

INFORMATION EXPLOSION PROTECTION



According to the **ATEX 2014/34/EU** directive, the manufacturer is obliged to manufacture his lifting equipment in accordance with the applicable rules, standards and regulations for explosion-protected equipment, to classify it in EX classes and to mark it.

The customer must specify either a classification or an EX zone.

Once the classification has been specified, we can make you an appropriate offer for the required hoist.

As an aid to orientation, we provide you here with an overview of the classification of explosion-protected equipment in accordance with the ATEX Directive.

The standards, regulations and guidelines of the responsible bodies, for example BG-Chemie, on the use of equipment in potentially explosive atmospheres must be observed by the operator when installing, assembling and operating EX-protected hoists. PLANETA offers hoists for the various applications, which are suitable for the following operating conditions in EX areas:



Explanation of the designation of an Ex classification:



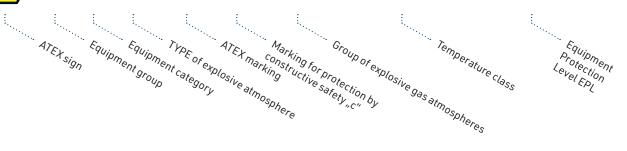


(Ex) II 2 G Ex h IIC T4 Gb





Ex II 2 G Ex h IIIC T135 °C Db



Classification and marking of potentially explosive atmospheres

Flammable substances	Temporary behaviour flammable	Classification of	Marking of the equipment			Equipment			
	substances in Ex-area explosive medium	potentially explosive areas	Equipment group	Equip	ment cat	egory	Protection Level EPL		evel
Gases Fog Vapours (G)	is constant, long-lasting or frequent	Zone 0	П						
	occurs occasionally	Zone 1	П	1G			Ga		
	probably does not occur or occurs only very rarely	Zone 2	II		2G	3G	3G		Gb
Dusts (D)	is present constantly, for a long time or frequently	Zone 20	II						
	occurs occasionally	Zone 21	II	1D	0.5	3D	Da		
	Probably does not occur or occurs only very rarely	Zone 22	II		2D			Db	Do

Classification into explosion groups

Group II - explosive gas atmospheres			Group III - explosive dust atmospheres			
Propane Ammonia Methane Ethane	Acrylonitrile Ethylene Ethyl glycol Hydrogen sulphide	Hydrogen Acetylene Carbon disulphide	combustible suspended solids	non-conductive dusts	conductive dusts	
IIA			IIIA			
IIB			IIIB			
IIC			IIIC			



Temperature classes

The max. surface temperature of the equipment must always be lower than the ignition temperature of the gas-vapour-air mixture. Equipment classified in higher temperature classes is also permitted in areas where a lower temperature class is required.

In potentially explosive atmospheres caused by combustible dusts, the surface temperature must not exceed 2/3 of the ignition temperature in $^{\circ}$ C of the dust/air mixture. The specification of the temperature class in relation to PLANETA hoists assumes a maximum ambient temperature between -20 $^{\circ}$ C and +40 $^{\circ}$ C.

Temperature classes for explosive gas atmospheres

(Explosive dust atmospheres: Indication of the maximum surface temperature e.g.: T 135 °C.)

Propane Ammonia Methane Ethane Acrylonitrile Hydrogen T1 max. 450 °C	Cyclohexane Ethyl alcohol n-Butane Ethylene Ethylene oxide Acetylene	Petrol Diesel Heating oil n-Hexane Ethyl glycol Hydrogen sulphide	Acetaldehyd Ethylether		Carbon disulphide
	T2 max. 300 °C				
		T3 max. 200 °C			
			T4 max. 135 °C		
				T5 max. 100 °C	
					T6 max. 85 °C

The following information is based on our internally gathered experience, based on the ATEX Directive 2014/34/EU and the DIN EN ISO 80079-36 and -37 standard. for use in potentially explosive atmospheres are deposited with $T\ddot{U}V$ $S\ddot{U}D$ Product Service GmbH.

BASIC	MEDIUM	HIGH
 Used in zone 2 and 22 Suitable for environments with gases and dusts acc. to IIB and IIIB, except ethylene and hydrogen sulphide Basic protection against against sparks from fast moving moving contact parts and against corrosion of critical contact parts. Versions: Load and hand chains in galvanised design Trolley with pulp buffer Wheels with special coating 	 Used in zones 1, 2, 21 and 22 as well as in underground and surface installations of mines according to category M2* Suitable for environments with gases and dusts acc. to IIB and IIIB, except ethylene and hydrogen sulphide Advanced protection against sparking of fast moving contact parts and against corrosion of critical contact parts Versions: Support and load hooks treated with special coating Load and hand chains in galvanised design Trolley with pulp buffer Wheels made of special material 	 Used in zones 1, 2, 21 and 22 as well as in underground and surface installations of mines according to category M2* Suitable for environments with gases and dusts acc. to IIC* and IIIC, except ethylene and hydrogen sulphide High protection against sparks from fast moving contact parts and against corrosion of critical contact parts. Replacement of some components with non-corrosive and low-sparking materials (partly accompanied by load reduction due to new technological data) Versions: Support and load hooks treated with special coating Load and hand chains in NIROSTADesign Trolley with pulp buffer Wheels made of special material
with restrictions see page 43		

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Specified equipment protection levels and equipment markings for PLANETA-ATEX manual hoists and trolleys:

BASIC	MEDIUM	HIGH
Ы I 3 G Ex h IIB T4 Gc orЫ 3 D Ex h IIIB T 135 °C Dc		
WII3 DEXIIIIB I I33 CDC	⑤ I M 2 Ex h I T 135 °C (T4) Mb X	⑤ I M 2 Ex h I T 135 °C (T4) Mb X



Load reduction of the standard chain hoists with "HIGH" version

Example Manual chain hoist PREMIUM PRO-EX	Chain diameter in mm	Number of chain falls	Capacity in version BASIC / MEDIUM in kg	Reduced capacity with HIGH version in kg
PREMIUM PRO-II-EX 0.25	4 × 12	1	250	250
PREMIUM PRO-II-EX 0.5	5 × 15	1	500	500
PREMIUM PRO-II-EX 1	6 × 18	1	1,000	900
PREMIUM PRO-II-EX 1.5	8 × 24	1	1,500	1.250
PREMIUM PRO-II-EX 2	8 × 24	1	2,000	1.250
PREMIUM PRO-II-EX 3	10 × 30	1	3,000	2.000
PREMIUM PRO-II-EX 5	10 × 30	2	5,000	3.200
PREMIUM PRO-II-EX 10	10 × 30*	3	10,000	6.400

^{*} Grade 100