FSE/FSE(w) 100°C

Electrical heating cable for frost protection or temperature maintenance.

FREEZSTOP EXTRA

Self-Regulating Heating Cable

- Automatically adjusts heat output in response to increasing or decreasing pipe temperature.
- Can be cut-to-length with no wastage.
- Will not overheat or burnout, even when overlapped.
- Full range of controls and accessories.
- Approved for use in non-hazardous, hazardous and corrosive environments.
- Available up to 277VAC.

DESCRIPTION

FREEZSTOP EXTRA is an industrial grade, self-regulating heating cable that can be used for freeze protection or temperature maintenance to 100°C.

It can be cut-to-length on site and exact piping lengths can be matched without any complicated design considerations.

FREEZSTOP EXTRA is approved for use in non-hazardous, hazardous and corrosive environments to world wide standards.

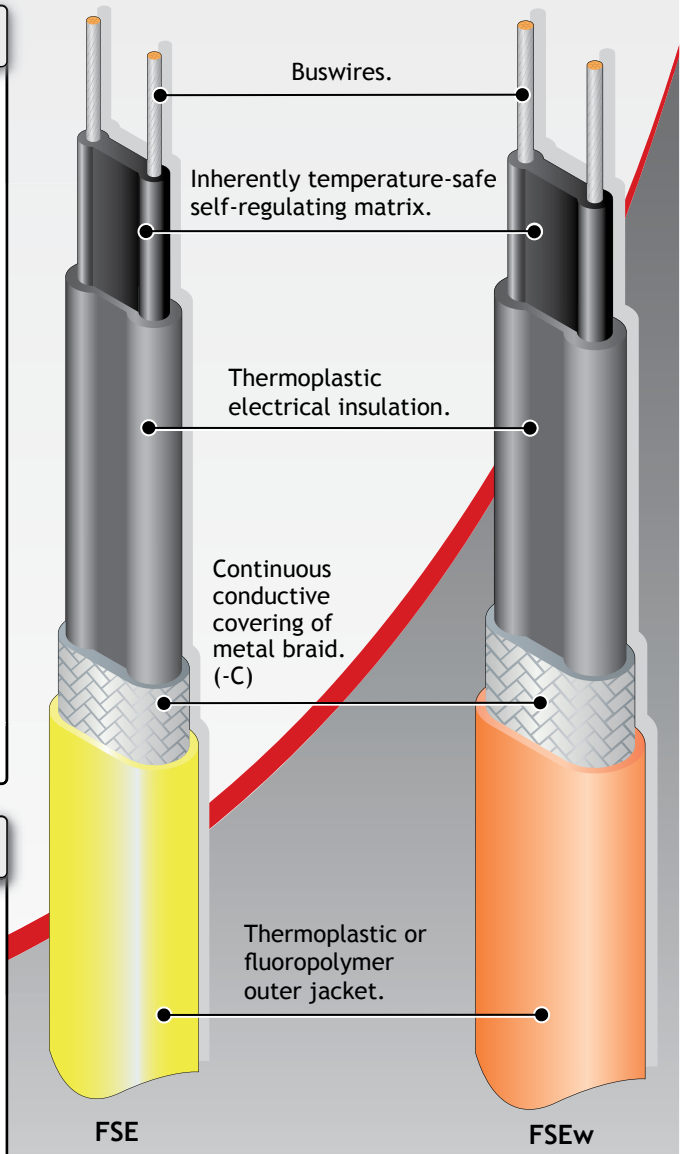
Its self-regulating characteristics improve safety and reliability. FREEZSTOP EXTRA will not overheat or burnout, even when overlapped upon itself. Its power output is self-regulated in response to the pipe temperature.

The installation of FREEZSTOP EXTRA is quick and simple and requires no special skills or tools. Termination, splicing and power connection components are all provided in convenient kits.

INHERENTLY TEMPERATURE-SAFE

" The inherent ability to self-regulate at a temperature level below the maximum product rating and withstand temperature of the insulating materials, without the need for temperature control."

Similar competitor self-regulating products are typically limited to a maximum energised temperature, typically 65°C at which point, their retained power output prevent the cable from self-regulating at its own limiting temperatures. All such products require temperature control to ensure their own temperature safety.



40 Years 1974 - 2014

The **Heat Tracing Authority™**

SPECIFICATION

MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON): 100°C (212°F)

MAXIMUM PERMISSABLE EXPOSURE TEMPERATURE (Power OFF): 100°C (212°F)

MINIMUM OPERATING TEMPERATURE: -65°C* (-85°F)

MINIMUM INSTALLATION TEMPERATURE: -40°C (-40°F)

POWER SUPPLY: 12 - 277V AC

TEMPERATURE CLASSIFICATION:

up to 45W/m @ nom voltage - T4 (135°C)
>45W/m @ nom 230V powered to 277V - T3 (200°C)

MAXIMUM RESISTANCE OF PROTECTIVE BRAIDING: 18.2 Ohm/km

INGRESS PROTECTION: IP67

WEIGHTS & DIMENSIONS:

Type Ref	Dimensions (mm) +/-0.5	Weight kg/100m	Min Bend radius	Gland Size
FSE	10.5 x 3.75	5.7	25mm	M20
FSE..C	11.5 x 4.75	9.5	30mm	M20
FSE..CT	12.7 x 5.95	11.8	35mm	M20
FSE..CF	12.7 x 5.95	12.6	35mm	M20
FSEw	13.2 x 4.3	8.7	25mm	M20
FSEw..C	14.2 x 5.3	12.9	30mm	M20
FSEw..CT	15.4 x 6.5	15.7	40mm	M25
FSEw..CF	15.4 x 6.5	16.6	40mm	M25

APPROVAL DETAILS:

ATEX - FSE: Sira 02ATEX3076
FSEw: Sira 12ATEX3114
IECEx - FSE: SIR 11.0126
FSEw: SIR 11.0127
DNV-GL - TAE00002KA
EAC* - TC RU C-GB.AA87.B.00610

ORDERING INFORMATION:

Options

FSE(w)-C Continuous conductive covering of metal braid. Mechanical protection/earth path.

FSE(w)-CT Thermoplastic outer jacket over a metal braid provides additional protection.

FSE(w)-CF Fluoropolymer outer jacket over a metal braid provides protection where corrosive chemical solutions or vapours may be present.

Example: **45 FSEw 2 - C T**

- 45 — Output 45W/m at 10°C
- FSEw — FREEZSTOP EXTRA WIDE
- 2 — Supply Voltage 220 - 277V AC
- C — Metal Braid
- T — Thermoplastic Outerjacket

MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE:

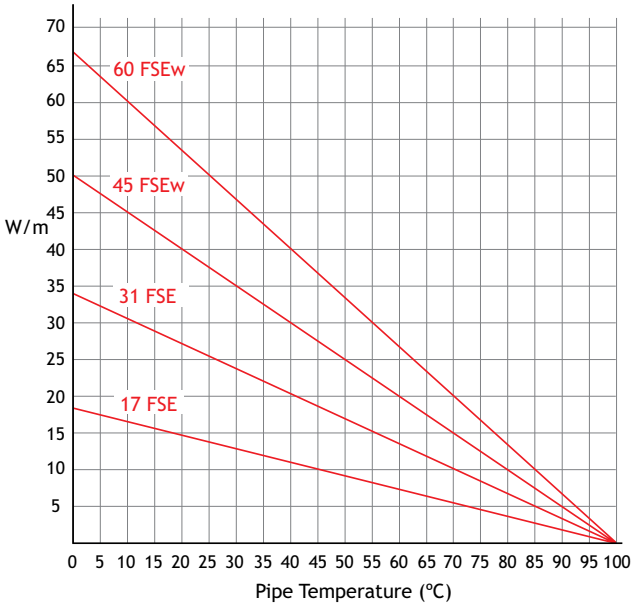
The following circuit details relate specifically to the trace heating of pipework and equipment. For any other application consult Heat Trace.

Cat Reference	Start-up Temperature	230V 6A	10A	16A	20A	25A
17FSE	10°C	46	76	120	148	-
	0°C	36	62	98	122	148
	-20°C	24	42	66	82	102
	-40°C	16	28	44	56	68
31FSE	10°C	32	52	82	104	110
	0°C	26	42	68	84	106
	-20°C	16	28	46	56	70
	-40°C	12	18	30	38	48
45FSEw	10°C	24	38	62	76	96
	0°C	20	32	50	64	80
	-20°C	12	22	34	42	52
	-40°C	8	14	22	28	34
60FSEw	10°C	20	35	52	66	82
	0°C	16	28	44	56	70
	-20°C	12	20	32	40	50
	-40°C	8	14	22	28	34

For use with Type C circuit breakers to IEC 60898

THERMAL RATINGS:

Nominal output at 115V or 230V when FSE is installed on thermally insulated carbon steel pipes.



FURTHER INFORMATION:

Please consult the appropriate termination instructions and the Heat Trace Design, Installation & Maintenance Manual (HTDIMM 010) for further details.