

PART 1 - GENERAL

- 1.1 SUMMARY .1 Heat tracing cables for pipes and tanks including controls and installation.
- .3 Related Requirements
.1 Section 26 50 00 - Common Work Results for Electrical.
- 1.2 REFERENCES .1 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
.1 Material Safety Data Sheets (MSDS).
- 1.3 ACTION AND INFORMATIONAL SUBMITTALS .1 Product Data:
.1 Submit manufacturer's printed product literature, specifications and datasheet in accordance with Section 01 33 00. Include product characteristics, performance criteria, and limitations.
.1 Submit two copies of Workplace Hazardous Materials Information System (WHMIS) Material Safety Data Sheets (MSDS) in accordance with Section 01 33 00.
- .2 Quality assurance submittals: submit following in accordance with Section 01 33 00.
.1 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .3 Instructions: submit manufacturer's installation instructions.
.1 Departmental Representative will make available 1 copy of systems supplier's installation instructions.
- 1.4 QUALITY ASSURANCE .1 Health and Safety:
.1 Do construction occupational health and safety in accordance with Section 01 35 29.06.
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- 1.5 DELIVERY, STORAGE, AND HANDLING
- .1 Packing, shipping, handling and unloading:
 - .1 Deliver, store and handle in accordance with manufacturer's written instructions and Section 01 61 00.
 - .2 Waste Management and Disposal:
 - .1 Construction/Demolition Waste Management and Disposal: separate waste materials for reuse and recycling in accordance with Section 01 74 20.

PART 2 - PRODUCTS

- 2.1 SUSTAINABLE REQUIREMENTS
- .1 Materials and products in accordance with Section 01 47 15.
- 2.2 PIPE/TANK TRACING HEATING CABLES
- .1 Type D: self-regulating conductive polymer core around nickel-plated copper bus wires, modified polyolefin inner jacket, tinned-copper braid shield and polyolefin outer jacket. Heating capacity: 26.25 W/m; for use with 120 V power supply.
- 2.3 CONTROLS
- .1 Thermostat: Electronic type, enclosed in polycarbonate housing with clear lid, LED indicator lights for "power available" (green), "heating cable on" (green) and "sensor failure" (red), SPST (normally open) switch, set point range of -1°C to 43°C, accuracy of ±1.7°C, rated 30 A 120/277 VAC.
 - .2 Sensor cable connected to thermostat: thermistor type, 10K ohm, 3 wire (twisted shielded pair plus ground), sensor sheath of Type 304 stainless steel, 20 AWG stranded copper leads in PVC overall jacket.
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PART 3 - EXECUTION

- 3.1 MANUFACTURER'S INSTRUCTIONS .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.
- 3.2 INSTALLATION .1 Install Type D heating cables in accordance with manufacturer's instructions. Distribute and fasten cable evenly on pipe using pipe strap and aluminum tape at maximum spacing 0.5 m. Ensure that heating cables do not touch or cross each other. Run only cold leads in conduit and ensure sensor does not touch cable. Ground shield to building ground. Coordinate cable installation with insulation application. Loop additional cable at fittings, valves, and flanges.
- .2 Make power and control connections.
- 3.3 FIELD QUALITY CONTROL .1 Tests:
.1 Perform tests in accordance with Section 26 05 00.
- .2 Use 500 V Megger to test cables for continuity and insulation value and record readings before, during and after installation.
- .3 Where resistance of 50 megohms or less is measured, stop work and advise Departmental Representative.
- 3.4 CLEANING .1 Proceed in accordance with Section 01 74 11.
- .2 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.