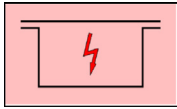




# Explosion Risk Mitigation Reference Guide: International Symbols for Protection Methods, Concepts & Definitions

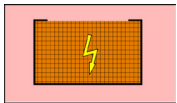
## Isolation of ignition source definitions and protection codes:

### Enclosure (d)



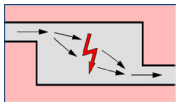
The electric circuitry is installed in an enclosure which is capable of withstanding an explosion of a specified gas within and preventing the ignition of this specified gas surrounding the enclosure by sparks, flashes, or explosion of the gas within.

### Encapsulation (m, o, q)



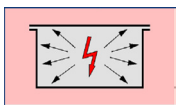
Types of protection in which the electrical circuits and parts that could ignite an explosive atmosphere, by either sparking or heating, are completely enclosed within encapsulant (oil/sand).

### Using Inert Gases: Purging (p)



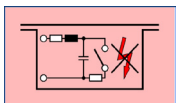
Isolating the ignition source from the explosive atmosphere by purging the enclosure interior of the explosive mixture before powering equipment and during equipment operation.

### Using Inert Gases: Pressurization (p)



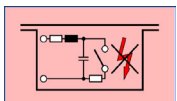
Protection against the ingress of the external atmosphere into an enclosure by maintaining a protective gas therein at a positive pressure.

### Electrical safety (e)



Limitation of energy, sparking and temperature, to levels not capable of igniting flammable/combustible mixtures during normal and abnormal circuit conditions

### Non-Sparking (n)



Apparatus having electrical and/or electronic circuitry and components that are incapable, under normal conditions, of causing ignition of the flammable mixture due to sparking or thermal effect.

Common symbols for non-sparking components: **nA, nL, nC, nR (current, inductance, capacitance, resistance)**

## Letter Codes Reference Guide

Name	Symbol
Intrinsically Safe	i
Flameproof	d
Increased Safety	e
Oil Immersed	o
Pressurized	p
Powder Filled (Sand Filled)	q
Encapsulation	m
Non-Sparking	n
Dust Ignition Proof	t

## Fire Triangle

