# FSR 85°C

Electrical heating cable for frost protection or temperature maintenance.

# FREEZSTOP REGULAR

***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 277 VAC.

## DESCRIPTION

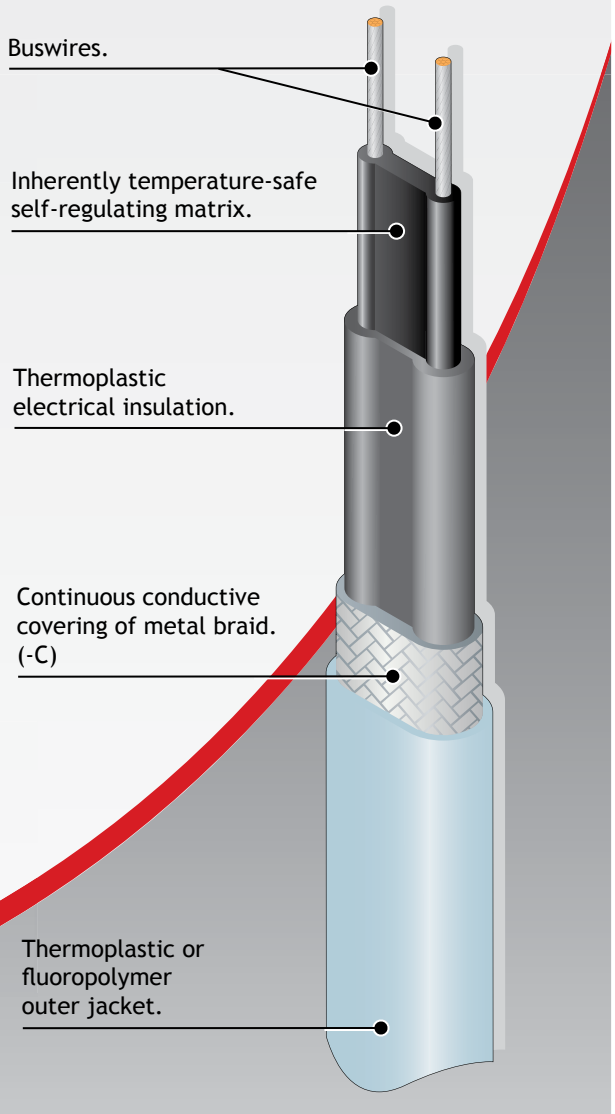
**FREEZSTOP REGULAR** is an industrial grade, self-regulating heating cable that can be used for freeze protection or temperature maintenance to 85°C.

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

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

Its self-regulating characteristics improve safety and reliability. FREEZSTOP REGULAR 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 REGULAR 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.

HEAT TRACE™ SETTING THE STANDARDS LEADING THE WAY

40 Years 1974 - 2014

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# SPECIFICATION

**MAXIMUM CONTINUOUS EXPOSURE TEMPERATURE (Power ON):** 85°C (185°F)

**MAXIMUM PERMISSABLE EXPOSURE TEMPERATURE (Power OFF):** 85°C (185°F)

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

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

**POWER SUPPLY:** 12 - 277V AC

**TEMPERATURE CLASSIFICATION:**

up to 40W/m @ nom voltage - T6 (85°C)
up to 31W/m @ nom 230V powered to 277V - T6 (85°C)
>40W/m @ nom voltage - T4 (135°C)
>31W/m @ nom 230V powered up to 277V - T4 (135°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 |
|---|---|---|---|---|
| FSR | 10.75 x 3.75 | 5.6 | 25mm | M20 |
| FSR..C | 11.75 x 4.75 | 9.5 | 30mm | M20 |
| FSR..CT | 12.95 x 5.95 | 11.8 | 35mm | M20 |
| FSR..CF | 12.95 x 5.95 | 12.6 | 35mm | M20 |

**APPROVAL DETAILS:**

ATEX - Sira 02ATEX3070
IECEx - SIR 11.0121
FM - 3009080
VDE - 114665
CSA - 1295278, 1547590
EAC* - TC RU C-GB.AA87.B.00610
DNV-GL - TAE0000272

**ORDERING INFORMATION:**

*Options*

**FSR-C** Continuous conductive covering of metal braid. Mechanical protection/earth path.

**FSR-CT** Thermoplastic outer jacket over a metal braid provides additional protection.

**FSR-CF** Fluoropolymer outer jacket over a metal braid provides protection where corrosive chemical solutions or vapours may be present.

Example: **17 FSR 2 - C T**

- 17 — Output 17W/m at 10°C
- FSR — FREEZSTOP REGULAR
- 2 — Supply Voltage 220 - 277V AC
- C — Metal Braid
- T — Thermoplastic Outerjacket

**MAXIMUM LENGTH (m) vs. CIRCUIT BREAKER SIZE:**

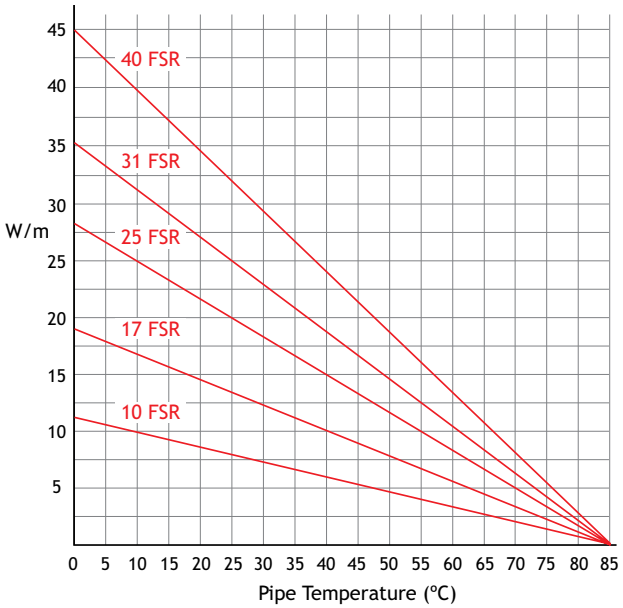
The following circuit details relate specifically to the trace heating of pipework and equipment. For any other application consult Heat Trace.

| Cat Reference | Start-up Temperature | 230V 10A | 16A | 20A | 32A |
|---|---|---|---|---|---|
| 10FSR | 10°C | 136 | 198 | 198 | 198 |
| | 0°C | 122 | 188 | 188 | 188 |
| | -20°C | 108 | 174 | 176 | 176 |
| | -40°C | 96 | 154 | 166 | 166 |
| 17FSR | 10°C | 92 | 148 | 152 | 152 |
| | 0°C | 84 | 134 | 144 | 144 |
| | -20°C | 74 | 118 | 136 | 136 |
| | -40°C | 66 | 106 | 128 | 128 |
| 25FSR | 10°C | 74 | 118 | 124 | 124 |
| | 0°C | 68 | 108 | 120 | 120 |
| | -20°C | 60 | 94 | 112 | 112 |
| | -40°C | 52 | 84 | 106 | 106 |
| 31FSR | 10°C | 58 | 92 | 112 | 112 |
| | 0°C | 52 | 84 | 104 | 106 |
| | -20°C | 46 | 74 | 92 | 100 |
| | -40°C | 42 | 66 | 82 | 94 |
| 40FSR | 10°C | 46 | 74 | 92 | 98 |
| | 0°C | 42 | 66 | 84 | 94 |
| | -20°C | 36 | 58 | 74 | 88 |
| | -40°C | 32 | 52 | 66 | 84 |

For use with Type C circuit breakers to IEC 60898

**THERMAL RATINGS:**

Nominal output at 115V or 230V when FSR 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.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Heat Trace Ltd, Mere's Edge, Chester Road, Helsby, Frodsham, Cheshire, WA6 0DJ, England.
Tel: +44 (0)1928 726451 Fax: +44 (0)1928 727846
www.heat-trace.com email: info@heat-trace.com





SRDS0102 (Aug 17)