

1 **PRODUCT CONFORMITY CERTIFICATE - Apparatus**

2 Certificate Number: **Sira Ex10Y3217** Issue: **0**

3 This Certificate is issued for the electrical apparatus:

Range of Mineral Insulated Trace Heating Cable Units

4 Manufactured by:

Thermal Resources Management (TRM) Limited
Unit 21 Sedling Road
Wear Industrial Estate
Washington, NE38 9BZ
UK

5 This electrical apparatus and any acceptable variation thereto is specified in the schedule to this Certificate and the documents therein referred to.

6 Sira Certification Service being accredited by the United Kingdom Accreditation Service (UKAS) through the NACB scheme certifies that the apparatus has been found to comply with the following Standards:

IEC 60079-0:2007

IEC 60079-7:2006

IEC 60079-30-1:2007

The assessment and test results are recorded in Sira Test Reports listed in the Certificate Schedule.

7 The apparatus marking shall include the code:

Ex e IIC T1 to T6 Gb

8 The manufacturer of the electrical apparatus referred to in this Certificate has the responsibility to ensure that the apparatus conforms to the specification laid down in the Schedule to this Certificate and has satisfied the routine verifications and tests referred to therein.

The use of this apparatus will normally be the subject of National Legislation and/or Installation Codes.

File No. **R20738**

This certificate and its schedules may only be reproduced in its entirety and without change

ST&C (Chester) Form 9033 Issue 5

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011

A handwritten signature in black ink, appearing to read 'D R Stubbings'.

D R Stubbings BA MIET
Certification Manager

Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England

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SCHEDULE

PRODUCT CONFORMITY CERTIFICATE Sira Ex10Y3217

Issue 0

APPARATUS

The ranges of Mineral Insulated Trace Heating Cables are factory assembled resistance heating cables with cold leads attached via end terminations jointed at both ends. The resistance cable is a single, resistance wire that is insulated with compressed magnesium oxide and surrounded by a metallic sheath.

The heaters are rated at up to 500 Vac, with power output dependent upon the circuit length and the applied voltage. The temperature class for each installation is established by the stabilised design method and may be T1 to T6.

The range of heaters consists of the following types:

Type	Description
H321	Stainless Steel Sheath or Incoloy 825
H600	High Nickel Content Alloy Sheath
HDF	Cupro-Nickel sheath having nominal outside diameters between 3.2 mm and 4.9 mm (Nominal)
HDC	Cupro-Nickel sheath and copper conductors
HCx	For applications up to 200°C. Nominal outside diameters between 3.2 mm and 5.9 mm Copper sheath with constantan or copper conductor

The cold lead cables are also mineral insulated and have a stainless steel sheath. These are spliced to the resistance cable using a joint assembly that is brazed or welded onto the sheaths of the cables. This joint assembly is filled with fused magnesia to insulate the conductor joint. A suitably certified cable gland is fitted to enable the unit to be connected to a certified junction box.

The cold lead-in cable (cupro-nickel or stainless steel sheathed, Mineral Insulated Cable, sizes 1H2.5 or 1H6) may also be terminated with a flexible wire seal; this seal comprises a brass or stainless steel pot that is either crimped onto to the MIC sheath or attached using silver solder. A flexible, PVC insulated wire fitted with an insulated ferrule is attached to the MIC conductor using a copper crimp that is covered with shrink tubing. The pot is filled with epoxy resin to form the seal. The flexible wire seal is used with a suitable gland that may be fitted with a flexible wire, earth tag assembly.

DESCRIPTIVE DOCUMENTS

See Certificate Annexe

ASSOCIATED SIRA REPORTS AND CERTIFICATE HISTORY

Issue	Date	Report no.	Comment
0	03 February 2011	R20737A/00	The release of the prime certificate.

CONDITIONS OF MANUFACTURE

- The use of the Sira Certification Service Mark is subject to the Regulations applicable to the holders of Sira certificates.
- This certificate relates only to the apparatus specified herein as executed in the samples supplied for evaluation.
- In affixing the Sira certificate number to the apparatus the manufacturer attests on its own responsibility that the apparatus conforms to the documents listed herein.

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SCHEDULE

PRODUCT CONFORMITY CERTIFICATE Sira Ex10Y3217

Issue 0

If the marked apparatus is found not to comply Sira Certification Service should be notified immediately at its office at Rake Lane, Eccleston, Chester, CH4 9JN, England.

4. The apparatus and that part of the manufacturer's quality management system controlling the production of the apparatus covered by this certificate shall be subject to periodic surveillance by Sira in accordance with the Regulations applicable to the holders of SCS certificates.
5. A dielectric strength test shall be carried out on each unit manufactured in accordance with the requirements of IEC 60079-30-1-2007 clause 5.2.1.
6. The manufacturer shall verify the output rating for each unit manufactured in accordance with IEC 60079-30-1-2007 clause 5.2.2.
7. The manufacturer shall ensure that all component certified items are installed in accordance with their certificate conditions. A suitably certified cable entry device that will maintain IP54 shall also be provided.
8. The flexible wire seal shall only be fitted by the manufacturer in accordance with drawing number TRMH/EX/00/0016 Rev 07 using the specific constituent parts and cable types that are detailed on that drawing, in addition, the epoxy resin shall comply with the requirements of TRM/EX/010 Issue 2.

SPECIAL CONDITIONS FOR SAFE USE (denoted by 'X' after certificate No.)

None

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Certificate Annexe

Certificate Number: Sira Ex10Y3217

Apparatus: Range of Mineral Insulated Trace Heating Cable Units

Applicant: Thermal Resources Management (TRM) Limited



Issue 0

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
TRM/EX/002	1 of 1	6	05 Jan 11	Label details
TRM/H/00/0003/1	1 of 1	01	27 Mar 03	Heating Unit Joint Assembly
TRM/EX/005/HDx	1 of 1	2	04 Jun 04	Heating Element Cables
TRM/EX/003/HxQ	1 to 2	2	27 Apr 07	Cable Design Datasheet
TRM/EX/006/CC	1 of 1	1	27 Jul 07	Cold Element Cables
TRM/EX/006/HCx	1 of 2	1	27 Jul 07	Heating Element Cables
TRM/EX/006/HCx	2 of 2	1	27 Jul 07	Heating Element Cables
TRM/EX/004/1M10	1 of 1	4	27 Jul 07	1M10 Thermal data
TRM/EX/004/1M0.63	1 of 1	4	27 Jul 07	1M0.63 Thermal data
TRM/EX/004/1M0.16	1 of 1	4	27 Jul 07	1M0.16 Thermal data
TRM/EX/002	1 of 1	4	03 Sep 07	Label details
TRMH/EX/00/0016	1 of 1	7	15 Jan 08	General arrangement drawing
TRM/EX/010	1 of 1	2	15 Jan 08	Seal pot compound
TRM/EX/006/HDx	1 of 2	0	10 Mar 05	Heating Element Cables
TRM/EX/006/HDx	2 of 2	1	03 Mar 05	Heating Element Cables

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