



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 03ATEX3292** Issue: **4**

4 Equipment: **HTS1F, HTS2F and HTS3F Range of Trace Heating Cables**

5 Applicant: **Heat Trace Limited**

6 Address: **Mere's Edge
Chester Road
Helsby
Frodsham WA6 0DJ
UK**

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 the confidential reports listed in Section 14.2.

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 2 G
EEx e II T* See schedule

Project Number 26578

C Ellaby
Deputy Certification Manager

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13 DESCRIPTION OF EQUIPMENT

The HTS1F, HTS2F and HTS3F range of series resistance heating cables are rated at up to 600 V and 66 W/m. They have either one (HTS1F) or three (HTS3F) copper or aluminium heating conductors (foils); that are insulated in silicone rubber, covered with a tinned copper braid or aluminium jacket and can have an optional silicone rubber or fluoropolymer overjacket. Note, the 3 foil version is marked HTS3F which applies when all three foils are energised, however, if two foils are energised, it is referred to as the HTS2F. The temperature class is dependent on the maximum pipe temperature.

Product type	Nominal output (W/m)	Maximum permissible workpiece temperature (°C)					
		T6 (85°C)	T5 (100°C)	T4 (135°C)	T3 (200°C)	T2 (300°C)	T1 (450°C)
HTS1F-C	10	47	66	107	181	217	217
HTS1F-A	20		32	75	157	191	191
	30			41	132	163	163
	40				108	133	133
	50				76	97	97
	60				30	46	46
HTS1F-CS	10	57	73	112	181	207	207
HTS1F-AS	20	37	53	93	166	180	180
	30		31	73	152	157	157
	40			51	127	127	127
	50			27	92	92	92
	60			-	-	-	-
HTS1F-CF	6.5	57	73	112	181	192	192
HTS1F-AF	13	37	53	93	166	177	177
	23		31	73	152	165	165
	33			51	127	127	127
	50			27	92	92	92
	60			-	-	-	-
HTS2F-C	10	47	66	107	181	217	217
HTS3F-C	20		32	75	157	191	191
HTS2F-A	30			41	132	163	163
HTS3F-A	40				108	133	133
	50				76	97	97
	60				30	46	46
HTS2F-CS	10	57	73	112	181	207	207
HTS3F-CS	20	37	53	93	166	180	180
HTS2F-AS	30		31	73	152	157	157
HTS3F-AS	40			51	127	127	127
	50			27	92	92	92
	60			-	-	-	-
HTS2F-CF	6.5	57	73	112	181	192	192
HTS3F-CF	13	37	53	93	166	177	177
HTS2F-AF	23		31	73	152	165	165
HTS3F-AF	33			51	127	127	127
	50			27	92	92	92
	60			-	-	-	-

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Sira Certification Service

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Variation 1 - This variation introduced the following changes:

- i. A change of the manufacturer's address:
From: Heat Trace Limited, Tracer House, Cromwell Road, Bredbury, Stockport SK6 2RF, UK
To: Heat Trace Limited, Mere's Edge, Chester Road, Helsby, Frodsham WA6 0DJ, UK

Variation 2 - This variation introduced the following changes:

- i. The HTS2F and HTS3F Trace Heating Cables were allowed to be terminated directly into a junction box using a cable gland, the box and the gland must be suitable for the application and possess ATEX certification issued by a notified body confirming that they are approved for increased safety (Ex e IIC) or flameproof (Ex d IIC) applications.
- ii. The HTS2F and HTS3F Trace Heating Cables were allowed to be used with a 4 core, cold lead cable, one of the cores being used to form an internal earth connection, alternatively, when an external earth using the braiding is made, the connection of the fourth core to earth may be omitted.
- iii. Typographical errors in the table of products were corrected.

Variation 3 - This variation introduced the following changes:

- i. The introduction of an alternative splice kit silicone boot was approved.
- ii. The inclusion of a drawing TK0461/S was recognised, this is to rectify a previous omission.

Variation 4 - This variation introduced the following change:

- i. Aluminium heating conductors (foils) were allowed to be used in place of the copper foils previously assessed, in this format an aluminium continuous conductive covering may be applied as an alternative to the copper braid, the description was modified accordingly.
- ii. The description of Equipment was amended to clarify that a two foil version is not actually manufactured and to clarify that the reference HTS2F denotes a particular application of the HTS3F Trace Heating Cable.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	26 September 2003	R53A10271A	The release of the prime certificate.
1	25 April 2006	R51A14380A	The introduction of Variation 1.
2	23 May 2011	R25157A/00	The introduction of Variation 2.
3	16 August 2011	R25727A/00	The introduction of Variation 3.
4	08 October 2012	R26578A/00	The introduction of Variation 4.

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 the reports listed in Section 14.2.

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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.
- 17.6 The manufacturer shall mark the following address on the product: Mere's Edge, Chester Road, Helsby, Frodsham WA6 0DJ, UK.

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Certificate Annexe

Certificate Number: Sira 03ATEX3292
Equipment: HTS1F, HTS2F and HTS3F Range of Trace Heating Cables
Applicant: Heat Trace Ltd.



Issue 0

Drawing	Sheets	Rev.	Date	Title
HC1451/S	1 of 1	0	05 Jun 03	HTS1F series heating cable
SK HTS1F	1 of 1	B	29 Jul 03	In line splicing kit for HTS1F
TK HTS1F	1 of 1	B	29 Jul 03	Supply end termination for HTS1F between heating cable and cold lead
HC1450/S	1 of 1	0	5 Jun 03	HTS32F and HTS3F series heating cable
TK HTS	1 of 1	C	26 Jul 03	Moulded termination kit for HTS2F and HTS3F heating cable to cold lead
SK HTS	1 of 1	D	20 Jul 03	In line splice kit for HTS2F and HTS3F
TK/HTS/D	1 of 1	1	20 Jul 03	Termination for HTS2F and HTS3F via Ex d gland
TK HTS E	1 of 1	1	20 Jul 03	Termination for HTS2F and HTS3F via Ex e gland

Issue 1 (No new drawings were introduced.)

Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
TK HTS EG	1 of 1	1	23 May 11	Direct Termination for Longline HTS2F and HTS3F Via a Suitably Certified Cable Gland
TK HTS4C1	1 of 1	1	23 May 11	Mounted Termination KIT for Longline HTS2F and HTS3F Between Trace Heater Tape and Cold Lead (External Earth)
TK HTS4C2	1 of 1	1	23 May 11	Mounted Termination KIT for Longline HTS2F and HTS3F Between Trace Heater Tape and Cold Lead (Internal Earth)

Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
TK 0461/S	1 of 1	3	15 Aug 11	Sira certification Drawing for Longline Tape Hot to Cold Boot TK/HTS/E3 Termination Kits
TK0470/S	1 of 1	3	15 Aug 11	Sira certification Drawing for Longline Tape Hot to Cold Boot 10 mm sq to 16 mm sq 3 Core Cold Lead

Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
HC1453/S	1 of 1	0	20 Sep 12	Sira Certification Drawing for Aluminium Longline HTS1F
HC1454/S	1 of 1	0	20 Sep 12	Sira Certification Drawing for Aluminium Longline HTS2F & HTS3F

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