HTS3F

Electrical heating cable for the heating of moderately long pipelines

LONGLINE

High Efficiency Series Resistance Three Phase Heating Cable

- *Circuit lengths up to 2km*
- *Single supply point – minimises supply cabling costs*
- *High efficiency, flat and flexible*
- *International Approvals for hazardous areas*
- *High power outputs – up to 60W/m*
- *Easy installation in convenient lengths*

APPLICATIONS

LONGLINE HTS3F is a series resistance, three phase constant power heating cable used for freeze protection or process temperature maintenance of moderately long pipelines, eg. up to 2km, in safe or hazardous areas.

A typical application is the temperature maintenance of crude or fuel oils in above ground, or buried transfer lines.

MINIMAL SUPPLY / DISTRIBUTION COSTS

LONGLINE minimises the number of electrical supplies needed and so minimises supply cabling / distribution equipment costs. Circuits are often fed at the pipe ends only.

FEATURES

Construction

The silicone rubber insulated conductors are sheathed with silicone rubber for flexibility.

A continuous conductive cover and over-jacket can be provided for additional mechanical protection or for grounding purposes. This is mandatory in hazardous areas.

The Design

Heating conductors are sized to produce the desired heat output for the circuit length required. The LONGLINE heaters are connected directly to the 3 phase mains voltage or, when required, to a step-up transformer.

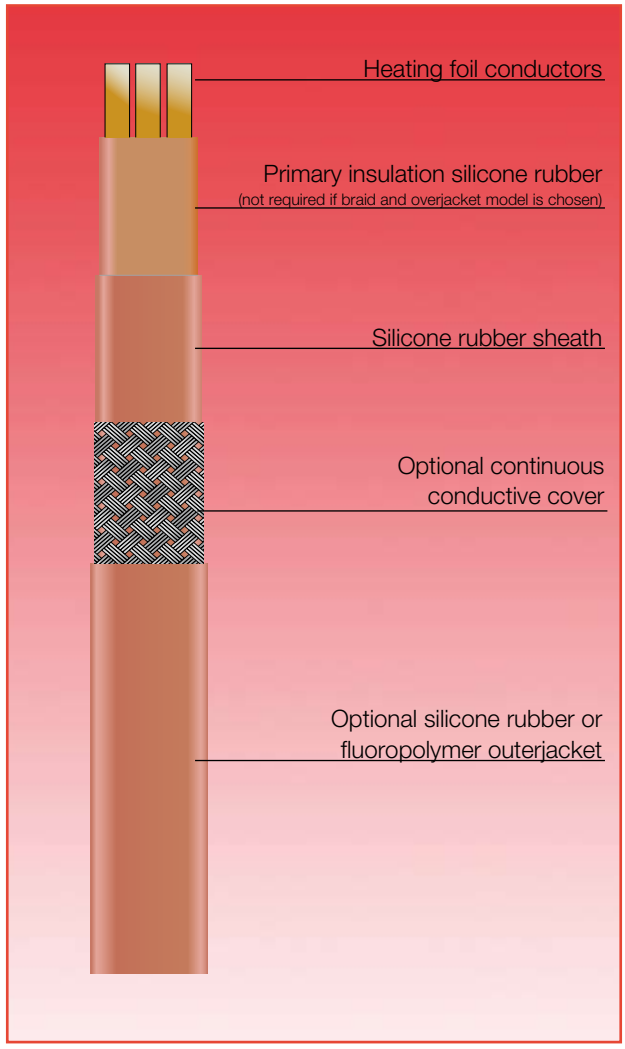
Improved Safety and Efficiency

The large heated surface of LONGLINE's flat foil construction results in lower operating temperatures than equivalent round conductor constructions thereby improving safety and system life. The high efficiency produces high power capability (up to 60W/m).

Installation

LONGLINE cable may be straight run or spiralled to above ground pipes. For buried lines, cables are usually drawn into channel raceways within a pre-insulated pipeline system.

Cable can be provided in lengths up to 1km, however, consideration must be given to handling and pay-off equipment at site.



LONGLINE – A COMPLETE SYSTEM

Reliability of the heating system is usually paramount. LONGLINE cables form only part of a high integrity LONGLINE heating system including power control, temperature control and circuit health monitoring/alarm equipment – all specifically developed and produced by Heat Trace Ltd.

CE 0518 EAC Ex FM APPROVED

LLDS0300 (Oct 14)

SPECIFICATION

MAXIMUM TEMPERATURE	Un-energised	230°C (446°F) 205°C (401°F)†
MINIMUM OPERATING TEMPERATURE		–80°C* (–112°F)
MINIMUM INSTALLATION TEMPERATURE	HTS3F-xS HTS3F-xF	–40°C (–40°F) –20° C (–4°F)
TEMPERATURE CLASSIFICATION	205°C (T2)† 230°C (T2) T3 (200°C) T4 (135°C) T5 (100°C) or T6 (85°C)	Devices are classified according to rated output and the conditions of use. ie. limited pipe temp.
POWER SUPPLY	up to 600V 3 phase according to design requirements	
POWER OUTPUT	up to 60W/m by design according to application requirements	

† denotes fluoroplymer outer jacket

APPROVAL DETAILS

Testing Authority		Certificate No.
ATEX	Ex	Sira 03ATEX3292
FM	FM APPROVED	3009080
EAC*	EAC	TC RU C-GB.ГБ05.B.00188

CONSTRUCTION

Heating conductors	Sized to suit application
Primary Insulation (where applicable)	Silicone Rubber
Sheath	Silicone Rubber
Continuous conductive cover (optional)	T-Copper/Aluminium
Over Jacket (optional)	Silicone Rubber or Fluoropolymer (MFA)

ORDERING INFORMATION

Example HTS3F-xF/1.0

- Silicone Rubber Sheath
- Three heating conductors
- Continuous conductive cover
- Fluoropolymer Over Jacket
- Conductor thickness (mm)

MAXIMUM PIPE/WORKPIECE TEMPERATURE

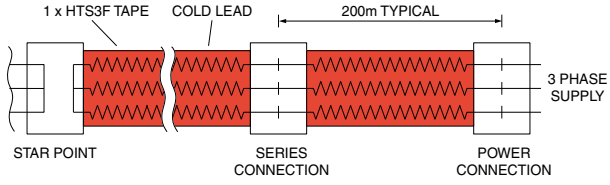
The surface of the heater must not exceed the maximum withstand temperature of its constructional materials or the Temperature Classification (if installed in a hazardous area). This is ensured by limiting the pipe or workpiece temperature to a safe level either by design calculation (a Stabilised Design) or by means of temperature controls.

For worst case conditions, the temperature of steel pipes should be limited to the following levels.

MAXIMUM PIPE/WORKPIECE TEMPERATURE (°C)

Cat Ref	Nom. Output (W/m)	Area Classification Hazardous T6	T5	T4	T3	T2	T1	Safe
HTS3F	10							217
	20							189
	30			NOT APPROVED				156
	40							128
	50							98
	60							50
HTS3F-x	10	47	66	107	181	217	217	217
	20	–	32	75	157	191	191	191
	30	–	–	41	132	163	163	163
	40	–	–	–	108	133	133	133
	50	–	–	–	76	97	97	97
	60	–	–	–	30	46	46	46
HTS3F-xS	10	57	73	112	181	207	207	207
	20	37	53	93	166	180	180	180
	30	–	31	73	152	157	157	157
	40	–	–	51	127	127	127	127
	50	–	–	27	92	92	92	92
	60	–	–	–	–	–	–	57
HTS3F-xF	10	57	73	112	181	192	192	192
	20	37	53	93	166	177	177	177
	30	–	31	73	152	165	165	165
	40	–	–	51	127	127	127	127
	50	–	–	27	92	92	92	92
	60	–	–	–	–	–	–	57

TYPICAL ARRANGEMENT



CIRCUIT PROTECTION

Circuit breakers, switch gear and supply cabling should be sized to cater for cold start-up conditions. O.E.M. Heaters will advise operating and start-up loads.

ACCESSORIES

O.E.M. Heaters supplies a complete range of accessories including termination/splice kits, end seals, junction boxes, controls and fixing tape. When used in hazardous areas, only use approved components.

O.E.M. HEATERS

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