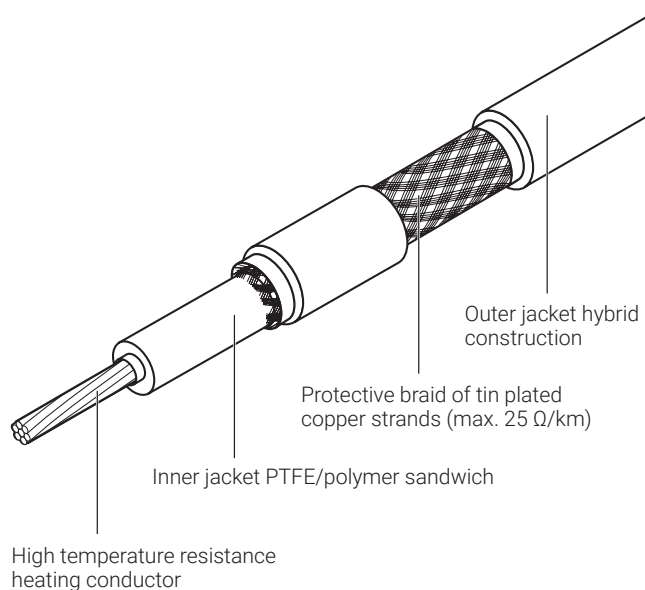


Polymer insulated (PI) series resistance heating cable

HEATING CABLE CONSTRUCTION



nVent RAYCHEM XPI-F is a polymer insulated (PI) series heating cable, suitable for use in ordinary and hazardous areas. It has been designed for freeze protection and low temperature maintenance applications on pipes, tanks and other equipment.

XPI-F 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 PTFE and PE, the outer insulation is a hybrid PE construction. The use of PTFE in the construction makes it very easy to terminate, provides flexibility, eliminates internal mechanical and thermal stress and makes XPI-F a very safe and reliable product. The PE provides a good chemical withstand and excellent mechanical strength.

XPI-F heating cables can be used for temperatures up to 90°C (continuous) and 100°C (intermittent short-term exposure), making it an ideal PI heating cable for transfer lines and large tanks with limited temperature requirements.

XPI-F is easy to install and has printed meter-marks. nVent offers XPI-F heating cables in a wide range of resistances, starting from 1.8 Ω/km up to 200 Ω/km as well as a complete range of components for connection and splicing.

APPLICATION

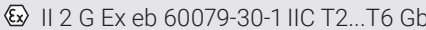
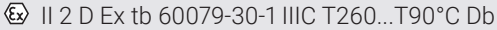
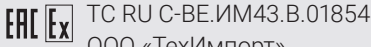
Area classification



Hazardous area, Zone 1 or Zone 2 (Gas) or Zone 21 or Zone 22 (Dust)
Ordinary area


Chemical resistance Organic corrosives

APPROVALS

Compliant to IEC EN 60079-0, IEC IEEE 60079-30-1, EN 60079-30-1

System (heating units) PTB 08 ATEX 1102X


IECEX PTB 08.0051X
Ex eb 60079-30-1 IIC T2...T6 Gb
Ex tb 60079-30-1 IIIC T260...T90°C Db

OOO «ТехИмпорт»
Ambient temp range: -60°C...+56°C
1Ex e IIC T4 Gb X
Ex tb IIIC T110°C Db X
Made in Germany

Bulk cable Baseefa15ATEX0158U


IECEX BAS 15.0105U
Ex 60079-30-1 IIC Gb
Ex 60079-30-1 IIIC Db

OOO «ТехИмпорт»
Ambient temp range: -60°C...+56°C
1Ex e IIC T4 Gb X
Ex tb IIIC T110°C Db X IP66
Made in Germany


* 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 nVent.

TECHNICAL DATA

Max. exposure temperature	90°C (power off, continuous), 100°C (power off, intermittent for max 1000 h)
Min. installation temperature	-60°C
Min. bending radius at -55°C	7.5 x cable diameter
Max. power output	20 W/m (typical value, depending on application)
Nominal voltage	Up to 300/500 Vac (U0/U)
Min. impact resistance	4 Joule (as per EN 60079-30-1)
Min. clearance	20 mm between heating cables

XPI-F 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-F-1.8	1.8	4.3	9,5	208	1244-018798
XPI-F-2.9	2.9	4.3	7,8	143	1244-018799
XPI-F-4.4	4.4	4.3	7,2	112	1244-018800
XPI-F-7	7	4.3	6,6	83	1244-018801
XPI-F-10	10	4.3	6,5	76	1244-018802
XPI-F-11.7	11.7	4.3	6,4	65	1244-018803
XPI-F-15	15	4.3	6,1	61	1244-018804
XPI-F-17.8	17.8	4.3	6	57	1244-018805
XPI-F-25	25	3	6	57	1244-018806
XPI-F-31.5	31.5	1.3	6,4	67	1244-018807
XPI-F-50	50	1.3	6	57	1244-018808
XPI-F-65	65	1.3	5,7	53	1244-018809

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-F-80	80	0.7	6,1	61	1244-018810
XPI-F-100	100	1.3	5,4	67	1244-018811
XPI-F-150	150	0.4	5,9	48	1244-018812
XPI-F-200	200	0.4	5,6	53	1244-018814

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-F (COLD LEAD CABLES FROM XPI CAN BE USED ALTERNATIVELY)

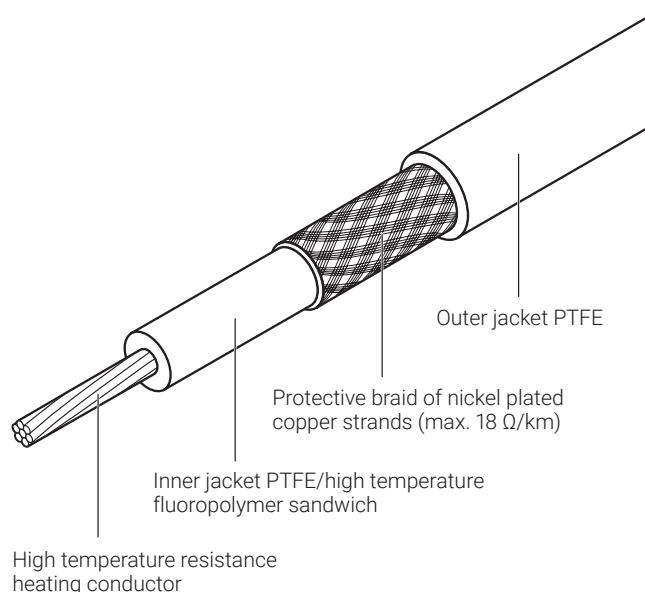
Nom. cross section [mm ²]	Current rating [A]	Outer diameter [mm nom.]	Nominal resistance [Ω/km @ 20°C]	Temperature coefficient [$\times 10^{-3}/K$]	Order reference	Part number PN
2.5	32	6.6	7	4.3	XPI-F-7	1244-018801
4	42	7.2	4.4	4.3	XPI-F-4.4	1244-018800
6	54	7.8	2.9	4.3	XPI-F-2.9	1244-018799
10	73	9.5	1.8	4.3	XPI-F-1.8	1244-018798

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 nVent to confirm lead time. nVent 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.

Polymer insulated (PI) series resistance heating cable

HEATING CABLE CONSTRUCTION



nVent RAYCHEM 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. nVent RAYCHEM 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)	PTB 08 ATEX 1102X  II 2 G Ex eb 60079-30-1 IIC T2...T6 Gb  II 2 D Ex tb 60079-30-1 IIIC T260...T90°C Db IECEx PTB 08.0051X Ex eb 60079-30-1 IIC T2...T6 Gb Ex tb 60079-30-1 IIIC T260...T90°C Db EAC  RU C-BE.ИМ43.В.01854 ООО «ТехИмпорт» Ambient temp range: -70°C...+56°C 1Ex e II T6 (80°C)...T2 (290°C) Gb X Ex tb IIIC T80°C...290°C Db X Made in Germany
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APPROVALS

Bulk cable	<p>Baseefa15ATEX0158U</p> <p> II 2 G Ex 60079-30-1 IIC Gb</p> <p> II 2 D Ex 60079-30-1 IIIC Db</p> <p>IECEX BAS 15.0105U</p> <p>Ex 60079-30-1 IIC Gb</p> <p>Ex 60079-30-1 IIIC Db</p> <p> RU C-BE.ИМ43.В.01854</p> <p>ООО «ТехИмпорт»</p> <p>Ambient temp range: -70°C...+56°C</p> <p>1Ex e II T6 (80°C)...T2 (290°C) Gb X</p> <p>Ex tb IIIC T80°C...290°C Db X IP66</p> <p>Made in Germany</p> <p> Ex e IIC Gb</p>
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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 nVent.

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	1244-000189
XPI-1.1	1.1	4.3	10.1	306	1244-000201
XPI-1.8	1.8	4.3	8.6	208	1244-000182
XPI-2.9	2.9	4.3	6.9	143	1244-000202
XPI-4.4	4.4	4.3	6.1	112	1244-000190
XPI-7	7	4.3	5.5	83	1244-000203
XPI-10	10	4.3	5.4	76	1244-000204
XPI-11.7	11.7	4.3	5.2	65	1244-000183
XPI-15	15	4.3	5.1	61	1244-000191
XPI-17.8	17.8	4.3	4.9	57	1244-000178
XPI-25	25	3	4.9	57	1244-000192
XPI-31.5	31.5	1.3	5.3	67	1244-000205
XPI-50	50	1.3	4.9	57	1244-000184
XPI-65	65	1.3	4.8	53	1244-000206
XPI-80	80	0.7	5.1	61	1244-000193
XPI-100	100	0.4	5.2	67	1244-000207
XPI-150	150	0.4	4.9	57	1244-000185
XPI-200	200	0.4	4.8	53	1244-000195
XPI-320	320	0.18	4.9	56	1244-000653
XPI-380	380	0.18	4.8	53	1244-000180
XPI-480	480	0.18	4.7	51	1244-000208
XPI-600	600	0.18	4.5	48	1244-000196

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-700	700	0.18	4.5	46	1244-000186
XPI-810	810	0.04	4.6	50	1244-000209
XPI-1000	1000	0.04	4.5	48	1244-000197
XPI-1440	1440	0.04	4.4	45	1244-000211
XPI-1750	1750	0.04	4.3	43	1244-000198
XPI-2000	2000	0.35	4.6	49	1244-000187
XPI-3000	3000	0.35	4.4	45	1244-000212
XPI-4000	4000	0.35	4.2	42	1244-000199
XPI-4400	4400	0.1	4.3	43	1244-000181
XPI-5160	5160	0.1	4.3	42	1244-000654
XPI-5600	5600	0.1	4.2	41	1244-000188
XPI-7000	7000	0.1	4.2	40	1244-000213
XPI-8000	8000	0.1	4.1	40	1244-000200

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)

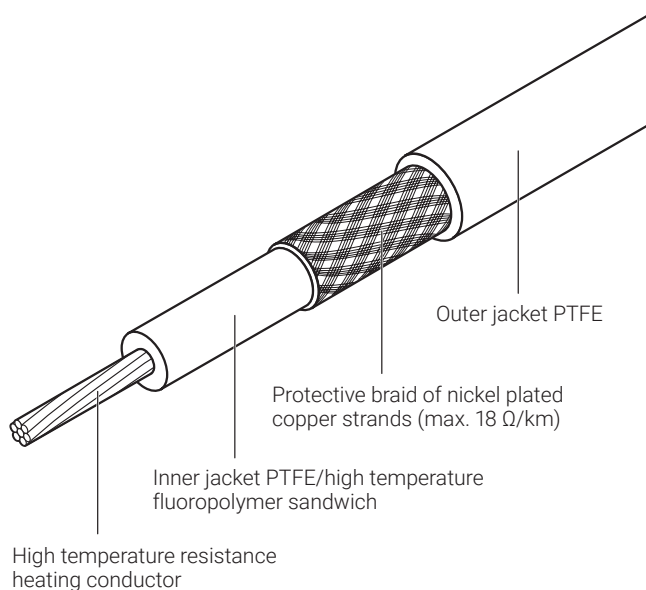
Nom. cross section [mm ²]	Current rating [A]	Outer diameter [mm nom.]	Nominal resistance [Ω/km @ 20°C]	Temperature coefficient [$\times 10^{-3} / K$]	Order reference	Part number PN
2.5	32	5.5	7	4.3	XPI-7	1244-000203
4	42	6.1	4.4	4.3	XPI-4.4	1244-000190
6	54	6.9	2.9	4.3	XPI-2.9	1244-000202
10	73	8.6	1.8	4.3	XPI-1.8	1244-000182
16	98	10.1	1.1	4.3	XPI-1.1	1244-000201
25	129	11.9	0.8	4.3	XPI-0.8	1244-000189

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 nVent to confirm lead time. nVent 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.

Polymer insulated (PI) series resistance heating cable

HEATING CABLE CONSTRUCTION



nVent RAYCHEM 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. nVent RAYCHEM 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 2 G Ex eb 60079-30-1 IIC T2...T6 Gb  II 2 D Ex tb 60079-30-1 IIIC T260...T90°C Db IECEx PTB 08.0051X Ex eb 60079-30-1 IIC T2...T6 Gb Ex tb 60079-30-1 IIIC T260...T90°C Db  TC RU C-BE.ИМ43.В.01854 ООО «ТехИмпорт» Ambient temp range: -70°C...+56°C 1Ex e II T6 (80°C)...T2 (290°C) Gb X Ex tb IIIC T80°C...290°C Db X IP66 Made in Germany
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APPROVALS

Bulk cable	<p>Baseefa15ATEX0158U</p> <p> II 2 G Ex 60079-30-1 IIC Gb</p> <p> II 2 D Ex 60079-30-1 IIIC Db</p> <p>IECEX BAS 15.0105U</p> <p>Ex 60079-30-1 IIC Gb</p> <p>Ex 60079-30-1 IIIC Db</p> <p> TC RU C-ВE.ИМ43.В.01854</p> <p>ООО «ТехИмпорт»</p> <p>Ambient temp range: -70°C...+56°C</p> <p>1Ex e II T6 (80°C)...T2 (290°C) Gb X</p> <p>Ex tb IIIC T80°C...290°C Db X</p> <p>Made in Germany</p> <p> Ex e IIC Gb</p>
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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 nVent.

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	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	4.3	5.9	88	1244-003052
XPI-S-10	10	4.3	5.8	84	1244-003053
XPI-S-11.7	11.7	4.3	5.6	76	1244-003054
XPI-S-15	15	4.3	5.5	71	1244-003055
XPI-S-17.8	17.8	4.3	5.3	68	1244-003056
XPI-S-25	25	3	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-200	200	0.4	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

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-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 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	5.9	7	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 nVent to confirm lead time.

nVent 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.