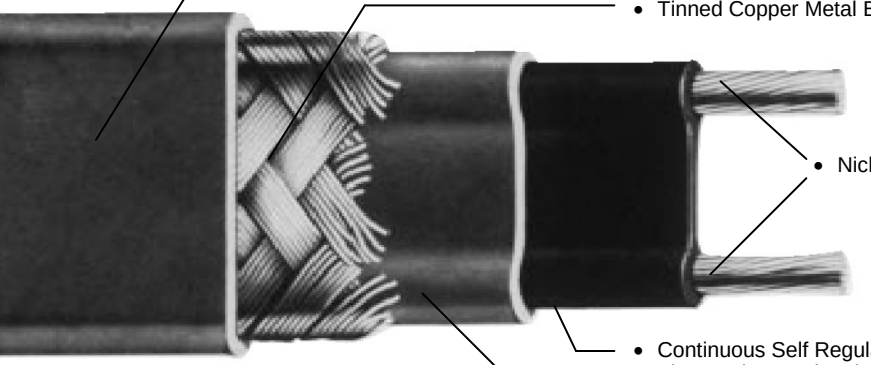
NELSON™

230V TYPE HLT SELF-REGULATING HEATER CABLE

SPECIFICATION / APPLICATION INFORMATION



HLT25-J
HLT210-J
HLT215-J
HLT220-J

Description:

Nelson's Self-Regulating Heater Cable Type HLT is a parallel circuit electric heater strip. A conductive fluoropolymer core material is extruded over the multi-stranded, nickel-plated, 16 gauge copper bus wires. A fluoropolymer jacket provides excellent dielectric strength, moisture resistance, protection from impact and abrasion damage, and a wide range of chemical resistance.

A stranded tinned copper metal braid and fluoropolymer overjacket is supplied on all heaters.

Operating Principle:

The parallel bus wires apply voltage along the entire length of the heater cable. The conductive core provides a continuous parallel heating element permitting the cable to be cut to any length in the field with no dead or cold zones developing. The heater cable derives its self-regulating characteristic from the inherent properties of the conductive core material. As the core material temperature increases, the number of conductive paths in the core material decreases, automatically decreasing the heat output. As the temperature decreases, the number of conductive paths increases, causing the heat output to increase. This occurs at every point along the length of the cable, adjusting the power output to the varying conditions along the pipe. As the cable self-regulates its heat output, it limits the maximum sheath temperature, while also providing useful power for process temperature maintenance

Specifications:

Maintain Temperature	120°C
Maximum Continuous Exposure Temperature	120°C (continuous power on)
Maximum Intermittent Exposure Temperature	190°C (1000 hours cumulative exposure)
Temperature Classification (T Code)	T3 (200°C) as per IEC 60079 standards
Bus Wire Size	1.22mm²
Tinned Copper Braid Resistance	Maximum 0.015 Ω/m
Product Dimensions (Nominal)	5.1mm x 10.5mm
Product Weight	112.0 g/m
Minimum Installation Temperature	-40°C
Minimum Bend Radius	25mm at -40°C

Application:

Nelson's Type HLT self-regulating heater cable is ideal for maintaining fluid flow over a wide range of operating temperatures. The product is used for freeze protection of periodically steam (200 psig) cleaned pipes and temperature maintenance for 250°F (121°C) or lower processes. Typical applications include hydrocarbon and chemical product piping. The base product is supplied with a tinned copper metal braid that may be used in both general applications and in dry, non-corrosive hazardous (classified) areas. It is also used to provide a conductive ground path when cable is installed on non-conductive surfaces, such as plastic or painted pipe.

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Performance and Rating Data:

Catalog Number	Service Voltage	Maximum Length, m	Maximum Maintenance Temperature	Maximum Intermittent Exposure	T-Rating*
HLT25	230	155	120°C	190°C	T3
HLT210	230	115	120°C	190°C	T3
HLT215	230	95	120°C	190°C	T3
HLT220	230	75	120°C	190°C	T3

* Electrical equipment T-rating codes define the maximum surface temperature that equipment will reach. It is intended for applications in potentially explosive atmospheres – Directive 94/9/EC.

Circuit Breaker Selection:

		Total Heater Length in Meters Vs. Circuit Breaker Size				
		240 Volt				
Watts/M	Start-up Temp.	16A	20A	25A	32A	40A
15	+10°C	174	218	272	348	435
	-5°C	161	201	251	322	402
	-20°C	149	187	234	299	374
	-30°C	143	178	223	286	357
32	+10°C	99	124	155	199	249
	-5°C	93	116	145	185	231
	-20°C	87	108	135	173	217
	-30°C	83	104	130	166	208
46	+10°C	70	87	109	139	174
	-5°C	65	81	102	130	163
	-20°C	61	71	96	123	153
	-30°C	59	74	92	118	147
63	+10°C	53	66	83	106	133
	-5°C	51	63	79	101	126
	-20°C	48	60	75	96	120
	-30°C	47	58	73	93	117

NOTES:
1. The circuit length values shown above are for estimation only.
2. Total Heater Length is the total length of heater cable that can be installed on a breaker without tripping either under start-up or operating conditions. Values may indicate that multiple heater segments must be installed on the breaker with none of the segments exceeding the Maximum Segment Lengths- as shown in the Performance and Rating table.
3. For detailed information on maximum circuit lengths or additional values, refer to Nelson Heat Tracing Systems Selection software or contact your local Nelson representative for assistance.

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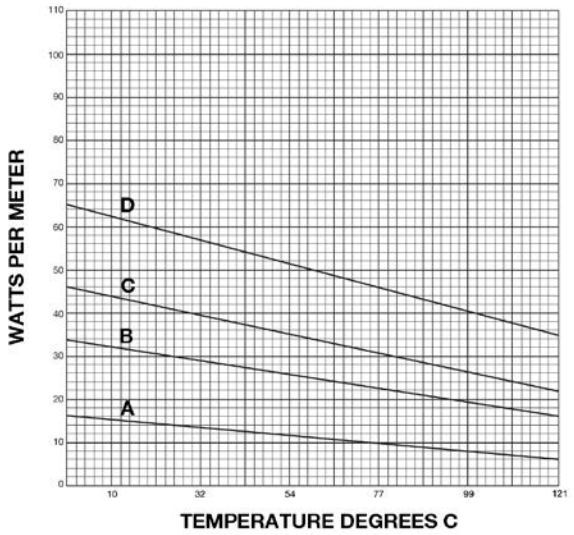
Power Output Rating:



Power output on insulated metallic pipe at 230VAC

A	B	C	D
HLT25-J	HLT210-J	HLT215-J	HLT220-J
Power Output (watts per meter at 10°C)			
15	32	46	63

Approvals:

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
ATEX: EN 60079-0: 2009, EN 60079-30-1: 2007
IECEx: IEC 60079-0: 2004, IEC 60079-30-1: 2005

CE 0344
KEMA 07ATEX0124

II 2 G D

KEM 07.0041
Ex e II T3 for HLT Series
Ex tD A21 IP66 T195°C for HLT Series

-40ºC ≤ Tamb ≤ 55ºC

Accessories:

- Connection Kits for Power Connection, Tee Splice, Splices and End Seals (Nelson Z1-PLT Series, Z1-ALT Series, and Component Series)
- Thermostatic Controls (Nelson TA and TH Series)
- Enclosures, Tapes and Warning Signs

Nelson Heat Tracing Systems products are supplied with a limited warranty. Complete Terms and Conditions may be found on Nelson's website at www.nelsonheaters.com.

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