



PAGE 1/2

28.09.2023

## Use of energy chains from EKD Systems GmbH in potentially explosive areas

EKD Systems GmbH manufactures energy chain systems that are used in the industrial sector for the safe routing of supply lines on moving machine components. These energy chain systems are made of:

- Plastic
- Plastic with aluminum crossbars
- Steel or stainless steel with aluminum crossbars

Due to specific applications, these energy chain systems are used in potentially explosive areas. It's important to note that these energy chain systems do not qualify as devices under Directive 2014/34/EU (ATEX Directive) because they lack autonomous functions and do not transmit or store energy. Therefore, they are not subject to labeling according to the mentioned directive.

A hazard analysis has been conducted to identify potential ignition sources and define possible use cases in potentially explosive areas where effective ignition sources are absent.

- Zone 1 Explosion Groups IIA/IIB/IIC
- Zone 2 Explosion Groups IIA/IIB/IIC
- Zone 21 Explosion Groups IIIA/IIIB/IIIC
- Zone 22 Explosion Groups IIIA/IIIB/IIIC

A company of the HELUKABEL group







PAGE 2/2

28.09.2023

## Use of energy chains from EKD Systems GmbH in potentially explosive areas

Compliance with the following measures can effectively ensure that the energy chain systems are not a potential ignition source:

Conditions

Use of parts designed to withstand thermal, chemical, and mechanical stresses.

Maximum surface temperature: 135°C / resulting temperature class: T4.

Limitation of the energy chain system's speed to  $\leq$  15 m·s<sup>-1</sup>, subject to examination based on allowable impact energy.

Grounding of conductive equipment components (resistance <  $10^6 \Omega$ ).

Limitation of the areas of insulating surfaces (if applicable, plastic chains) for Explosion Group II (gases, vapors, mist):

- Category 3G (EPL Gc): No restrictions
- Category 2G (EPL Gb):
  - EExplosion Group IIA: ≤ 100 cm<sup>2</sup>
  - Explosion Group IIB: ≤ 100 cm<sup>2</sup>
  - Explosion Group IIC: ≤ 20 cm<sup>2</sup>

## Coatings:

Limitation of the thickness of insulating coatings for Category 2G or EPL Gb to:

- Explosion Group IIA: ≤ 2 mm
- Explosion Group IIB: ≤ 2 mm
- Explosion Group IIC: ≤ 0,2 mm

M

Frank Eckert Geschäftsführer

files

Thomas Ameis Technischer Leiter

A company of the HELUKABEL group

