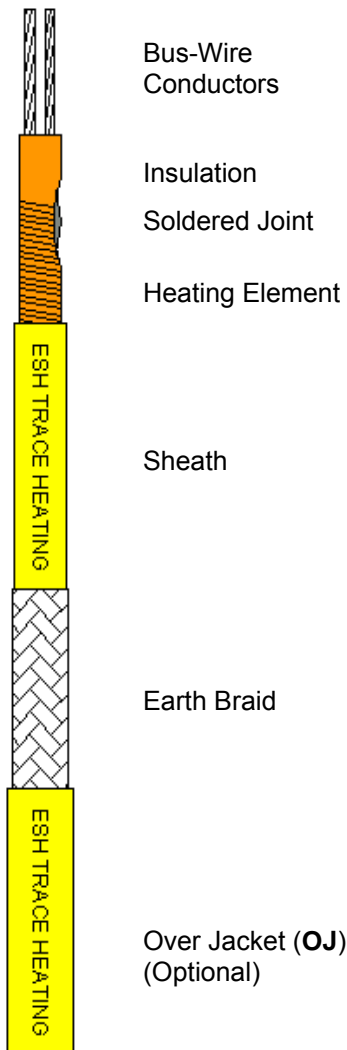




## HEATING TAPE TYPE VC



### 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.

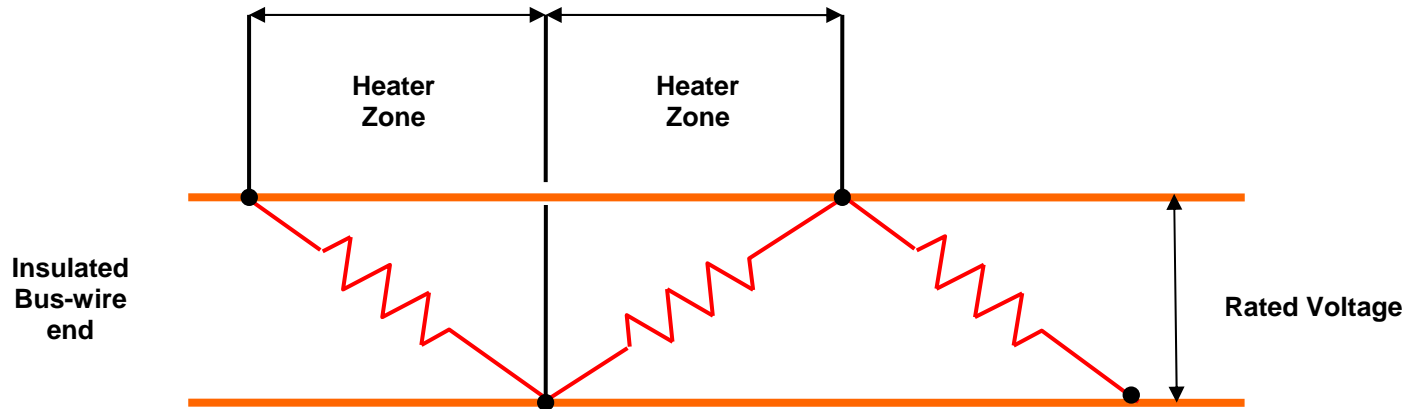
## RANGE

TYPE	VOLTS	WATT/m	HEATER ZONE LENGTH (m)	MAX CIRCUIT LENGTH (m)	MAX RECOMMENDED PIPE TEMP °C
VC 8	110	8	1.0	110	190
VC 12	110	12	1.0	88	175
VC 16	110	16	0.5	82	160
VC 20	110	20	0.5	76	145
VC 8	240	8	1.0	275	190
VC 12	240	12	1.0	187	175
VC 16	240	16	1.0	154	160
VC 20	240	20	1.0	132	145
VC 30	240	30	1.0	116	100
VC 38	240	38	1.0	98	90

## SPECIFICATION

<b>Conductors</b>	Copper stranded flexible 30/0.25mm (1.5mm <sup>2</sup> ).	<b>Thickness</b>	5.25mm
<b>Core</b>	Silicone rubber.	<b>Heater zone</b>	0.5 or 1m according to design output
<b>Heater element</b>	Nickel/chrome 80/20	<b>Braid</b>	Stainless steel/Plated copper
<b>Solder</b>	High melting point 296°C.	<b>Temperature</b>	Min. -60°C – Max. 200°C
<b>Outer Sheath</b>	Silicone rubber.	<b>Standard</b>	To BS EN 62395-1:2006 62395
<b>Width</b>	9.75mm.	<b>Min Bend Radius</b>	50mm

## 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:-

$\Delta t$  = 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.