeitung und Herstellung von Sprengstoffen)
Teil 2. Klassifizierung von gefährlichen Bereichen

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Foreword

This British Standard has been prepared under the direction of the General Electrotechnical Engineering Standards Committee.

BS 5345 is a revision of CP 1003 : Parts 1, 2 and 3 and should be used for all new installations of electrical apparatus in potentially explosive atmospheres. However, CP 1003 will be retained temporarily as a reference guide for the many existing plants installed according to the earlier code.

Many gases, vapours, mists and dusts encountered in industry are flammable. When ignited, they may burn readily and with considerable explosive force if mixed with air in appropriate proportions. It is often necessary to use electrical apparatus in locations where such flammable materials may be present, and appropriate precautions should therefore be taken to ensure that all such apparatus is adequately protected in order to reduce the likelihood of ignition of any external explosive atmosphere. When using electrical apparatus, potential ignition sources include electrical arcs and sparks, hot surfaces and, in certain circumstances, frictional sparks.

In general, protection against electrical ignition is achieved by implementing one of two procedures. Whenever practicable, the electrical apparatus should be located outside hazardous areas; alternatively the electrical apparatus should be designed, installed and maintained

in accordance with measures recommended for the area in which the apparatus is located.

Several techniques are available for the protection of electrical apparatus in hazardous areas. Some of these techniques (or 'types of protection' as they are known) have been used for many years and have come to be regarded as traditional whilst others have been introduced only recently.

This code of practice describes the basic safety features of these types of protection, full details of which are given in the relevant standards, and recommends the selection, installation and maintenance procedures that should be adopted for electrical apparatus to be used in hazardous areas. This code takes account of the significant developments that have taken place in area classification and in the design, manufacture and use of electrical apparatus for hazardous areas since the preparation of CP 1003.

It is important to note that this code of practice deals with *explosion* hazards due to the presence of flammable gas/air mixtures; it does not provide guidance on the extra precautions to be taken where such gases involve a *toxic* hazard.

This code of practice represents a standard of good practice and takes the form of recommendations. Compliance with it does not confer immunity from relevant legal obligations.