



GENERAL INFORMATION ON PLUGS AND SOCKETS FOR HAZARDOUS AREAS

POWERMITE manufactures and distributes plugs and sockets for hazardous areas for different zones, namely:

- ZONE 1 (Class I Div.1)
- ZONE 2 (Class I Div.2)
- ZONE 21/22 (Class II Div.1)

These Zones cover virtually all requirements for explosion protected areas.

Introduction to the principles of explosion protected electrical equipment.

In the manufacture, processing, transport and storage of flammable chemicals and petroleum products (for example, Benzene, Alcohol, Acetylene, Coal-gas) it is inevitable that there will be leakage of gases and vapours which, in conjunction with the oxygen of the atmosphere, may form mixtures of an explosive concentration. Accidental ignition of such a mixture - for example by an electrical spark or excessively hot surface - may cause an explosion which will endanger life and property. To avoid these risks many countries have developed specific safety practices. In view of the growing international nature of the industries, international standardisation and agreement with respect to the safety practices was extremely desirable.

Co-operation through the "International Electrotechnical Commission" (IEC)

The first international co-operation resulted from the work of the IEC, which was founded in 1906 with the objective of formulating unified recommendations in the field of electrical technology. Now, 43 countries take part in these activities.

The Technical Committee, who started work in 1950, is responsible for the development of recommendations which are concerned with the construction and erection of explosion protected electrical apparatus. As a result of the work carried out by the committee and its working groups, a series of IEC recommendations, on the subject of explosion protection of electrical apparatus, have already been published. They have the form of recommendations with international validity and are accepted, in that sense, by the national committees.

These recommendations are part of the following publications:

Note: All products, whether local or imported, must carry the South African Inspection Authority Number (I.A. Certificate) to be legal for sale and use in South Africa!

Publication 79-0 General requirements
 Publication 79-1 Construction and test of flameproof enclosures of

electrical apparatus
 Publication 79-1A Method of test for ascertainment of maximum experimental safe gap
 Publication 79-3 Spark test apparatus for intrinsically safe circuits
 Publication 79-4 Method of test for ignition temperature
 Publication 79-5 Sand-filled apparatus
 Publication 79-6 Oil-immersed apparatus
 Publication 79-7 (SABS 1031/1976) Construction and test of electrical apparatus, type of protection "e"
 Publication 79-10 (SABS 0108/1974) Classification of hazardous areas
 Publication 79-11 Construction and test of intrinsically safe and associated apparatus
 Publication 79-12 Classification of mixtures of gases or vapour with air according to their maximum experimental safe gaps and minimum igniting currents
 Publication 79-13 Construction and use of rooms or buildings protected by pressurization
 Publication 79-14 Electrical installation in explosive gas atmospheres (other than mines)

These recommendations, developed by the technical committees in which the national committees of all the concerned countries are represented, present the closest possible approach to a unification of the wishes of the members on the particular subject.