NOTTINGHAM ELECTRICAL TRANSMISSIONS

www.net-eng.co.uk

Northern Court
Vernon Road
Basford
Nottingham
NG6 0BJ
Tel: 0115 9753655
Fax 0115 977036670366

Manufacturer's Obligations under directive 1999/92/EC

1. Prevent the formation of explosive atmospheres in the workplace
   or
   Avoid the ignition of explosive atmospheres
   and
   Control the effects of explosions

2. Conduct a risk assessment covering:
   - the likelihood of explosive atmospheres occurring and their persistence
   - the likelihood of a source of ignition
   - the effect of an ignition on plant, personnel and the environment

3. Classify the work place Zones

4. Mark areas with signs at points of entry

5. Maintain an explosion protection document including:
   a. risk assessment and identification of zones
   b. area classification
   c. maintenance schedules
   d. documentation of requirements for training staff and instituting a system of permits to work

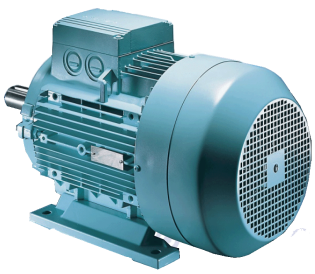
6. Select ATEX 100a compliant equipment according to identified zone

EQUIPMENT GROUPS & TEMPERATURE CLASSES REQUIRED FOR SOME COMMON FLAMMABLE MATERIALS

Gas /Vapour	Equipment Group requirement	Temperature Class required
Ascetic Acid	IIA	T1
Acetone	IIA	T1
Acetylene	IIC	T2
Amnonia	IIA	T1
Butane	IIA	T2
Cyclohexane	IIA	T3
Ethanol (ethyl alcohol)	IIA	T2
Ethylene	IIB	T2
Hydrogen	IIC	T1
Kerosene	IIA	T3
Methane (natural gas) –non mining	IIA	T1
Methanol (methyl alcohol)	IIA	T1
Methyl ethyl keton (MEK)	IIA	T1
Propane	IIA	T1
Propan-1-ol (n-propyl alcohol)	IIB	T2
Propan-2-ol (iso-propyl alcohol)	IIA	T2
Tetrahydrofuran (THF)	IIB	T3
Tolune	IIA	T1
Xylene	IIA	T1

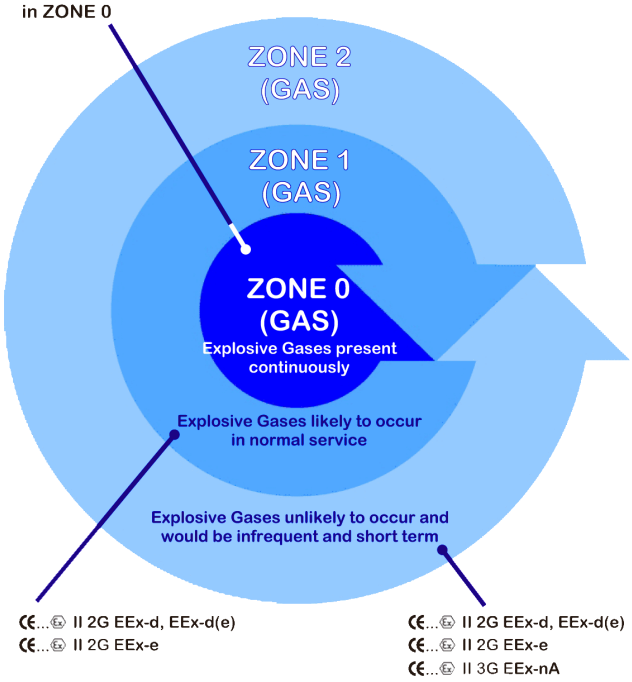
Warning sign to be affixed to areas that may contain potentially explosive atmospheres

Dust	Ignition Temperature Cloud	Layer
Aluminium	590°C	>450°C
Coal dust (lignite)	380°C	225°C
Flour	490°C	340°C
Grain dust	510°C	300°C
Methyl cellulose	420°C	320°C
Phenolic resin	530°C	>450°C
Polythene	420°C	(melts)
PVC	700°C	>450°C
Soot	810°C	570v
Starch	460°C	435°C
Sugar	490°C	460°C

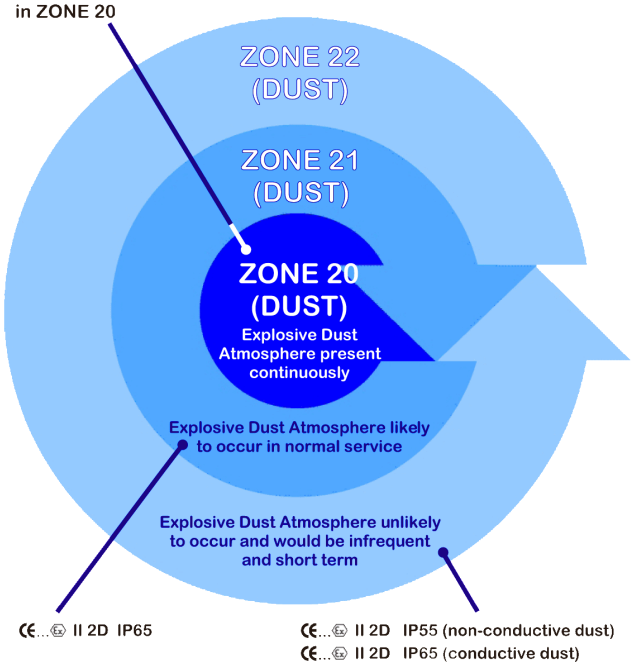


Electric Motors for GAS Explosive Atmospheres

To ATEX 94/9/EC & 1999/92/EC Directives



Electric Motors for DUST Explosive Atmospheres



Hazardous Area Motor Markings

Equipment Category			
G - gas symbol		D - dust symbol	
Category 1	Zone 0	Category 1	Zone 20
Category 2	Zone 1	Category 2	Zone 21
Category 3	Zone 2	Category 3	Zone 22

CE 123 Ex II 2G EEx de IIC T1 *to* T4

Temp Class	Max Surface Temp
T1	450°C
T2	300°C
T3	200°C
T4	135°C
T5	100°C
T6	85°C

Specific marking of explosive protection

E - European Certification
Ex - Explosion protection

Notified Body (Testing Authority) Identification number

d - Flameproof to EN 50018
e - Increased safety to EN 50019
nA - Non-sparking to EN 50021
de - Flameproof motor with Increased safety Terminal box EN 50018&19

Flameproof Symbol	Gas/ Vapour
A	Propane,etc
B	Ethylene,etc
C	Hydrogen,etc

Equipment Group: I - Mining Application
II - Non-mining Application

CE Marking			
LVD	Low Voltage Directive	73/23/EEC 93/68/EEC	Electrical Equipment 50 - 1000 V AC
EMC	Electromagnetic Compatibility	93/68/EEC 89/336/EEC 92/31/EEC	 EN 55081 Parts 1&2 Emissions EN 55082 Parts 1&2 Immunity
MD	Machinery Directive	various	Not applicable to electric motors as they are components
ATEX	ATEX Directive	94/9/EC	Hazardous area equipment