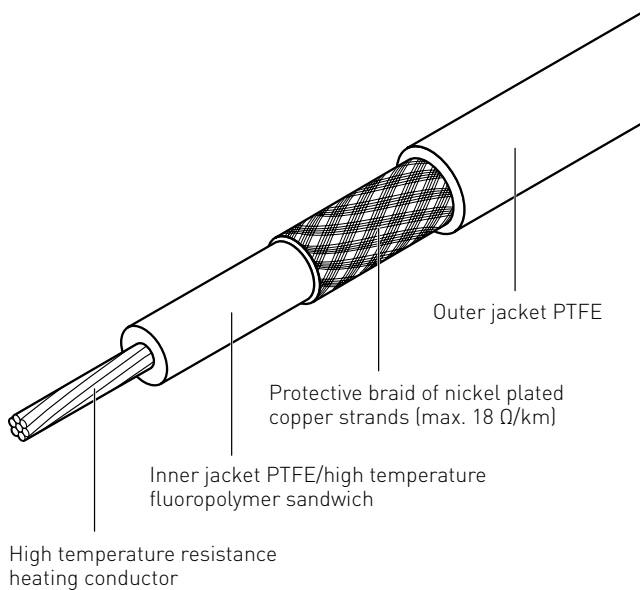


POLYMER INSULATED (PI) SERIES RESISTANCE HEATING CABLE

HEATING CABLE CONSTRUCTION



XPI 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 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.


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 excellent mechanical strength, in particular at elevated temperatures.

XPI heating cables can be used for temperatures up to 260°C (continuous) and 300°C (intermittent short-term exposure). XPI is easy to install and has printed meter-marks. SANTO offers XPI 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)	 (Russia, Kazakhstan, Belarus) For other countries contact your local SANTO representative.
------------------------	---

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 (U0/U)
Min. impact resistance	4 Joule (as per EN 60079-30-1)
Min. clearance	20 mm between heating cables

XPI HEATING CABLE REFERENCES

Order Reference	Nominal resistance [Ω/km @ 20°C]	Temp. coefficient [x 10 ⁻³ /K]	Outer diameter [mm nom.]	Nom. weight [kg/km]	Part Number PN
XPI-0.8	0.8	4.3	11.9	404	2000-087
XPI-1.1	1.1	4.3	10.1	306	2000-088
XPI-1.8	1.8	4.3	8.6	208	2000-089
XPI-2.9	2.9	4.3	6.9	143	2000-090
XPI-4.4	4.4	4.3	6.1	112	2000-091
XPI-7	7.0	4.3	5.5	83	2000-092
XPI-10	10.0	4.3	5.4	76	2000-093
XPI-11.7	11.7	4.3	5.2	65	2000-094
XPI-15	15.0	4.3	5.1	61	2000-095
XPI-17.8	17.8	4.3	4.9	57	2000-096
XPI-25	25.0	3.0	4.9	57	2000-097
XPI-31.5	31.5	1.3	5.3	67	2000-098
XPI-50	50	1.3	4.9	57	2000-099
XPI-65	65	1.3	4.8	53	2000-100
XPI-80	80	0.7	5.1	61	2000-101
XPI-100	100	0.4	5.2	67	2000-102
XPI-150	150	0.4	4.9	57	2000-103
XPI-180	180	0.33	4.7	51	2000-104
XPI-200	200	0.40	4.8	53	2000-105
XPI-320	320	0.18	4.9	56	2000-106
XPI-380	380	0.18	4.8	53	2000-107
XPI-480	480	0.18	4.7	51	2000-108
XPI-600	600	0.18	4.5	48	2000-109
XPI-700	700	0.18	4.5	46	2000-110
XPI-810	810	0.04	4.6	50	2000-111
XPI-1000	1000	0.04	4.5	48	2000-112
XPI-1440	1440	0.04	4.4	45	2000-113
XPI-1750	1750	0.04	4.3	43	2000-114
XPI-2000	2000	0.35	4.6	49	2000-115
XPI-3000	3000	0.35	4.4	45	2000-116
XPI-4000	4000	0.35	4.2	42	2000-117
XPI-4400	4400	0.1	4.3	43	2000-118
XPI-5160	5160	0.1	4.3	42	2000-119
XPI-5600	5600	0.1	4.2	41	2000-120
XPI-7000	7000	0.1	4.2	40	2000-121
XPI-8000	8000	0.1	4.1	40	2000-122

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 (cold lead cables from XPI-S can be used alternatively)

Nom. cross section [mm ²]	Current rating [A]	Outer diameter [mm nom.]	Nominal resistance [Ω /km @ 20°C]	Temperature coefficient [$\times 10^{-3}$ /K]	Order reference	Part number PN
2.5	32	5.5	7.0	4.3	XPI-7	2000-123
4	42	6.1	4.4	4.3	XPI-4.4	2000-124
6	54	6.9	2.9	4.3	XPI-2.9	2000-125
10	73	8.6	1.8	4.3	XPI-1.8	2000-126
16	98	10.1	1.1	4.3	XPI-1.1	2000-127
25	129	11.9	0.8	4.3	XPI-0.8	2000-128

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 - 30 kg. Not all resistances are standard items and as such may not be in stock. Contact SANTO to confirm lead time. SANTO 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.