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 CML 19.0131X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2019-12-09)
Date of Issue:	2023-01-04		
Applicant:	**Heat Trace Limited** Mere's Edge, Chester Road, Helsby, Frodsham, Cheshire, WA6 0DJ **United Kingdom**		
Equipment:	**HTS1F and HTS1FA Range of Trace Heating Tapes**		
Optional accessory:			
Type of Protection:	**Trace Heating "60079-30-1"**		
Marking:	Ex 60079-30-1 IIC T6…T1 Gb Ex 60079-30-1 IIIC T85°C…T450°C Db Withstand temp range: -40°C to +200°C		

Approved for issue on behalf of the IECEx Certification Body: **A Snowdon**

Position: **Certification Manager**

Signature: (for printed version)

Date: (for printed version) 2023-01-04

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:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom

IECEx Certificate of Conformity

Manufacturer: **Heat Trace Limited**
Mere's Edge, Chester Road, Helsby, Frodsham, Cheshire, WA6 0DJ
United Kingdom

Manufacturing locations:

Heat Trace Limited
Mere's Edge, Chester Road, Helsby,
Frodsham, Cheshire, WA6 0DJ
United Kingdom

Heat Trace Limited
Cromwell Road
Bredbury
Stockport, SK6 2RF
United Kingdom

Heat Trace Limited
Unit 9 Southside
Bredbury Industrial Estate
Bredbury
Stockport SK6 2SP
United Kingdom

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 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC/IEEE 60079-30-1:2015 Edition:1.0	Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements

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:

GB/CML/ExTR19.0146/00 GB/CML/ExTR22.0272/00

Quality Assessment Report:

GB/CML/QAR19.0027/05

IECEx Certificate of Conformity

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

The HTS1F and HTS1FA ranges of series resistance heating tapes are rated at 1000 VAC (3 phase) at 50 Hz and up to 50 W/m. They have one copper or aluminium heating conductor (foil); that is insulated in silicone rubber, covered with a tinned copper/nickel plated copper braid, or aluminium jacket, and an option to have a silicone rubber or fluoropolymer (MFA/PFA) outer jacket for corrosion protection.

Refer to Annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:
Refer to Annex for specific conditions of use.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1

This issue introduced the following modifications:

1. Introduction of alternative braid option.
2. To recognise a change to the trademark.
3. To recognise additional manufacturing locations.
4. Amendments to formatting and typographical errors in product description.

Annex:

Certificate Annex IECEx CML 19.0131X Iss 1.pdf

Annexe to:	**IECEx CML 19.0131X, Issue 1**
Applicant:	**Heat Trace Limited**
Apparatus:	**HTS1F and HTS1FA Range of Trace Heating Tapes**

Description

The HTS1F and HTS1FA ranges of series resistance heating tapes are rated at 1000 VAC (3 phase) at 50 Hz and up to 50 W/m. They have one copper or aluminium heating conductor (foil); that is insulated in silicone rubber, covered with a tinned copper/nickel plated copper braid, or aluminium jacket, and an option to have a silicone rubber or fluoropolymer (MFA/PFA) outer jacket for corrosion protection.

The nomenclature for the product is as follows:

Heat Trace Ltd HTS1*-**WXYY** 1000VAC

Longline Tape

Type:

Available Part No's:	HTS	1	*	-	**W**	**X**	**YY**	1000VAC

Options: HTS Heating Tape Type (no options available)

1 No. of foils

* (F) Copper foil
(FA) Aluminium foil

W Continuous conductive covering
(C) Tinned Copper Braid
(A) Aluminium Jacket
(N) Nickel Plated Copper Braid

X Optional Outer Jacket Materials Available
(F) Fluoropolymer (MFA/PFA)
(S) Silicone Rubber

YY Conductor Cross Sectional Area
For copper conductor:
(13) 13mm^2
to
(55) 55mm^2
For aluminium conductor:
(17) 17mm^2
to
(65) 65mm^2
1000VAC (3 phase) Rated/Maximum voltage (at 50Hz)

The power output is determined by the resistance of the foil; therefore, the foil cross sectional area is altered to provide the required power output.

The temperature class is dependent on the maximum pipe temperature.

Eurofins E&E CML Limited
Newport Business Park
New Port Road
Ellesmere Port
CH65 4LZ

T +44 (0) 151 559 1160
E info@cmlex.com

www.cmlex.com

Company Reg No. 8554022 VAT No. GB163023642

HTS1FA							
Product types	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)
HTS1FA-C HTS1FA-A HTS1FA-N	10	47	66	107	181	200	200
	20		32	75	157	191	191
	30			41	132	163	163
	40				108	133	133
	50				76	97	97
HTS1FA-CS HTS1FA-AS HTS1FA-NS	10	57	73	112	181	200	200
	20	37	53	93	166	180	180
	30		31	73	152	157	157
	40			51	127	127	127
	50			27	92	92	92
HTS1FA-CF HTS1FA-AF HTS1FA-NF	10	57	73	112	181	192	192
	20	37	53	93	166	177	177
	30		31	73	152	165	165
	40			51	127	127	127
	50			27	92	92	92

HTS1F							
Product types	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 HTS1F-A HTS1F-N	10	47	66	107	181	200	200
	20		32	75	157	191	191
	30			41	132	163	163
	40				108	133	133
	50				76	97	97
HTS1F-CS HTS1F-AS HTS1F-NS	10	57	73	112	181	200	200
	20	37	53	93	166	180	180
	30		31	73	152	157	157
	40			51	127	127	127
	50			27	92	92	92
HTS1F-CF HTS1F-AF HTS1F-NF	10	57	73	112	181	192	192
	20	37	53	93	166	177	177
	30		31	73	152	165	165
	40			51	127	127	127
	50			27	92	92	92

The manufacturer declared parameters for the heating foils are listed below:

Ambient temperature range:	-40°C to +60°C
Process temperature range (Maintain Temperature):	See tables above
Maximum Continuous Exposure Temperature (Power On):	+200°C
Maximum Permissible Exposure Temperature (Power Off):	+200°C
Maximum Withstand Temperature:	+200°C
Minimum Installation Temperature:	-40°C
Maximum Voltage:	See part no. breakdown above
Rated Power Output:	See part no. breakdown above
Minimum Bend Radius:	75mm
Braid Coverage:	>70%
Braid Thickness:	0.5mm
Earth Braid Resistance:	18.2Ω/km
Cable Length:	up to 5Km

SK/HTS1F – Inline splice kit between two heating tapes

This splice construction involves the joining of two HTS1F heating tapes, with the conductor foils connected between two metal plates, which are connected between the plates via M6 set screws, M6 spring washers, M6 nuts and M6 lock nuts (all manufactured from high tensile steel). The connection of the heating tapes is made in a silicone rubber tube, that is filled and sealed with a RTV silicone sealant, which holds two RTV slotted bushes in place (one at each end) where the insulation of the heating tapes pass through an elongated oval slot. The electrical bonding is achieved by the braid of each heating foil, which are connected externally to the silicone with a tin-plated copper crimp.

TK/HTS1F/50 and TK/HTS1F/95 – Termination kit between heating tape and cold lead

The construction and material specifications of this splice is similar to that of the inline splice between two heating tapes (above), but with a tin-plated copper long palm crimp being used to provide the electrical connection to the cold lead. There is a separate material specification for the circular slotted bush to enable the long palm crimp to pass through on one side. The slot in the bushing is round in cross-section as a result of the long palm crimp. The electrical bonding is achieved by the braid of each heating foil, which are connected externally to the silicone with a tin-plated copper crimp.

Conditions of Manufacture

The following are conditions of manufacture:

i. An electric strength test of 2U+1000 V shall be applied for each heater manufactured between the conductors and the outer braid or jacket as appropriate for 60 seconds as required by clause 5.1.2 of IEC/IEEE 60079-30-1.

ii. An electric strength test of the over jacket used for corrosion resistance shall be carried out in accordance with the requirements of IEC/IEEE 60079-30-1 clause 5.2.1.

iii. The manufacturer shall verify the output rating for each cable manufactured in accordance with IEC/IEEE 60079-30-1 clause 5.2.2.

Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

i. The heaters shall be installed in suitable certified terminal boxes, via suitable certified terminals and cables.

ii. Suitable cold leads shall be selected by the end user.

iii. Testing for outdoor exposure in accordance with IEC/IEEE 60079-30-1 Clause 5.1.16 was not conducted. Therefore, the heating tapes and splices (permitted by this certificate) shall not be exposed to UV light, or a combination of UV light and moisture in service.