

Testing and Troubleshooting Trace Heating Cable

TESTING SELF-REGULATING CABLE

A test should be performed when the heating cable is received, prior to installation and after installation using a 500 VDC megger.

Note: Do not use a megger in excess of 2500 VDC.

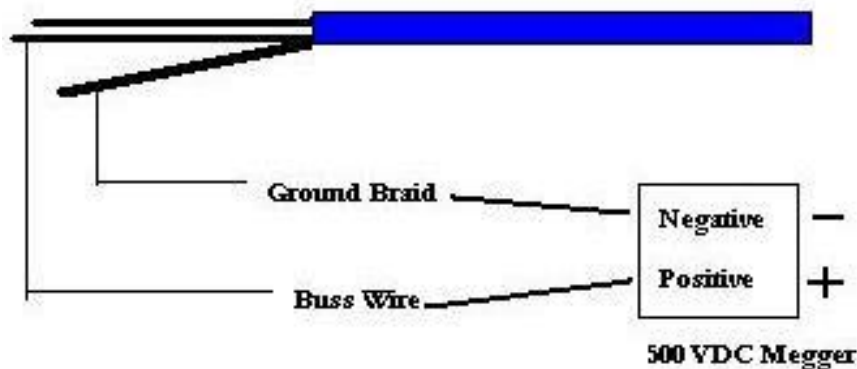
Detecting cable damage prior to the application of insulation can prevent additional labor costs.

Minimum readings of 20 M Ohms for each circuit is an acceptable level to test for.

A record should be kept of the reading after the cable has been installed. This reading can be used as a reference point when taking future readings during regular maintenance.

A history of resistance readings can be useful in spotting moisture ingress into the cable from either junction boxes or physical damage to the cable.

See the following page for a “Test Report” template.





HEATING CABLE TESTING REPORT

Customer _____ Contractor _____

Phone No. _____ Phone No. _____

Site Location _____ Project Ref. _____

Readings Prior to Installation:

Cable Reference No _____ Heater Length _____

Insulation Resistance (MOhm) _____

Tested By _____ Date _____

Witnessed By _____ Date _____

Readings after Installation:

Insulation Resistance (MOhm) _____

Tested By _____ Date _____

Witnessed By _____ Date _____

Final Readings:

Insulation Resistance (MOhm) _____

Panel No. _____ Breaker No. _____

Ambient Temp. _____ Volts _____ Amps _____

Tested By _____ Date _____

Witnessed By _____ Date _____

TROUBLESHOOTING SELF-REGULATING HEATING CABLE

<u>Symptom</u>	<u>Probable Cause</u>	<u>Remedy</u>
Circuit Breaker Trips	Breaker undersized for the length of the cable on that circuit	Revisit the current loads and resize breakers or shorten the cable run lengths Note: Check Feeder wire size to confirm a larger breaker may be used
	Start-up temperature too low	Start cables up at a higher temperature by adding a thermostat
	Physical damage to cable causing a short	Locate and repair
	Bus wires touching at the end seal	Locate and repair
	Heating cable connections or feeder wire may be shorting out either by contaminations, moisture, or contact between wires in the connection	Locate and repair
Zero power output	Low or no input voltage	Repair electrical supply
	Connections not properly made	Repair connections
	Pipe is at elevated temperature	Check pipe temperature and recalculate the output wattage
	Heating cable has been exposed to excessive temperature	Replace the heating cable with appropriate temperature rated cable
Power output is correct but pipe temperature is below design values	Insulation is wet or open exposing the pipe to the ambient air.	Remove and replace with dry insulation
	Insufficient cable was installed on pipe shoes, valves or other heat sinks	Splice in additional cable BUT do not exceed the maximum circuit length for the breaker size
	Thermostat setting is incorrect	Adjust thermostat to correct setting.
	Incorrectly designed.	Revisit the design conditions and criteria