



Translation

**EC-Type Examination Certificate**

(1)

**- Directive 94/9/EC -  
Equipment and protective systems intended for use  
in potentially explosive atmospheres**

(2)

(3)

**BVS 03 ATEX E 132 U**

(4)

**Equipment: Heating cable type TCTEX-7J-\*\*\* und TCTEX-4J-\*\*\***

(5)

**Manufacturer: Klöpper-Therm GmbH & Co. KG**

(6)

**Address: D 44143 Dortmund**

(7)

The design and construction of this component and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8)

The certification body of EXAM BBG Prüf- und Zertifizier GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the test and assessment report BVS PP 03.2200 EG.

(9)

The Essential Health and Safety Requirements are assured by compliance with:

EN 50014:1997 | A1-A2    General requirements  
EN 50019:2000            Increased safety

(10)

The sign "U" placed after the certificate number indicates that the certificate must not be mistaken for a certificate for equipment or a protective system. This certificate may only be used as the basis for the certification of equipment or a protective system.

(11)

This EC-Type Examination Certificate relates only to the design, examination and tests of the specified component in accordance to Directive 94/9/EC.

Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

(12)

The marking of the equipment shall include the following:



**II 2G EEx e II**

**EXAM BBG Prüf- und Zertifizier GmbH**

Bochum, dated 16. July 2003

Signed: Dr. Jockers

Signed: Dr. Lickhoff

Certification body

Special services unit

(13) Appendix to

(14) **EC-Type Examination Certificate**

**BVS 03 ATEX E 132 U**

(15) 15.1 Subject and type

Heating cable type TCTEX-7J-\*\*\* und TCTEX-4J-\*\*\*

In the complete type marking the stars will be replaced by the resistance per length in  $\Omega/\text{km}$  (1,08 up to 8000).

15.2 Description

The heating cables have a heating conductor which is enclosed by a double plastic insulation. Between the two plastic insulations there are several additional layers and a braided metallic shield.

The connection devices, the protective devices and the heating performance are a subject of an other certificate.

15.3 Parameters

Rated voltage	$\leq$	750	V
Resistance of the heating conductor	1,08 up to	8000	$\Omega/\text{km}$
Rated power	$\leq$	30	W/m
Minimum bending radius	5x	Außendurchmesser	
Maximum permissible temperature		250	$^{\circ}\text{C}$
Minimum permissible installation temperature		-20	$^{\circ}\text{C}$
Minimum permissible operating temperature		-40	$^{\circ}\text{C}$

(16) Test and assessment report  
BVS PP 03.2200 EG as of 16.07.2003

(17) Special conditions for safe use

17.1 The heating cable type TCTEX-4J-\*\*\* are designed for the low risk of mechanical danger according to EN 50014:1997, paragraph 23.4.3.1.


17.2 For the heating cables type TCTEX-7J-1,08, type TCTEX-7J-1,71, type TCTEX-7J-2,9, type TCTEX-7J-4,4, type TCTEX-7J-7,2 and type TCTEX-4J-10 excessive temperature under fault conditions must be prevented by a protecting device according to Annex D of EN 50019:2000.

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We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 23.09.2003  
BVS-Ru/Mi A 20030013

**Deutsche Montan Technologie GmbH**



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Certification body



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Special services unit