

Class III: Ignitable fibers & flyings

North American Protection Techniques Comparison			
Area	Protection Techniques	Applicable Certification Documents	
		USA	Canada
Div 1	• Intrinsic safety	UL 913	CSA 157
	• Dusttight	ISA 12.12.01 or UL 1604	CSA 157 or CSA E61241-1-1
	• Hermetically-sealed	ISA 12.12.01 or UL 1604	---
Div 2	• Nonincendive	ISA 12.12.01 or UL 1604	---
	• Any Class III, Division 1 technique	See above	See above

Class III, Division 1

Intrinsically Safe Apparatus: Apparatus in which all the circuits are intrinsically safe.

Intrinsically Safe Circuit: A circuit in which any spark or thermal effect is incapable of causing ignition of a mixture of combustible material in air under prescribed test conditions.

Intrinsically Safe System: An assembly of interconnected intrinsically safe apparatus, associated apparatus, and interconnecting cables, in that those parts of the system that may be used in hazardous (classified) locations are intrinsically safe circuits.

Dusttight: Enclosures constructed so that dust will not enter under specified test conditions.

Hermetically Sealed: Equipment sealed against the entrance of an external atmosphere where the seal is made by fusion, for example, soldering, brazing, welding, or the fusion of glass to metal.

Class III, Division 2

Nonincendive Circuit: A circuit, other than field wiring, in which any arc or thermal effect produced under intended operating conditions of the equipment is not capable, under specified test conditions, of igniting the dust-air mixture.

Nonincendive Equipment: Equipment having electrical/electronic circuitry that is incapable, under normal operating conditions, of causing ignition of a specified dust-air mixture due to arcing or thermal means.