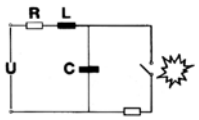
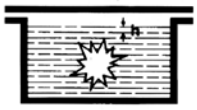
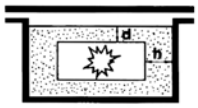
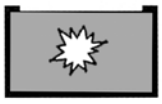
Type of protection to IEC Standard		Basic principle	Schematic	Applications
Flameproof enclosure IEC60079-1	d	A type of protection in which the parts, which can ignite an explosive atmosphere are placed in an enclosure, which can withstand the pressure developed during an internal explosion of an explosive mixture and which prevents the transmission of the explosion to the explosive atmospheres surrounding the enclosure.		Switchgear, control and indicating equipment, control boards, motors, transformers, light fittings and other spark-producing parts
Increased safety IEC60079-7	e	A type of protection in which measures are applied so as to prevent with a higher degree of security the possibility of excessive temperatures and of the occurance of arcs or sparks in the interior and on the external parts of electrical apparatus, which does not produce therm in normal service.		Terminal and connection boxes, control boxes housing Ex-modules (of a different type of protection) squirrel cage motors, light fittings
Pressurized apparatus IEC60079-2	p	A type of protection in which the entry of a surrounding atmosphere into the enclosure of the electrical apparatus is pre-vented by maintaining inside the said enclosure a protective gas (air, inert or other suitable gas) at a higher pressure than that of the surrounding atmosphere. The overpressure is maintained either with or without continuous flow of the protective gas.		As above, but especially for large equipment and complete rooms
Intrinsic safety IEC60079-11	i	A type of protection in which the electrical apparatus contains intrinsically safe circuits, which are incapable of causing an explosion in the surrounding atmosphere. A circuit or part of a circuit is intrinsically safe, when no spark or any thermal effect in this circuit, produced in the test conditions prescribed in the standard (which include normal operation and specific fault conditions) is capable of causing ignition.		Measurement and control equipment
Oil immersion IEC60079-6	o	A type of protection in which the electrical apparatus o parts of the electrical apparatus are immersed in oil in such away that an explosive atmosphere, which maybe above the oil or outside the enclosure cannot be ignited.		Transformers (only used rarely now)
Powderfilling IEC60079-5	q	A type of protection in which the enclosure of electrical apparatus is filled with a material in a finely granulated state so that, in the intended conditions of service, any arc occuring within the enclosure of an electrical apparatus will not ignite the surrounding atmosphere. No ignition shall be caused either by flame or by excessive temperature of the surfaces of the enclosure.		Transformers, capacitors, heater strip connection boxes electronic assemblies
Moulding IEC60079-18	m	A type of protection in which the parts which can ignite an explosive atmosphere are enclosed in a ream sufficiently resistant to environmental influences in such a way that the explosive atmosphere cannot be ignited by either sparking or heating, which may occur within the encapsulation.		Only small capacity switchgear, control gear, indicating equipment, sensors
Non sparking IEC60079-15	n	Electrical apparatus is not capable of igniting a potentially explosive atmosphere (under normal operation and under defined abnormal operating conditions).	n: Zone 2 This type of protection includes several methods of ignition protection.	All electrical apparatus for Zone 2, less suitable for switchgear and control gear.