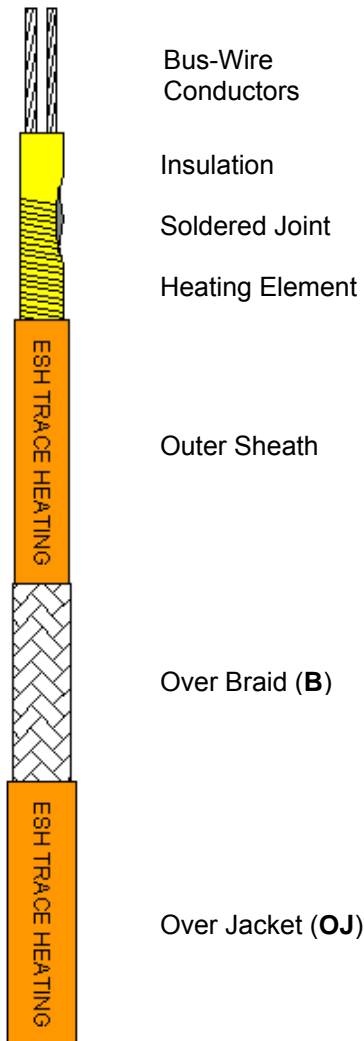




HEATING TAPE TYPE SC



Bus-Wire
Conductors

Insulation

Soldered Joint

Heating Element

Outer Sheath

Over Braid (B)

Over Jacket (OJ)

PARALLEL CIRCUIT - CONSTANT WATT FOR FROST PROTECTION

Parallel circuit heating tape is designed to be cut from reel lengths and site terminated to suit pipework. The heating tape consists of a number of short heating zones, each connected across a pair of continuous bus-wire conductors.

Each complete heating zone will give its full rated design output with circuit voltage applied to the bus-wire conductors.

Suitable for internal and external Freeze protection and temperature maintenance, hot water lines, oil and chemical lines, sprinkler system mains and supply piping (as listed in Clause 1 BS EN 62395-1:2006).

CONSTRUCTION

The heating tape has a core comprising two bus-wire conductors contained within an extruded silicone rubber sheath. The sheath is notched on alternate sides at predetermined intervals to expose a short section of bus-wire conductor.

Nichrome resistance wire is wrapped at regular spacing around the core as a continuous conductor, making contact with the bus-wires at the exposed points.

After completion of the heater conductor wrapping, a high temperature soldered joint is made at each contact point ensuring that a number of conductor strands are securely bonded to the bus-wires.

An extruded outer sheath of silicone rubber is then placed over the core and heater element to complete the heater tape assembly.

Where additional protection is required for corrosive conditions extruded silicone rubber sheathing can be placed over the braided cover.

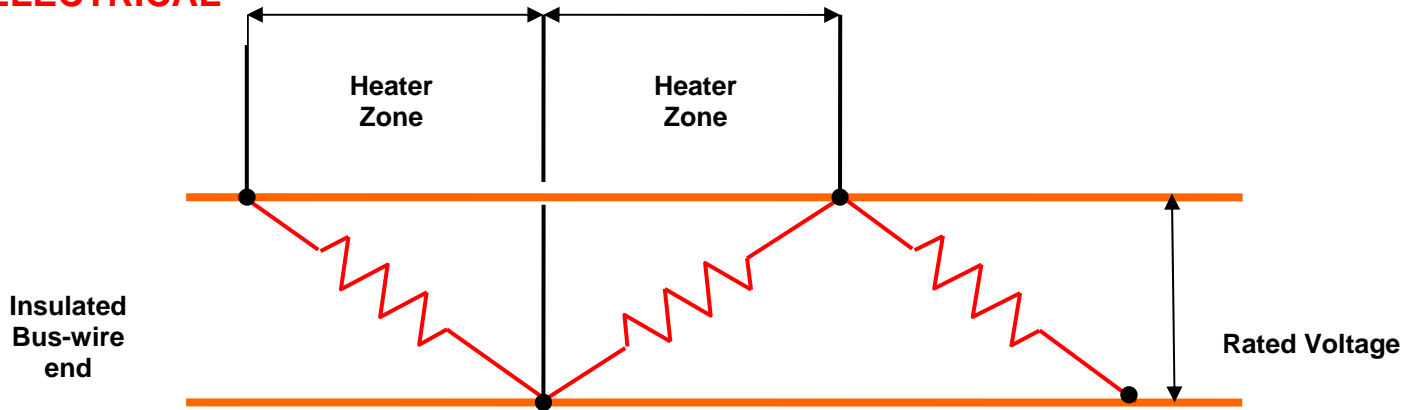
RANGE

TYPE	VOLTS	WATT/m	HEATER ZONE LENGTH (m)	MAX CIRCUIT LENGTH (m)	MAX RECOMMENDED PIPE TEMP °C
SC 8	110	8	1.0	110	190
SC 12	110	12	1.0	88	175
SC 16	110	16	1.0	80	160
SC 20	110	20	1.0	76	145
SC 30	110	30	0.5	66	100
SC 40	110	40	0.5	55	90
SC 50	110	50	0.5	48	70
SC 60	110	60	0.5	50	50
SC 8	240	8	1.0	275	190
SC 12	240	12	1.0	187	175
SC 16	240	16	1.0	140	160
SC 20	240	20	1.0	132	145
SC 30	240	30	1.0	116	100
SC 40	240	40	1.0	99	90
SC 50	240	50	1.0	76	70
SC 60	240	60	1.0	66	50

SPECIFICATION

Conductors	Copper stranded flexible 30/0.25mm (1.5mm ²).	Thickness	8.5mm
Core	Silicone rubber.	Heater zone	0.5 or 1m according to design output
Heater element	Nickel/chrome 80/20	Braid	Stainless steel/Tinned copper
Solder	High melting point 296°C.	Temperature	Min. -60°C – Max. 200°C
Outer Sheath	Silicone rubber.	Standard	To BS EN 62395-1:2006
Width	13.3mm.		

ELECTRICAL



Rated Voltage – 220V/240V or 110V/120V AC/DC.
Heater Zone (according to design) – 0.5/1.0m.

A 30mA trip Residual Current Circuit Device (RCCB) or Earth Leakage Circuit Breaker (ELCB) is recommended for use with heating tapes.

HEAT LOSSES

To calculate heat loss per metre of pipe:-

Heat losses W/m = $\Delta t \times k_e \times \text{Loss Factor}$ where:-

Δt = Pipe temp. – Ambient temp.
 k_e = Thermal conductivity.

Loss Factor
(From BS 6351)

Pipe NB (mm)	Thermal Insulation Thickness (mm)		
	25	38	50
13	5.16	4.13	3.58
25	6.91	5.36	4.56
38	8.74	6.63	5.54
50	10.28	7.69	6.36
75	13.90	10.15	8.24
100	17.08	12.30	9.88
150	23.82	16.82	13.30

Thermal Conductivity (k_e) for Mineral/Glass Fibre

$\Delta t^\circ\text{C}$	30	40	60	80	100	120	140	160
K_e	0.034	0.035	0.036	0.037	0.038	0.040	0.042	0.044

To comply with BS 6351 allowance should be taken of maximum heater resistance tolerance ($\pm 10\%$) and voltage variation ($\pm 6\%$) = $\frac{1.1}{(0.94)^2} = 1.25 \times \text{Heat Loss}$.

A further design factor of 10% may be added.