



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: Sira 03ATEX3316

4 Equipment: FSG Self-Regulating Heating Cable

5 Applicant: Flexelec S.A.

6 Address: 10 Rue des Freres Lumiere
Z.A. du Bois Rond
69720 St Bonnet de Mure
France

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report numbers R51V10416A and R51V12673A.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997 (A1 and A2)
EN 50019:2000
IEC 62086-1:2001

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2G

EEx e II T6 (applicable to cables up to 23 W/m that are used at up to 240 Vmax)

EEx e II T4 (applicable to cables that are used with a supply of 277 V)

EEx e II T4 (applicable to cables above 23 W/m that are used at up to 277 Vmax)

Project Number 51V12673
Date 29 October 2003
Latest issue 9 February 2006
C. Index 06

C Ellaby
Certification Officer

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 03ATEX3316

Re-issued 9 February 2006 to introduce the changes described in report number R51V12673A.

13 DESCRIPTION OF EQUIPMENT

The FSG Heating Cables are self-regulating trace heating cables rated at up to 31 W/m and 277 V that are used to protect against freezing or maintain temperatures. They comprise two parallel bus wires, around which is extruded a carbon loaded plastic core. The core is conductive with a positive temperature coefficient of resistance, which gives the heating cables their self-limiting characteristic. The carbon loaded core is insulated by an extruded layer of thermoplastic elastomer, which is covered by tinned copper braid. An additional anti-corrosive covering manufactured from thermoplastic elastomer or fluoropolymer may be extruded over the braid.

The heating cables are cut to length to form a unit that is terminated at each end with a seal kit. The equipment is designed to be connected to a supply by means of suitable certified cable entries and junction boxes in accordance with the manufacturer's installation instructions.

14 DESCRIPTIVE DOCUMENTS

- | 14.1 | Drawing No. | Sheet | Rev. | Date | Title |
|------|-------------|--------|------|-----------|---|
| | CD 16 | 1 of 1 | 2 | 21 Sep 04 | List and Marking of Self Limiting Cables ATEX |
- 14.2 Report No. R51V10416A
- 14.3 Certificate number Sira 02ATEX3074 dated 7 March 2003

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

None

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in Report No. R51V10416A.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 An electric strength test of $\sqrt{2} \times E + 1000$ V rms shall be applied between the conductors and the outer braid or jacket as appropriate for 60 seconds as required by clause 5.1.2 of IEC 62086-1:2001.
- 17.4 An electric strength test of the polymeric sheath (overjacket) used for corrosion resistance shall be carried out in accordance with the requirements of IEC 62806-1:2001 clause 5.2.1
- 17.5 The manufacturer shall verify the output rating for each cable manufactured in accordance with IEC 62086-1-2001 clause 5.2.2.

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