

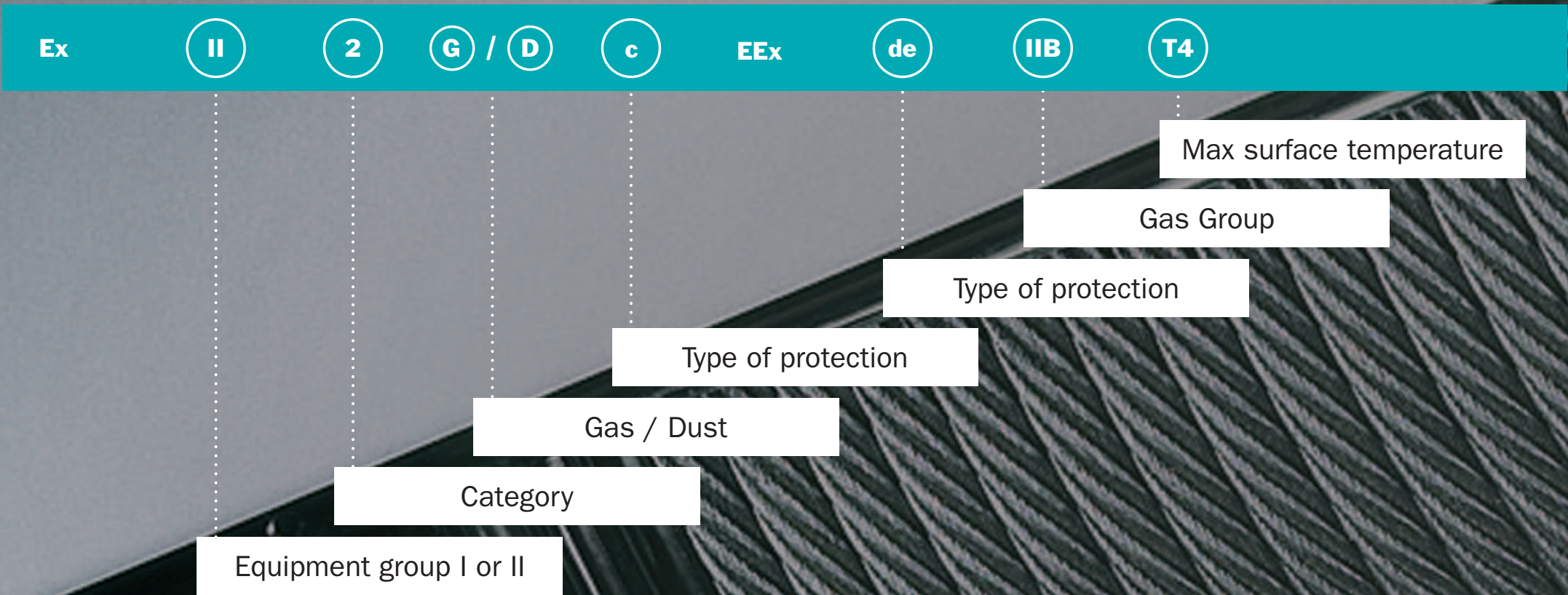
EXPROOF

Product Marking



Markman selection value/
Typical EX marking for Konecranes EX-products:

Markman selection value	Typical EX marking	Similar, not Identical, to US marking:
Zone 1 IIB T4	Ex II 2 G c EEx de IIB T4	Class I Division 1 Groups C & D Temperature class T4
Zone 1 IIC T4	Ex II 2 G c EEx de IIC T4	Class I Division 1 Groups A, B, C & D Temperature class T4
Zone 2 IIB T3	Ex II 3 G c EEx denA IIB T3	Class I Division 2 Groups C & D Temperature class T3
Zone 2 IIC T3	Ex II 3 G c EEx denA IIC T3	Class I Division 2 Groups A, B, C & D Temperature class T3
Zone 21 IP65 T+135°C	Ex II 2 D c IP65 T+135°C	Class II & III Division 1 Groups E, F & G Temperature class T4
Zone 22 IP65 T+135°C	Ex II 3 D c IP65 T+135°C	Class II & III Division 2 Groups E, F & G Temperature class T4



Ex	II	2	G / D	c	EEx	de	IIB	T4
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Equipment Group I – Mining (ATEX)*
Equipment Group II – other explosive atmospheres (ATEX)

	Category 1		Category 2		Category 3	
Level of protection	very high		high		normal	
Sufficient Safety	by means of 2 protective measures / 2 faults		frequently occurring equipment faults / 1 fault		during normal operation	
Can be used in zone	0	20	1	21	2	22
Atmosphere	G (Gas)	D (Dust)	G (Gas)	D (Dust)	G (Gas)	D (Dust)

> **Category 3** Zone 22: Non-conductive dust: IP5X, Conductive dust: IP6X
> **Category 2** Zone 21: IP6X enclosures requested for conductive and non-conductive dust
* Konecranes Ex-products are not suitable for use in underground mines

Ex	II	2	G / D	c	EEx	de	IIB	T4
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Type of protection (ATEX, CENELEC, IEC, NEC 505)

Type of protection	c	d	e	i	nA
Description					
Type of protection	Constructive safety	Flameproof enclosure	Increased safety	Intrinsic safety	Non-sparking
Mode of functioning	Mechanical equipment, protection by safe construction	Risky equipment is covered by flame proof enclosure	Electric sparks, and high temperature possibilities are eliminated	Intrinsic safety circuit are not able to cause ignition	Construction is not generating sparks under normal working conditions
Application range	Gears and wheels	Switch and control gear, motors and transformers	Terminal and connection boxes, squirrelcage motors	Communication technology, sensors, actuators	Components used for Zone 2 products

Ex	II	2	G / D	c	EEx	de	IIB	T4
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Maximum Surface Temperature and Gas Group

	T1 450 °C	T2 300 °C	T3 200 °C	T4 135 °C	T5 100 °C*	T6 85 °C*
I	Methane					
II A	Toluene Propane Methanol (natural gas) Methane Acetic acid Benzol (pure) Ammonia Ethane Acetone	n-Butyl alcohol n-Butane i-Amyl acetate Ethanol	n-Hexane Heating oil Aircraft fuel Diesel fuel Benzene	Ethylether Acetylaldehyde		
II B	Town gas	Ethylene				
II C	Hydrogen	Acetylene				

*Konecranes Ex-products are not suitable for use in this group

Zone (CENELEC, IEC, NEC 505)

Presence	intermittent	occasional	continuous
Maximum presence per year	 10 – 1000 hours	less than 10 hours	over 1000 hours
Zone for gas	 1	2	0*
Zone for dust	 21	22	20*

*Konecranes Ex- products are not suitable for use in Zone 0/ Zone 20

Attestation number for Konecranes products: INERIS 03 ATEX 3015 X

KONECRANES