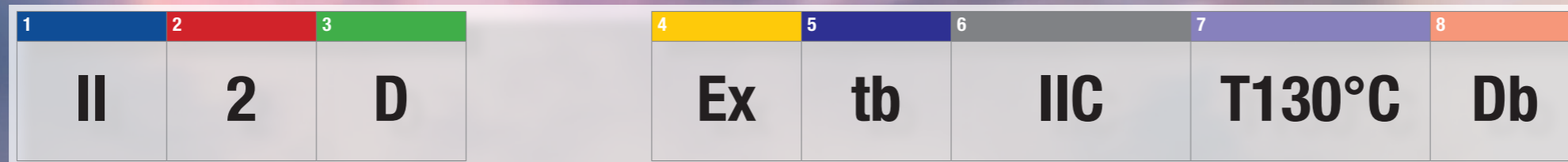


# SAFETY FIRST. EVERYWHERE



Electrical



**1**

**Equipment group I:**  
Underground mining equipment for mine operations, as well as for their surface facilities, which may be at risk of mine gases and/or flammable dust matter.

**Equipment group II:**  
Equipment for operations in other areas that may be an explosion risk because of its atmosphere.

**2**

**Equipment category 1:**  
Provides very high degree of safety for use in zones 0/20, 1/21, 2/22

**Equipment category 2:**  
Provides high degree of safety for use in zones 1/21, 2/22

**Equipment category 3:**  
Provides a standard degree of safety for use in zone 2/22

**3**

**Type of explosive atmosphere:**  
G = mixture of air and gases, vapours or mists  
D = dust-air mixtures

**4**

This symbol shows that the electrical equipment complies with one or more types of protection.

**5**

Type of protection "e":	Symbol:	Standard:
Pressure-proof enclosure	d	EN 60079-1
Pressurisation	n	EN 60079-2
Powder filling	q	EN 60079-5
Oil immersion	o	EN 60079-6
Increased safety	e	EN 60079-7
Intrinsic safety (gas + dust)	i	EN 60079-11
Electrical equipment	n	EN 60079-15
Type of protection "n":		
Encapsulation	m	EN 60079-18
Facilities with optical radiation	op	EN 60079-28
Protection through housing	t	EN 60079-31
Pressurisation (dust)	pD	EN 60079-4

**6**

Group	Definition
IIIA	Combustible lint
IIIB	Non-conductive dust
IIIC	Conductive dust
Group	Definition
IIA	Pryopane
IIB	Ethylene
IIC	Hydrogen

**7**

In an Ex-dust zone, the maximum surface temperature is stated directly

**8**

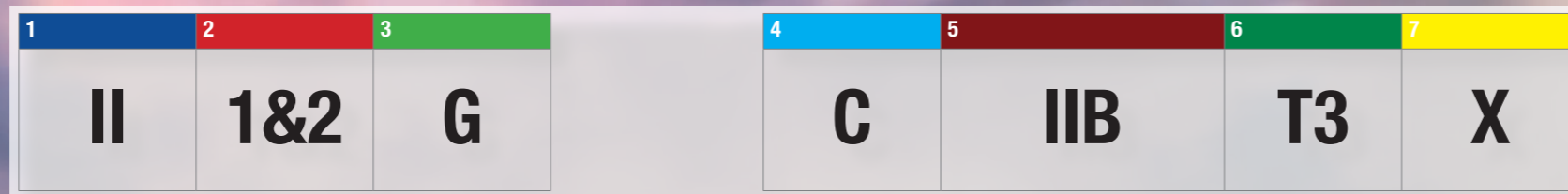
**Equipment Protection Level (EPL):**  
EPL **Ga** meets the requirements of category **1G**.  
EPL **Gb** meets the requirements of category **2G**.  
EPL **Gc** meets the requirements of category **3G**.  
EPL **Da** meets the requirements of category **1D**.  
EPL **Db** meets the requirements of category **2D**.  
EPL **Dc** meets the requirements of category **3D**.

Explosion protection designed by MURRPLASTIK will always correspond to the state of the art in technology – it guarantees the safety of man, machine and the environment in potentially explosive atmospheres worldwide.

# SAFETY FIRST. EVERYWHERE



Non electrical



**1**

**Equipment group I:**  
Underground mining equipment for mine operations, as well as for their surface facilities, which may be at risk of mine gases and/or flammable dust matter.

**Equipment group II:**  
Equipment for operations in other areas that may be an explosion risk because of its atmosphere.

**2**

**Equipment category 1:**  
Provides very high degree of safety for use in zones 0/20, 1/21, 2/22

**Equipment category 2:**  
Provides high degree of safety for use in zones 1/21, 2/22

**Equipment category 3:**  
Provides a standard degree of safety for use in zone 2/22

**3**

**Type of explosive atmosphere:**  
G = mixture of air and gases, vapours or mists  
D = dust-air mixtures

**4**

Type of protection "non-electrical"	Symbol	Standard
Steam and fume-resistant enclosures	fr	EN 13463-2
Pressure-proof enclosure	d	EN 13463-3
Built-in safety	c	EN 13463-5
Ignition source monitoring	b	EN 13463-6

**5**

Group:	Typical gases:
IIA	Propane
IIB	Ethylene
IIC	Hydrogen

**7**

Symbol X refers to special conditions, such as a differing ambient temperature

**6**

Temperature class	Maximum surface temperature in °C:
T1	450
T2	300
T3	200
T4	135
T5	100
T6	80

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