IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx IBE 13.0053X**

Certificate history:
Issue 0 (2014-01-27)

Status: **Current**

Issue No: 1

Date of Issue: 2017-01-03

Applicant: **eltherm production GmbH**
Ernst-Heinkel-Str. 6-10
57299 Burbach
Germany

Equipment: **Heating Cable System type ELK-AG-N 2.5 Ex**

Optional accessory:

Type of Protection: **increased safety "e" and protection by enclosure "t"**

Marking: Ex eb IIC T6...T3 Gb
Ex tb III C TX Db

-60 °C / -32 °C ≤ T_p ≤ maintenance temperature

Approved for issue on behalf of the IECEx Certification Body: **Prof. Dr. Tammo Redeker**

Position: **Head of Certification Body**

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Certification Body
Fuchsmühlenweg 7
09599 Freiberg
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx IBE 13.0053X** Page 2 of 5

Date of issue: 2017-01-03 Issue No: 1

Manufacturer: **eltherm production GmbH**
Ernst-Heinkel-Straße 6-10
57299 Burbach
Germany

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-30-1:2007-01 Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements
Edition:1

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DE/IBE/ExTR13.0071/00 DE/IBE/ExTR13.0071/01

Quality Assessment Report:

FR/INE/QAR12.0007/02

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Heating Cable System ELK-AG-N 2.5 Ex is installed in the Ex-area and serves as electrical heat tracing on apparatus, vessels or similar, in areas where occasionally an explosive atmosphere of gas, vapours or dust may occur. The protection against exceeding the limit temperature has to be ensured by using a temperature monitoring system with the help of controller and limiter or stabilized layout.

The following separately certified components are part of the system. They can be used optionally and in different combinations:

Heating conductors	types ELKM-AG-N
Connection sleeve (optional)	type Ex-Con 22/4
Connection sleeve (optional)	type Ex-Con 25/7
Connection sleeve (optional)	type Ex-Con 22/4 Si

Technical data:

Ambient temperature range:	-32 °C up to +50 °C -60 °C up to +50 °C (when using connection sleeve Ex-Con 22/4 Si)
Maximum operating temperature:	+ 170 °C (in operation) / + 200 °C (switched off)
Degree of protection according to IEC 60529:	IP65 (except heating cable)
Maximum voltage:	550 V
Maximum current:	20 A
Max. current density of heating cable:	30 A/mm²

Maximum maintenance temperature:

Temperature class	up to 10 A	up to 15 A	up to 20 A
T6	60 °C	45 °C	25 °C
T5	75 °C	60 °C	40 °C
T4	110 °C	95 °C	75 °C
T3	170 °C	155 °C	135 °C
dust	TX - 10 K	TX - 15 K	TX - 20 K

TX: maximum permissible surface temperature in explosive dust atmosphere

IECEx Certificate of Conformity

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The determination of temperature class of each heating circuit has to be done by the manufacturer of the heating cable system. For this he uses the technical data like operation current, ambient temperature as well as type of temperature monitoring (controlled or stabilized design according to IEC 60079-30-2).
- The temperature limitation has to be carried out in controlled or stabilized design according to IEC 60079-30-2.
- The temperature limits of used devices and components have to be considered.
- The heating wires and connection sleeves (type Ex-Con 22/4) are suitable for the use only in areas of low mechanical pressure.
- The connection sleeves (type Ex-Con 22/4 and Ex-con 25/7) have to be installed protected from light.
- The manual of manufaturer has to be observed.
- The manufacturer mentions all required information in the manual for installation of the heating cable system. This includes also information to the required qualification of the installation personnel.
- The installation has to be carried out by the manufacturer or a suitable and qualified company for installation in explosive atmospheres.
- The connection and the position of cable should be done correctly according to the manual during mounting of the connection sleeves. The allowed cable diameters and torques should be noted. The minimum creepage distance of 10 mm has to be checked.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
When using the connection sleeve type Ex-Con 22/4 Si the minimum ambient temperature is -60 °C.

The heating cable system complies with the requirements of the current standards.