



WORK INSTRUCTION

CABLE AND COIL HEATER TYPICAL FUNCTIONAL FLOW

REVISION: 03

PROCEDURE NO.: WI-8.2.4.35

DATE EFFECTIVE: 04/23/26

	Operation Description	Documentation Clarifying Characteristics (as applicable for each operation)	Monitoring & Measurement Activities	Monitoring & Measurement Records/Check Lists
1	Bare Wire Cutting	Specification Sheet (drawing and BOM)	➤ 1 st piece Verification using tape measure and micrometer to measure length & diameter	Order Tracker
2	Wire Cleaning	Per procedure WI-8.2.4.23	➤ As required per WI-8.2.4.23 Procedure	Order Tracker
3	Resistance Wire Winding	Specification Sheet (drawing and BOM)	➤ 100% Verification using a multimeter/ohmmeter to check for resistance, a micrometer to measure mandrel diameter and tape measure to check coil length	Order Tracker
4	Splicing/Welding resistance wire to nickel wire	Specification Sheet (drawing and BOM)	➤ 100% Visual Inspection	Order Tracker
5	Tube cleaning	Per procedure WI-8.2.4.32	➤ As required per WI-8.2.4.32 Procedure	Order Tracker
6	Pointing tube	Per procedure WI-8.2.4.20	➤ 1 st Piece Verification on Set-up using tape measure and micrometer to measure length & diameter of the point ➤ Ongoing Verification based on Random Samples	Order Tracker
7	Stringing	Specification Sheet (drawing and BOM)	➤ 1 st piece Verification using a tape measure to check assembly length	Order Tracker
8	Filling	Specification Sheet (drawing and BOM)	➤ 100% Visual Inspection	Order Tracker
9	Reduction/Drawing or Swaging and annealing	Per procedure WI-8.2.4.20	➤ 1 st piece Verification on set-up using micrometer to measure diameter ➤ Ongoing verification based on random samples	Order Tracker
10	Heater Cable Cutting and stripping	Specification Sheet (drawing and BOM)	➤ 100% dimensional check using tape measure	Order Tracker
11	Junction Welding	Specification Sheet (drawing and BOM)	➤ Continuity test using a multimeter ➤ IR test using a Hypot meter ➤ Visual junction inspection	Order Tracker



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12	<p>Tube End Welding</p> <ul style="list-style-type: none"> ➤ Welding ➤ Cleaning/Deburring 	<p>Specification Sheet (drawing and BOM) and per and Welding Work Instruction</p>	<ul style="list-style-type: none"> ➤ Visual inspection ➤ Reference WI-8.2.4.10 	<p>Order Tracker</p>
13	<p>Forming/Coiling</p>	<p>Specification Sheet</p>	<ul style="list-style-type: none"> ➤ 100% Verification using tape measure and caliper to measure coil length & dimensions as required 	<p>Order Tracker</p>
14	<p>Cable to Wire Transition</p> <ul style="list-style-type: none"> ➤ Insulated wire check ➤ Silver solder wire to cable ➤ Sandblast/cleaning ➤ Pre-potting (cement) 	<p>Specification Sheet</p> <p>Soldering per procedure WI-8.2.4.18</p>	<ul style="list-style-type: none"> ➤ Visual inspection 	<ul style="list-style-type: none"> ➤ Wire tickets to be signed with operator's initials ➤ Order Tracker after completion
15	<p>Potting</p> <ul style="list-style-type: none"> ➤ Epoxy Seal or ➤ Hi-Temp cement ➤ Curing/Baking 	<p>Specification Sheet</p>	<ul style="list-style-type: none"> ➤ Visual Inspection and/or baking as required per WI-8.2.4.33 Procedure ➤ IR and/or Hypot test using a Hypot meter 	<p>Order Tracker</p>
16	<p>Heat Test/Thermal Cycle</p>	<p>Per Procedure WI-8.2.4.22</p>	<ul style="list-style-type: none"> ➤ Visual inspection 	<p>Order Tracker</p>
17	<p>Identification (label or stencil)</p>	<p>Specification Sheet</p>	<ul style="list-style-type: none"> ➤ Visual Inspection 	<p>Order Tracker</p>
18	<p>Final Department Inspection</p>	<p>Per Procedure WI-8.2.4.22</p>	<ul style="list-style-type: none"> ➤ Visual Inspection ➤ Dimensional check ➤ Identification label check ➤ Continuity test and polarity test (for T/C) using a multimeter ➤ Resistance check using a multimeter/ohmmeter ➤ IR and/or Hypot test using a Hypot meter ➤ MO/Specification sheet matching for P/N, part description and stamp info 	<ul style="list-style-type: none"> ➤ Order Tracker ➤ Ohms measurements are recorded on the specification sheet or documented separately if required by the customer

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REVISION HISTORY

REVISION LEVEL	DATE OF REVISION	SECTIONS	DESCRIPTION OF CHANGE
00	05/28/09	All	Initial release
01	05/28/10	All	A reference to WI-8.2.4.10 was added on item 12 in the "monitoring & measurement activities" box. A reference to WI-8.2.4.33 was added on line 15 in the "monitoring & measurement activities" box.
02	02/16/16		Added Soldering per procedure WI-8.2.4.18 to Operation 14 column 2
03	04/23/26	All	Updated branding Revised sections: 1, 2, 3, 6, 7, 9, 11, 13, 14, 15, 18 Removed section 19.

AUTHORIZATION

POSITION	HELD BY	AUTHORIZATION SIGNATURE OR INITIALS
Prepared By: Product Engineering Manager	Jason Dour	
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