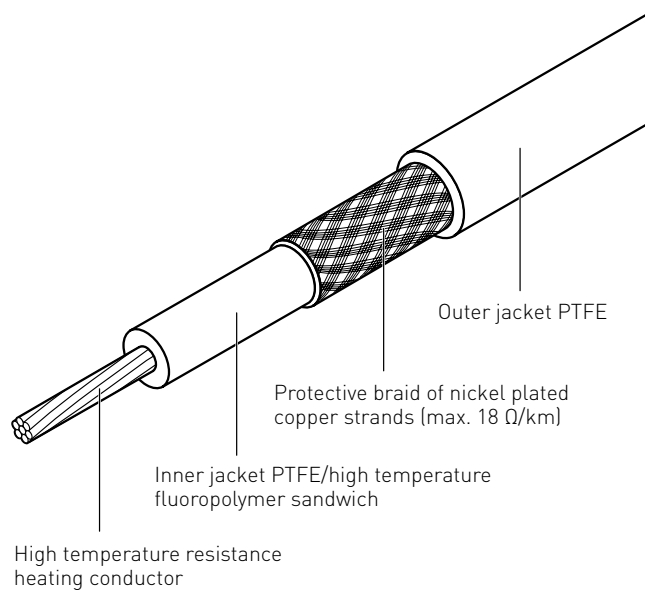


# Raychem XPI-S

## POLYMER INSULATED (PI) SERIES RESISTANCE HEATING CABLE

### HEATING CABLE CONSTRUCTION



XPI-S is a polymer insulated (PI) series heating cable, suitable for use in hazardous areas. It has been designed for use in freeze protection and temperature maintenance applications of pipes, tanks and other equipment. XPI-S is a re-enforced version of XPI, particularly suitable for areas with high demands on mechanical abuse of the heating cable. XPI-S offers an economical solution for a wide variety of heat-tracing applications, in particular for pipe lengths beyond the maximum circuit lengths of parallel heating cables (e.g. 250 m).


The inner insulation is a sandwich construction of high temperature fluoropolymer and PTFE, the outer insulation is made of PTFE. This unique construction is very easy to terminate, highly flexible and makes XPI a very safe and reliable product. It provides highest chemical withstand and most excellent mechanical strength, in particular at elevated temperatures.



XPI-S heating cables can be used for temperatures up to 260°C (continuous) and 300°C (intermittent short-term exposure). XPI-S is easy to install and has printed meter-marks. Pentair offers XPI-S heating cables in a very wide range of resistances, starting from 0.8 Ω/km up to 8000 Ω/km as well as a complete range of components for connection and splicing of the cables.

### APPLICATION

Area classification	Hazardous area, Zone 1 or Zone 2 (Gas) or Zone 21 or Zone 22 (Dust) Ordinary area
Chemical resistance	Organic and inorganic corrosives

### APPROVALS

System (heating units)	System (heating units) PTB 08 ATEX 1102X  II 2G/D Ex e II T2...T6 / Ex tD A21 IP65 T290...T80°C IECEx PTB 08.0051X Ex II 2G/D Ex e II T2...T6 / Ex tD A21 IP65 T290...T80°C
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Bulk cable	PTB 08 ATEX 1088 U  II 2G/D Ex e II / Ex tD A21 IECEx PTB 08.0049 U Ex II 2G/D Ex e II / Ex tD A21  TC RU C-BE.ME92.B.00056 1 Ex e II T6(80°C)...T2(290°C) Gb X Ex td A21 IP65 T6(80°C)...T2(290°C)
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Temperature classification (T-rating) has to be established by using the principles of stabilised design or the use of a temperature limiting device. Use TraceCalc design software or contact Pentair.

**TECHNICAL DATA**

Max. exposure temperature	260°C (power off, continuous), 300°C (power off, intermittent for max 1000 h)
Min. installation temperature	-70°C
Min. bending radius at -70°C	2.5 x cable diameter for cable diameter ≤ 6 mm 6 x cable diameter for cable diameter > 6 mm
Max. power output	35 W/m (typical value, depending on application)
Nominal voltage	Up to 450/750 Vac ( $U_0/U$ )
Min. impact resistance	7 Joule (as per EN 60079-30-1)
Min. clearance	20 mm between heating cables

**XPI-S HEATING CABLE REFERENCES**

Order Reference	Nominal resistance [Ω/km @ 20°C]	Temp. coefficient [ $\times 10^{-3}/K$ ]	Outer diameter [mm nom.]	Nom. weight [kg/km]	Part Number PN
XPI-S-0.8	0.8	4.3	11.9	405	1244-003047
XPI-S-1.1	1.1	4.3	10.1	307	1244-003048
XPI-S-1.8	1.8	4.3	8.6	209	1244-003049
XPI-S-2.9	2.9	4.3	7.1	149	1244-003050
XPI-S-4.4	4.4	4.3	6.5	116	1244-003051
XPI-S-7	7.0	4.3	5.9	88	1244-003052
XPI-S-10	10.0	4.3	5.8	84	1244-003053
XPI-S-11.7	11.7	4.3	5.6	76	1244-003054
XPI-S-15	15.0	4.3	5.5	71	1244-003055
XPI-S-17.8	17.8	4.3	5.3	68	1244-003056
XPI-S-25	25.0	3.0	5.5	72	1244-003057
XPI-S-31.5	31.5	1.3	5.9	82	1244-003058
XPI-S-50	50	1.3	5.5	72	1244-003059
XPI-S-65	65	1.3	5.4	66	1244-003060
XPI-S-80	80	0.7	5.7	75	1244-003061
XPI-S-100	100	0.4	5.8	79	1244-003062
XPI-S-150	150	0.4	5.8	78	1244-003063
XPI-S-180	180	0.33	5.6	71	1244-003064
XPI-S-200	200	0.40	5.7	72	1244-003065
XPI-S-320	320	0.18	5.8	76	1244-003066
XPI-S-380	380	0.18	5.7	73	1244-003067
XPI-S-480	480	0.18	5.6	70	1244-003068
XPI-S-600	600	0.18	5.4	67	1244-003069
XPI-S-700	700	0.18	5.4	65	1244-003070
XPI-S-810	810	0.04	5.5	69	1244-003071
XPI-S-1000	1000	0.04	5.4	67	1244-003072
XPI-S-1440	1440	0.04	5.6	69	1244-003073
XPI-S-1750	1750	0.04	5.5	67	1244-003074
XPI-S-2000	2000	0.35	5.8	74	1244-003075
XPI-S-3000	3000	0.35	5.6	69	1244-003076
XPI-S-4000	4000	0.35	5.4	65	1244-003077
XPI-S-4400	4400	0.1	5.5	66	1244-003078
XPI-S-5160	5160	0.1	5.5	66	1244-003079
XPI-S-5600	5600	0.1	5.4	63	1244-003080
XPI-S-7000	7000	0.1	5.4	61	1244-003081
XPI-S-8000	8000	0.1	5.3	60	1244-003082

Resistance tolerance: +10/-5%. In particular for cables < 31.5 Ω/km the resistance of the conductor materials is a function of temperature and the change must be considered for design purposes.

**RECOMMENDED COLD LEAD CABLES FOR XPI-S**

Nom. cross section [mm <sup>2</sup> ]	Current rating [A]	Outer diameter [mm nom.]	Nominal resistance [ $\Omega$ /km @ 20°C]	Temperature coefficient [ $\times 10^{-3}/K$ ]	Order reference	Part number PN
2.5	32	5.9	7.0	4.3	XPI-S-7	1244-003052
4	42	6.5	4.4	4.3	XPI-S-4.4	1244-z003051
6	54	7.1	2.9	4.3	XPI-S-2.9	1244-003050
10	73	8.6	1.8	4.3	XPI-S-1.8	1244-003049
16	98	10.1	1.1	4.3	XPI-S-1.1	1244-003048
25	129	11.9	0.8	4.3	XPI-S-0.8	1244-003047

Notes: Delivery length depends on type of resistance and is limited by max. weight of 120 kg/spool, respectively 1000 m/run. To ensure practical and safe on-site handling, it is strongly recommended to limit spool lengths to 25 - 30kg. Not all resistances are standard items and as such may not be in stock. Contact Pentair to confirm lead time.

Pentair requires the use of a 30 mA residual current device to provide maximum safety and protection from fire.

Where design results in higher leakage current, the preferred trip level for adjustable devices is 30 mA above any inherent capacitive leakage characteristic of the heater as specified by the trace heater supplier or alternatively, the next common available trip level for non adjustable devices, with a maximum of 300 mA. All safety aspects need to be proven.