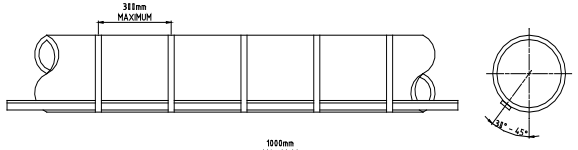
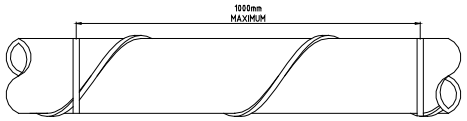
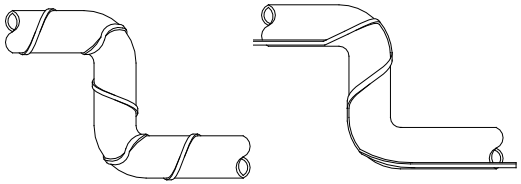
GUIDE TO INSTALLATION



HEATING TAPE STRAIGHT TRACED ALONG THE PIPE FIXED AT MAXIMUM 300MM INTERVALS

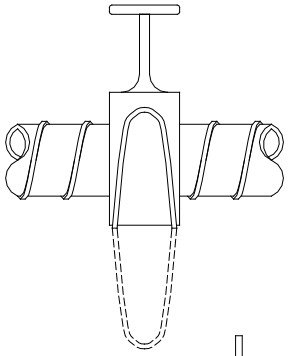


HEATING TAPE SPIRALLY TRACED ALONG THE PIPE FIXED AT 1000MM INTERVALS

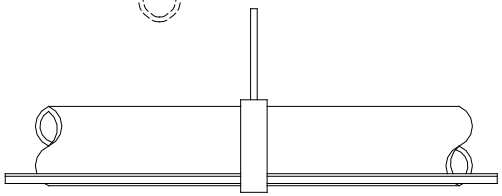


WHEN SPIRAL TRACING KEEP TURNS EVENLY SPACED

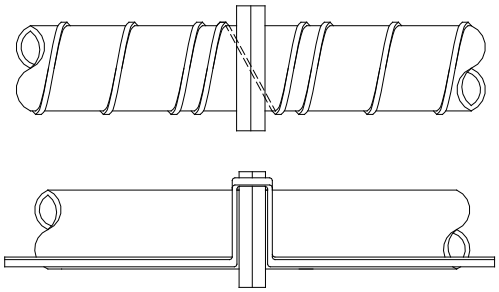
STRAIGHT TRACE ALONG THE OUTSIDE OF THE BENDS



VALVES MAY BE TRACED WITH EXTRA TAPE TO ENABLE REMOVAL OF THE VALVE



HEATING TAPE SHOULD PASS THROUGH PIPE MOUNTING SUPPORTS WITH CLEARANCE



FLANGE HEATING LOSS CAN BE COMPENSATED BY ADDITIONAL TRACING

TERMINATING & FIXING INSTRUCTIONS

TYPE SCBX HEATING TAPE

Component Approved Installation Instruction

Certificate ref: SIRA 03 ATEX 3376U Issue 2
Certification code : Ex e IIC Gb
ATEX Marking : Ⓔx II 2 G

Type SCBX heating tape is designed for the temperature maintaining of thermally insulated pipework and associated equipment and tanks within an explosive atmosphere as described in BS EN 60079 – 10. This has been approved to BS EN 60079-0:2009 & BS EN 60079-30-1:2007

1. SYSTEM

The heating tape is part of a system comprising

- Heating Tape
- Termination kits
- Fixing accessories
- Junction Boxes
- Thermostatic Control
- Electrical control and protection
- Thermal Insulation

2. STORAGE

Heating Tape is supplied on reels, identified with product information, and should be stored in a clean dry area at temperature between –20°c and 60°c and protected from mechanical damage.

3. PRELIMINARY CHECKS

Before carrying out any installation of the heating tape the following checks should be carried out

- Check equipment references and ratings
- Check resistance continuity
- Check Insulation resistance
- Check compatibility of all system accessories

System design should be in accordance with EN 50014, EN 50019 and EN 60079 – 14 or outside the European Union any other relevant national specifications as appropriate.

Caution : Maximum heating tape power 12w/m on ‘plastic’ piping.

4. TEMPERATURE CLASSIFICATIONS

Heating Tape	-	Type SCBX*
Rating	-	8, 12, 16, 20 & 30 w/m
Voltage	-	110v & 240v
Zone	-	I & II type ‘e’
System Design	-	BS EN 60079-0:2009,
		BS EN 60079- 30-1:2007
And Installation	-	To EN 60079 – 14 : 1997

* Refer to SCBX Data Sheet for technical information

13. FAULT FINDING

a) Pipe temperature less than design value.

Cause	Remedy
Thermal insulation wet	Remove, dry and replace
Design error	Check design parameters
Thermostat malfunction or incorrect settling	Check and re set or replace

b) Loss of temperature

Thermostat	Check setting
Loose or failed connection	Check junction boxes and controls
Power failure	Check power supply

c) Residual current tripping

Cause	Remedy
Heating tape damage	Locate and replace
Moisture in –	
Junction box	Dry and close or replace
Thermostat	Dry and close or replace
Tape termination	Reseal
Circuit breaker faulty	Replace

NOTE: It is not possible to repair a damaged heating tape. It may be possible to fit a section of new heating tape and through joint through a suitable external junction box

14. MATERIALS

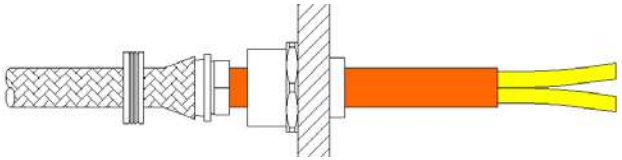
The following materials which may be susceptible to corrosion are used in the construction of type SCBX heating tapes.

Silicone
Stainless Steel Braid
or Tinned Copper Braid
or Nickel Plated Copper Braid

Caution: HAZARDOUS AREA TRACE HEATING INSTALLATIONS SHOULD BE CARRIED OUT BY SUITABLY TRAINED AND QUALIFIED PERSONNEL.

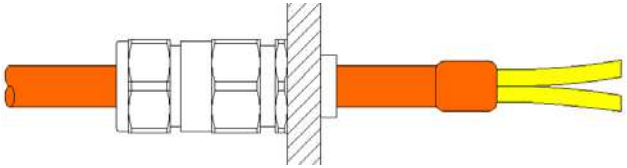
IF IN DOUBT PLEASE CONTACT US.

FAILURE TO INSTALL AND MAINTAIN THE HEATING TAPE IN ACCORDANCE WITH THESE INSTRUCTIONS WILL NULLIFY THE CERTIFICATION.



Apply silicone adhesive around the end of the heating tape outer sheath and to the inside of one power termination seal. Slide the seal onto the heating tape ensuring that it fits properly over the sheath.

Complete the assembly of the gland ensuring that the braid is properly clamped.



At the remote end of the heating tape locate the last depression in the edge of the tape. Cut off the tape 50mm past the depression. Push braid back along tape and cut off a further 20mm of tape.

Trim off 12mm of outer sheath and unwind and cut off all exposed heating element.

Shorten one leg by 6mm

Take one remote end termination sleeve and fit to the heating tape, using silicone adhesive. (Fill boot with adhesive and wipe away any surplus)

Gently ease the braid over the sleeve taking care not to displace the heating tape end seal and bunch braid together. Take one ring terminal and make crimped connection to bunched braided end.

Tape should be cleaned in the areas of the terminations using a solvent type cleaning fluid or light abrasion using a fine grade emery paper taking care not to damage the heating tape.

6. INSTALLATION

Installation of trace heating systems using type SCBX heating tape should be carried out in accordance with EN 50014, EN 50019 and EN 60079 - 14 and should comply with any regulations of the country in which the trace heating system is installed if outside the European Union.

Ensure that pipework and associated equipment to be heat traced is clean and free from weld splatter and rough edges.

Heating tape may be straight traced or spiralled along the pipe. Straight tracing requires fixing at 300mm intervals and spiral tracing at 1000mm intervals using polyester or woven glass adhesive tape suitable for the pipe temperature.

Heating tape lengths should be terminated in accordance with type SCBX Termination Instructions. See 5 above. An appropriate cable gland must be fitted. Supply cables to be terminated in a suitable ATEX approved enclosure.

Note that the maximum cold lead length is approximately 1000mm and any junction box or control unit to which the heating tape is to be connected must be close enough to effect correct termination.

If the heating tape cold lead exits the thermal insulation through a tape entry gland the gland must be fitted before connection is made into the junction box/thermostat.

Where the heating tape is installed on a ‘plastic’ pipe the maximum rating of the heating tape is 12w/m. It is recommended that 50mm wide adhesive aluminium tape is fitted over the full length of the heating tape.

7. SPECIAL CONDITIONS FOR SAFE USE

The ‘U’ suffix to the certificate number relates to the following special condition(s) for safe use.

7.1 The tapes shall be correctly fitted with both a Remote End Termination Seal and a Power Termination Seal. In addition, they shall be terminated in an appropriate type of cable gland, which permits the use of the correct grommet form and service temperature for the designed application. The selected gland shall also provide adequate electrical continuity for earthing purposes and mechanical restraint for the protective metal braid.

7.2 Type SCBX tapes shall not be exposed to temperatures which exceed the maximum withstand temperature of 200°c and shall not be installed at temperatures below -40°c.

7.3 The process of fitting the Remote End Termination Seal and a Power Termination Seal using the specified RTV silicone rubber sealant must be carried out at temperatures above +5°c.

7.4 The tapes shall not be installed with a centre to centre distance of less than 50mm.

7.5 Type SCBX tapes must be installed in accordance with the manufacturer’s instructions.

8. TESTING

Electrically check installed heating tape for Continuity and Insulation Resistance between the conductors and the metal braid in accordance with clause 7.1 of EN 50019 : 2000before the application of thermal insulation.

Record test results for each heating circuit.

Repeat and record electrical checks after thermal insulation has been completed.

9. CONTROL

Trace heating systems should be thermostatically controlled for accuracy of operation and energy efficiency.

Over current protection should be supplied for each heating zone together with a residual current operated circuit breaker with a maximum trip current of 100 mA and operating with 100ms (30mA and 30ms is preferable unless there is nuisance tripping).

10. THERMAL INSULATION

Fit thermal insulation to completed trace heating immediately for mechanical protection. Care should be taken not to damage the heating tape when fitting thermal insulation.

If thermal insulation cannot be immediately fitted it is recommended that suitable temporary mechanical protection for the trace heating tape should be fitted.

Warning labels should be fitted to the exterior cladding at 5m intervals advising the presence of heat tracing under the thermal insulation.

If phenolic thermal insulation is used with type SCBX heating tape the heating tape should be covered with 50mm wide adhesive aluminium tape.

11. OPERATION AND MAINTENANCE

Check that temperature settings are correct.

Heat tracing systems designed for frost protection should be checked and tested prior to the start of winter.

Heat tracing systems designed to maintain process temperatures should be checked at least twice per year.

Thermal insulation must be completed and dry to maintain the required temperature.

Check thermostats and other controls regularly.

The exposure temperature of the heating tape must not exceed the maximum specified.

12. PIPE REPAIRS AND MAINTENANCE

If pipe has to be removed, or repaired, electrically disconnect the heating tape and protect from thermal or mechanical damage.

Similarly if valves, pumps or other equipment is removed protect the heating tape during removal and replacement procedures.

Refit the heating tape correctly after repair or maintenance to the pipe system, replace thermal insulation and electrically check and test the heating tape as per section 7.

Maximum temperature of surface to be heated °C
Within Appropriate T Class

TAPE TYPE	T6	T5	T4	T3
SCBX 8/110	52	70	112	188
SCBX 12/110	*	50	95	173
SCBX 16/110	*	*	76	158
SCBX 20/110	*	*	55	144
SCBX 30/110	*	*	*	80
SCBX 8/240	52	70	112	187
SCBX 12/240	*	50	95	173
SCBX 16/240	*	*	76	158
SCBX 20/240	*	*	55	144
SCBX 30/240	*	*	*	93

5. TERMINATION (SCBXT)

Cut off the required length of heating tape from roll allowing one full heater zone for integral cold leads.

At power termination end of tape prepare cold lead.
Push braid back along heating tape and cut off last 10mm of heating tape, pull braid over end of tape and lightly twist together.

Take one EEXE approved gland (supplied in termination kit) and unscrew and remove rear-threaded portion. This part of the gland should be fitted into an approved junction box.

Remove the brass braid clamping cone and put to one side, slide the remaining sections of the gland onto the heating tape.

Untwist the ends of the braid. Remove outer sheath for the required length of cold tails. Carefully remove all fine wire-heating element.

Take a sharp knife and split the inner core along its centre line for its entire exposed length.

Remove braid to a position 50mm along heating tape sheath. Slide the brass clamp ring over braid. Slide the brass cone section of the gland along the inner core and the end of the braid.

Pass end of heating tape through portion of gland fitted earlier to junction box.