

DEPARTMENT: QUALITY	Doc. No.: 8.4.3
TITLE: Flow Down of Customer Quality System Requirements	Date Issued: 01/20/2017 Date Revised: 02/21/2022

Purpose: This procedure provides a method for flowing down requirements to suppliers.

Scope: Quality Management System for RTI Advanced Forming Inc., which includes but not limited to ISO 9001 and AS9100 standards.

Reference Documents

Q107.4 Purchasing
 Q-108.1AFI Corrective Actions
 Appendix A for 8.4.3. Quality Code Matrix

1. Application

1.1. Purchase order/Conversion releases issued to RTI Advanced Forming Inc. suppliers shall contain Code 1, where applicable. These may contain additional codes listing other requirements that apply.

2. Responsibility

- 2.1. The Quality system requirements for the supplier will be identified in Code 1 for that supplier on the Appendix A Quality Code Matrix.
- 2.2. Quality and/or designee is responsible for the flow down of RTI Advanced Forming Inc. and/or customer/government requirements defined by this procedure. At the time of issuance of the purchase order/conversion release the applicable codes and descriptions shall be added.
- 2.3. By accepting the purchase order, the supplier/contractor shall also be indicating that they accept all identified flow downs.
- 2.4. The supplier is responsible for meeting requirements of appendix A code 1 and any other applicable codes that are unique to their process.
- 2.4.1. The supplier shall tag all non-conforming material with the appropriate information, before shipment to RTI Advanced Forming Inc. The Quality Engineer or designee will determine if any additional information is needed from the supplier.

3. Flow down

3.1. Characteristic Flow down

Where a critical characteristic is to be flowed down to a supplier, the characteristic shall be documented on the Purchase Order/Conversion Release. A complete description of the characteristic and what is expected from the supplier shall be detailed.

3.2. System Flow downs

In addition to Code 1, Arconic shall also flow down Quality Systems and/or Government Requirements to the extent necessary to ensure that characteristics not verifiable upon receipt are adequately controlled by the supplier. This shall be done via the Purchase Order/Conversion Release.

3.3. Responsibility

Procurement and Quality will be responsible for the administration of this procedure.

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4. Codes

4.1. The supplier requirements matrix details codes which may be flowed down (See Attached Appendix A, QCode Matrix).

5. Country of Origin

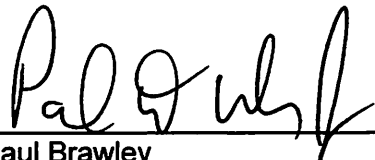
5.1. If requested, supplier shall disclose to RTI Advanced Forming Inc. on an annual basis on a conflict minerals reporting template if any material contains tin, tantalum, tungsten or gold (“3TGs”) that is necessary to the functionality or production of such material manufactured by you or supplied by you to RTI Advanced Forming Inc. and use commercially reasonable efforts to conduct a reasonable country of origin inquiry to determine the country of origin of 3TGs. Supplier further agrees to provide any additional documentation requested by RTI to ensure compliance with Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Act”).

5.2. If supplier identifies that the country of origin of the 3TGs is the Democratic Republic of the Congo or its adjoining countries, Angola, Burundi, Central African Republic, Rwanda, South Sudan, Tanzania, Uganda, and Zambia, then it shall use commercially reasonable efforts to conduct and assist RTI Advanced Forming Inc. in conducting due diligence on the chain of custody of the source of the 3TGs for the purpose of identifying the smelter of those 3TGs. In addition, supplier agrees to require of its lower tier sellers this same obligation.

Uncontrolled

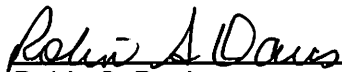
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Approved by:



 Paul Brawley
 Quality Manager

2/22/22
Date



 Robin S. Davis
 Procurement Manager

2/22/22
Date

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CHANGE HISTORY:

This is a newly issued specification dated 1/20/2017, formerly known as Q-023.

3/16/2018 – Revised by Bradon Hayes to add updated appendix A and update company name throughout document. BH

4/18/2019 – Revised by Brandon Hayes to add updated appendix A, removed Quality assurance from section 4.2 and replaced with “Quality and or designee”. All references to Q-203 as the flowdown matrix were removed and replaced with Appendix A Quality Code Matrix. BH

9/10/2020 – Revised by Paul Elliott as follows:

- Removed multiple documents from Reference Documents section and added Q107.4
- Replaced references to variants of “Arconic” with “RTI Advanced Forming Inc.”
- Revised sections 4.4 and 4.4.1
- Removed section 4.4.2
- Made slight wording changes to various Q-Codes in Appendix A
- Made signification additions and slight modifications to Q-Code 20.1 in Appendix A

02/21/2022 – Appendix A Revised by Supplier Q-Code Review Team (Shannon Robinson, William Knowles, Stephanie Ward, Jeremy Busse-Jones, and Paul Brawley), the following changes have been made:

- Reworded Code 1.2 (Incorporated Code 13 into 1.2)
- Reworded Code 1.5
- Reformatted Code 1.9
- Revised Code 1.13 (Incorporated Code 11 into 1.13)
- New Code 1.20 (Incorporated Code 6 into 1.20)
- New Code 1.21
- Revised Code 7 to include DPD statement
- Reworded Code 38
- Removed Code 47 and 48
- Added Codes 49, 50, 51 and 52
- Removed rows for Codes that were removed

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Appendix A

Quality Code Matrix Appendix A for 8.4.3		
Code	Subject	Requirements
1	Quality System Requirements	<p>1.1) The supplier has meet all applicable internal requirements of RTI Advanced Forming Inc., Purchasing requirments</p> <p>1.2) The supplier is responsible for meeting all requirements of specifications, drawings and other purchase order instructions relating to the following:</p> <p style="margin-left: 20px;">a) Requirements for approval of product or process</p> <p style="margin-left: 20px;">b) Personnel qualifications</p> <p style="margin-left: 20px;">c) Requirements for inspection, testing and certification</p> <p style="margin-left: 20px;">d) Supplier procedures for approving and implementing specifications & operating procedures shall include how all changes or additions are documented and controlled</p> <p style="margin-left: 20px;">e) Supplier procedures shall include how obsolete specifications & operating procedures are removed from service and how current ones are put into service</p> <p style="margin-left: 20px;">f) Supplier procedures shall include how RTI Advanced Forming Inc. is notified of all significant changes in the processing of material.</p> <p>1.3) Supplier procedure shall include what production records, test records and test samples are kept and where the records and test samples are stored for final retention.</p> <p>1.4) Supplier procedure shall include the minimum time each record and test samples are kept.</p> <p>1.5) Supplier shall retain purchaser's records for a minimum of 10 years unless otherwise specified.</p> <p>1.6) The supplier shall notify RTI Advanced Forming Inc. of any change in product and/or process definition.</p> <p>1.7) If fixed practices are in place approval of any product and/or process changes must be granted in writing by RTI Advanced Forming Inc. prior to making the change.</p> <p>1.8) All requirements of 8.4.3 and the purchase order must be flowed down to any sub-tier supplier.</p> <p>1.9) If, in the event that during the purchase order review the supplier determines that the requirements of the purchase order or specification cannot be met, the supplier must:</p> <p style="margin-left: 40px;">(1) notify RTI Advanced Forming Inc. and</p>

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		(2) prior to processing obtain revised purchase order and/or instructions in writing stating services to be performed that are within capabilities of the sub-tier.
		1.10) The supplier shall be responsible for meeting any additional requirements identified by Q Code(s) on the purchase order. The supplier must notify RTI Advanced Forming Inc. in writing of non-conformance(s) prior to shipment
		1.11) For purchased products RTI Advanced Forming Inc. must issue in writing approval to ship any nonconforming material.
		1.12) The supplier shall allow right of access by RTI Advanced Forming Inc., its customers and all appropriate regulatory or governmental authorities the right to enter supplier's facility at reasonable times to inspect the facility, goods, materials, applicable records and any property of Purchaser covered by this order. Supplier shall ensure that employees are aware of their contribution to product conformity, product safety, and the importance of ethical behavior.
		1.13) Supplier must notify RTI Advanced Forming Inc. of any changes to any significant personnel (General Manager, Quality Manager, NDT Level III personnel) or any other significant personnel, change in Ownership and any changes with Nadcap and or Quality Systems Certifications.
		1.14) Acceptance Authority Media (AAM). Suppliers shall comply with the AS/EN/JISQ 9100 requirements and 14CFR part 21.2. Supplier shall, with in its organization and its supply chain, ensure that the use of AAM is clearly defined within its Quality Management System.
		1.15) NDT process materials used to perform penetrant inspection shall be acquired from supplier per latest revision of AMS2644.
		1.16) Supplier shall have a process that detects and prevents the procurement and delivery of counterfeit material.
		1.17) No work shall be subcontracted without prior written approval from RTI Advanced Forming Inc. Suppliers must flow down all applicalbe requirements in the purchasing document , including key characteristics when required.
		1.18) Foreign Object Debris&/or Damage (FOD) - The supplier shall maintain a FOD prevention program at a minimum the following: Design &/or Manufacturing Process Review, Performance Measurement, Training, Material Handling & Parts Protection, Housekeeping, Tool Accountability, Hardware Accountability, Lost Items, Physical Entry Control into FOD Critical Areas and FOD Focal Points
		1.19) Supplier shall ensure they are aware of: their contribution to product or service conformity; their contribution to product safety; The importance of ethical behavior.
		1.20) If at any time the supplier detects a process violation, purchase order noncompliance, raw material nonconformance or part nonconformance, RTI Advanced Forming Inc. shall be informed as soon as practicable.

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		a) Nonconforming material or parts shall be segregated and tagged as nonconforming. Tags shall indicate the nature of the nonconformance.
		b) Root cause corrective action shall be determined and submitted within 10 working days of detection of the nonconformance unless otherwise agreed upon by RTI Advanced Forming Inc. Quality and Engineering /or Procurement Department.
		c) Nonconforming material/parts shall not be shipped to RTI Advanced Forming Inc. without approval to ship.
		1.21) Supplier shall comply with all applicable export control laws
2	Gage & Instrument Calibration	A) Calibration of equipment used for monitoring or measuring product or processes must be performed in conformance with ISO/IEC 17025 B) Calibration of equipment used for monitoring or measuring product or processes must be performed in conformance with ISO 10012
3	Raw Material Certification	Certifications shall state "This material was produced by the process approved by RTI Advanced Forming Inc.".
4	100% Dimensional Inspection	100% dimensional inspection required unless your sampling plan has been approved in writing by RTI Advanced Forming Inc. Quality. Copies of the inspection reports shall be submitted with each shipment
5	First Article Inspection	First Article Inspection shall be performed in accordance with latest revision of AS9102 and only applicable when noted on PO
7	Software Quality	Supplier's Software Quality System shall have approval of RTI Advanced Forming Inc. Quality. <ul style="list-style-type: none"> Supplier DPD shall be approved by RTI Advanced Forming, Inc.
8	Heat Treatment/ Instrumentation	Heat treatment shall only be performed by suppliers accredited by PRI (Nadcap) Heat Treatment Task Group to AC7102 plus any applicable checklists covering scope of work on purchase order. Equipment used to perform heat treatment must comply with AMS 2750.
9	Customer Source Inspection	RTI Advanced Forming Inc. inspection/witness is required on this purchase order. Contact RTI Advanced Forming Inc. five (5) working days prior to performing services as required by the purchase order to arrange for source inspection/witness of operations or as required by purchase order or conversion release.
10	RTI Advanced Forming Inc. Customer Source Inspection	RTI Advanced Forming Inc.'s customer source inspection/witness is required on this purchase order. Contact RTI Advanced Forming Inc. five (5) working days prior to performing services as required by this purchase order to arrange for source inspection/witness of operations or as required by purchase order or conversion release.
12	Raw Material Inspection	100% inspection required unless your inspection sampling plan has been approved by RTI Advanced Forming Inc. Quality. Copies of the inspection reports shall be submitted with each shipment
13	Approving & Implementing Specs & Operating Procedures	A) Supplier procedures for approving and implementing specifications & operating procedures shall include how all changes or additions are documented and controlled

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		B) Supplier procedures shall include how obsolete specifications & operating procedures are removed from service and how current ones are put into service
		C) Supplier procedures shall include how RTI Advanced Forming Inc. is notified of all significant changes in the processing of material.
14	Safran GRF-003	Supplier must complete Safran GRF-003 or equivalent and must be approved by RTI Advanced Forming Inc. Quality
15	Approving & Disqualifying Suppliers	A) Supplier shall maintain a list of approved suppliers
		B) Supplier shall have a procedure for approving suppliers
		C) Supplier shall have a procedure for disqualifying and requalifying suppliers
16	Procedure for Certification of Raw Material	A) Supplier procedure shall include how production and test records are reviewed prior to the material being shipped
		B) Supplier procedure shall include how the certification is reviewed to ensure all the required information is included
		C) Supplier procedure shall include who is authorized to approve the material for shipment and to sign the certification
17	First Time Raw Material Inspection	A) The first time raw material inspection report shall contain all applicable characteristics required by purchase order and/or purchase specification. The report shall be dated and signed by the person performing the inspection and testing and shall be verified by another person. The first time raw material shall be tagged, "First Time Raw Material."
		B) The first raw material report shall be approved by a RTI Advanced Forming Inc. representative prior to the supplier becoming an approved supplier of the raw material. A copy of the first time raw material report shall be forwarded to RTI Advanced Forming Inc. Quality when the finished material is shipped.
18	Statistical Process Control	A) The supplier shall have a statistical quality control procedure approved by RTI Advanced Forming Inc.
		B) The object of the statistical process control procedure is to continually reduce variation in the process. A CPK of 1.33 is considered the minimum acceptable level for any key characteristic of the material
		C) Where SPC is required, copies of the control charts, the control plan and supporting documentation shall be available upon request

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		D) The object of the statistical process control procedure is to continually reduce variation in the process. A CPK of 1.33 is considered the minimum acceptable level for any key characteristic of the material
		E) Where SPC is required, copies of the control charts, the control plan and supporting documentation shall be available upon request.
19	Test Laboratory Control	The supplier shall have a Nadcap MTL accreditation by PRI (Nadcap) Material Test Laboratory Task Group to AC7101/1 plus any applicable checklists covering scope of work on purchase order or use a test laboratory that is Nadcap MTL accredited.
20	Calibration Service Provider	<p><u>General Requirements (apply to all calibrations)</u></p> <p>Note: "M&TE" = Measurement & Test Equipment and refers to anything that gets calibrated</p> <ul style="list-style-type: none"> • Calibrations must be covered by an ISO/IEC 17025 accreditation certificate and scope, particularly for the range and accuracy of the calibration being performed (if a calibration type is not covered, notify RTI Advanced Forming Inc.'s Calibration Coordinator of the situation; If possible, quote the outsourcing of the calibration to an accredited facility) • Each level of calibration must be done by a standard of greater accuracy than required of the component being calibrated; if a minimum required uncertainty ratio is not defined elsewhere, the default value is 4:1 • Calibration standards must only be employed for calibration points within the certified range of the standard • Any calibration event where an "As Found" reading is "Out of Tolerance" must be communicated to the RTI Advanced Forming Inc. Calibration Coordinator (or designee) via e-mail, along with a copy of the resultant calibration report • Sticker shall be applied to calibrated M&TE identifying: <ul style="list-style-type: none"> * GageID (M&TE equipment ID; use RTI Advanced Forming Inc.'s current ID system) * Calibration Agency * Identity of technician performing calibration * Date of calibration * Next due date • Calibrations performed offsite from RTI Advanced Forming Inc. must be processed and tool returned within 7 calendar days from receipt unless otherwise agreed to in writing (failing M&TE, M&TE needing repair, and calibrations sent to external calibration facilities exempted) • Completed calibration reports shall be either e-mailed to the RTI Advanced Forming Inc. Calibration Coordinator (or designee) or made available in an online report within 2 business days of the calibration event. If revisions are made to a previously issued report,

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		<p>RTI Advanced Forming Inc. Calibration Coordinator (or designee) must be e-mailed to notify of the change in the report.</p> <ul style="list-style-type: none"> • Repair quotes for M&TE needing repair must be submitted to RTI Advanced Forming Inc. Calibration Coordinator and approved prior to processing repair • M&TE containing internal batteries (rechargeable batteries exempt) must have the voltage checked prior to taking readings during calibration event (re-calibrations after repairs exempted); batteries with voltage readings failing to deliver at least nominal specified voltage (e.g. 1.5V, 3V, 5V, 9V etc.) shall be replaced • Calibration frequency default interval shall be 12 months unless a different interval is stated in section 20.1 or otherwise communicated to calibration supplier for specific tools and tool types • Travel and shipping for on-site pick-up/return of items not to be invoiced without prior agreement, in writing • Calibration reports must include all of the following: <ul style="list-style-type: none"> ○ Gage ID (M&TE equipment ID; use RTI Advanced Forming Inc.'s current ID system) ○ Operating range (if applicable and known) ○ Tolerance (accuracy) - may be inferred from maximum/minimum allowed at each point (does not apply to qualitative calibration results) ○ Name and address of agency performing calibration ○ Calibration date ○ Next due date ○ Identification of standards used to perform calibration, including last calibration date and next due date ○ Restrictions (if any apply) ○ If a calibration report was amended, the fact that it was amended, and what was amended must be recorded on the calibration report, along with the date of amendment ○ "Nominal", "As Found" reading and "As Left" reading at each calibration point (does not apply to qualitative calibration results) ○ Calibration procedure or method used ○ Calibration technician identification ○ As received tool condition (e.g. "In Tolerance", "Out of Tolerance" or "Inoperable") ○ As left tool condition (e.g. "Pass", "In Tolerance", "Out of Tolerance", "Limited", "Failed" or "Rejected") ○ Statement claiming traceability to SI units through NIST or equivalent national or international standards ○ ISO/IEC 17025 decision rule must be on the report ○ A statement of the uncertainty associated with the measurement results that meets the requirements of ILAC
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		<p>P14:09/2020 ILAC Policy for Uncertainty in Calibration (available at: https://ilac.org/?download=123348)</p> <p>ISO/IEC 17025 accrediting body's symbol and certification number for agency performing the calibration, as well as a statement of coverage by ILAC MRA (International Laboratory Accreditation Cooperation Mutual Recognition Arrangement).</p>																																																
		<p>20.1) Special Calibration Requirements for Specific Tool Types</p> <p>These are minimum requirements. Exceeding these minimum requirements is also acceptable. Individual tools may have requirements that differ from the below, which must be communicated between calibration provider and RTI Advanced Forming Inc. Calibration Coordinator (or designee) receiving the calibration reports.</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Interval</th> <th>Special Requirements</th> </tr> </thead> <tbody> <tr> <td>Calipers</td> <td>6 months</td> <td>5 or more calibration points including maximum of primary scale; At least one point on each supplemental scale</td> </tr> <tr> <td>Outer Diameter Micrometers (including point micrometers and deep throat micrometers)</td> <td>6 months</td> <td>Calibrate per ASME B89.1.13</td> </tr> <tr> <td>Depth Micrometers</td> <td>18 months</td> <td>Calibrate per ASME B89.1.13 using smallest rod provided, plus at least one point on each additionally provided rod</td> </tr> <tr> <td>Depth Gages</td> <td>18 months</td> <td>3 or more calibration points including maximum</td> </tr> <tr> <td>Oditest Gages</td> <td>12 months</td> <td>3 or more calibration points including maximum</td> </tr> <tr> <td>Feeler Gages</td> <td>24 months</td> <td></td> </tr> <tr> <td>Pin Gages</td> <td>24 months</td> <td></td> </tr> <tr> <td>Radius Gages</td> <td>18 months</td> <td></td> </tr> <tr> <td>Taper Gages</td> <td>60 months</td> <td></td> </tr> <tr> <td>Steel Rules</td> <td>60 months</td> <td></td> </tr> <tr> <td>Surface Roughness Specimen</td> <td>60 months</td> <td></td> </tr> <tr> <td>Profilometers</td> <td>3 months</td> <td></td> </tr> <tr> <td>Ultrasonic Thickness Testers</td> <td>3 months</td> <td></td> </tr> <tr> <td>Squares</td> <td>12 months</td> <td></td> </tr> <tr> <td>Straight Edges</td> <td>12 months</td> <td></td> </tr> </tbody> </table>	Type	Interval	Special Requirements	Calipers	6 months	5 or more calibration points including maximum of primary scale; At least one point on each supplemental scale	Outer Diameter Micrometers (including point micrometers and deep throat micrometers)	6 months	Calibrate per ASME B89.1.13	Depth Micrometers	18 months	Calibrate per ASME B89.1.13 using smallest rod provided, plus at least one point on each additionally provided rod	Depth Gages	18 months	3 or more calibration points including maximum	Oditest Gages	12 months	3 or more calibration points including maximum	Feeler Gages	24 months		Pin Gages	24 months		Radius Gages	18 months		Taper Gages	60 months		Steel Rules	60 months		Surface Roughness Specimen	60 months		Profilometers	3 months		Ultrasonic Thickness Testers	3 months		Squares	12 months		Straight Edges	12 months	
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		Protractors	18 months	±5 minute accuracy required using test standard of ±1 minute accuracy
		Pressure Gages	6 months	Calibrate per ASME B40.100
		Pressure Transducers	12 months	Calibration points and accuracy shall meet the following requirements, as read from our connected display: 0±2.5 PSI 6±2.5 PSI 15±4.0 PSI 300±6.0 PSI 400±7.0PSI 500±7.0PSI 600±7.0 PSI
		Surface Plates	12 months	Calibrate per ASME B89.3.7
		Dial Indicators	12 months	Calibrate per ASME B89.1.10M
		Gage Blocks	60 months	Calibrate per ASME B89.1.9
		Articulating Arm CMMs	12 months	Calibrate per ASME B89.4.22
		Tape Measures	24 months	Calibrate per ASME B89.1.7
		Thermohygrometers (Hygro-Thermometers)	12 months	Calibrated range includes 70-100°F ±5°F accuracy for temperature Humidity range calibrated includes 50%-70%RH ±5%RH accuracy for humidity
		Light Meters	6 months	460-675nm (Visible) calibrated range includes: 1-190 foot-candles 3 or more calibration points included ±5% accuracy
		UV Meters	6 months	320-400nm (UV-A) calibration range includes: 1000, 5000 microW/cm2 3 or more calibration points included ±5% accuracy
		Timers	3 months	Calibrated range includes 1-20 minutes ±2 second accuracy
		Infrared Thermometers	24 months	Calibrated range includes 75-200°F ±5°F accuracy
		Transparent Slide with Dimensions (excluding stage micrometers)	12 months	±10% accuracy

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		Thermometers	6 months	±2°F accuracy
		Weighing Scales (excluding analytical balances)	12 months	Increasing load test per NIST Handbook 44 Table 4 plus a decreasing load test and a shift test Class III accuracy required per NIST Handbook 44 Table 6
		Analytical Balances	3 months	Increasing load test per NIST Handbook 44 Table 4 plus a decreasing load test and a shift test
		Temperature Controllers (includes PLC and computer interface systems)	3 months	Calibrate per AMS 2750
		Temperature Recorders (includes PLC and computer interface systems)	3 months	Calibrate per AMS 2750 Calibrate time increment to ±1 second accuracy over 60 seconds Ensure time & date are ±5 minutes of www.time.gov
		Hi-Limit/Overtemperature Controller	3 months	Calibrate per AMS 2750 Function test alarm (trigger at ±10°F of set)
		Fluke 714B	3 months	<ul style="list-style-type: none"> •±1.0°F accuracy •Calibration shall be performed in laboratory conditions with controlled and monitored temperature and humidity with at least 1 hour acclimation prior to start of calibration •Test standard used shall be a Fluke Multi-Function Product Calibrator meeting AMS 2750 requirements for a Secondary Standard instrument (including 12 month maximum calibration interval requirement) •Calibration shall include both Type K and N thermocouple types for both measure and source function •Calibration points shall include 0.0°F through 2000.0°F at 100°F increments

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			<ul style="list-style-type: none"> •Sensitivity to change of input by 0.1°F shall be checked on each thermocouple type and each function (source/measure) •Excel file spreadsheet containing correction factors (opposite sign of deviation/error) for each input at each calibration point shall be included with calibration report
	AMS 2750 Temperature Uniformity Survey Test Instrument	3 months	<ul style="list-style-type: none"> •±1.0°F accuracy •Calibration shall be performed in laboratory conditions with controlled and monitored temperature and humidity with at least 1 hour acclimation prior to start of calibration •Test standard used shall be a Fluke Multi-Function Product Calibrator meeting AMS 2750 requirements for a Secondary Standard instrument (including 12 month maximum calibration interval requirement) •Calibration shall include every channel represented by available thermocouple plug on test instrument •Calibration points shall include 0.0°F through 2000.0°F at 100°F increments •Sensitivity to change of input by 0.1°F shall be checked on each channel •Excel file spreadsheet containing correction factors (opposite sign of deviation/error) for each input at each calibration point shall be included with calibration report
	Thermocouples	N/A	<ul style="list-style-type: none"> •Calibration shall comply with ASTM E220, ASTM E230 and AMS 2750, which shall all be listed on certifications •Special Limit accuracy required •Calibrations shall be reported in °F as described in ITS-90 •Nominal calibration temperatures shall not exceed 200°F between points •Correction factors at each calibration point must be listed on certifications
	Thermocouple Wire	N/A	<ul style="list-style-type: none"> •Calibration shall comply with ASTM E220, ASTM E230 and AMS 2750, which shall all be listed on certifications •Special Limit accuracy required •Calibrations shall be reported in °F as described in ITS-90 •Nominal calibration temperatures shall not exceed 200°F between points •Spool length shall not exceed 2000ft per spool •Spools shall be calibrated on each end of each spool (with a difference, end-to-end, not exceeding 2.0°F) with the average correction factor (between the ends) listed on certifications
	Laboratory or Calibration Grade Weights	60 months	Calibrate per ASTM E617

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		Class F Weights	120 months	Calibrate per NIST Handbook 105-1
		Room Temperature Tensile Test Equipment	12 months	<ul style="list-style-type: none"> •Load Cell accuracy to $\pm 1.0\%$ calibrated per ASTM E4 up to load limit of provided grips •Speed accuracy calibrated per ASTM E2658 for speeds ranging from 0.01 inch per minute to 0.1 inch per minute with an accuracy of ± 0.002 inch per minute •Extensometer(s) calibrated per ASTM E83 class B1 •Alignment certified to $\pm 10\%$ accuracy per ASTM E1012 •OEM specified preventive maintenance tasks performed in conjunction with calibration (any items due)
		Bend Dies - Male	12 months	CMM scan radius
		V-Bend Dies – Female	12 months	CMM scan V-angle
21	Corrective Actions	The supplier shall have a Corrective Action procedure that shall identify and correct errors and improve process capability.		
22	In-Process Audits	A) The supplier shall monitor the effectiveness of their process by conducting periodic audits		
		B) The audit procedure and schedule shall be approved by executive management to assure independence and to establish the effectiveness of the system.		

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23	Buyer Evaluation	RTI Advanced Forming Inc.'s customer has the right of access to supplier facilities when accompanied by RTI Advanced Forming Inc. personnel
24	Source Verification by Customer	Where specified in the contract, RTI Advanced Forming Inc.'s customer or his representative shall be afforded the right to verify at source or upon receipt that purchased product conforms to specified requirements. Verification by the customer shall not absolve the supplier of the responsibility to provide acceptable product nor shall it preclude subsequent rejection.
25	Customer Verification Limitation	When RTI Advanced Forming Inc.'s customer or their representative elects to carry out verification at the supplier's plant, such verification shall not be used by the supplier as evidence of effective control of quality by the supplier
26	Quality Plan	A quality plan shall be prepared and submitted for RTI Advanced Forming Inc. approval. Once developed, any deviation from the plan must be reported immediately to RTI Advanced Forming Inc.
27	RTI Advanced Forming Inc. Observation	A) RTI Advanced Forming Inc. observation required - processing shall not take place unless observed by a qualified RTI Advanced Forming Inc. employee B) RTI Advanced Forming Inc. source inspection required
28	Lab - Rolls Royce Approval	Laboratory shall be approved by Rolls Royce before laboratory work is performed
29	Lab - Pratt & Whitney Approval	Laboratory shall be approved by Pratt & Whitney before laboratory work is performed
37	Metal Assessment	Must certify that material supplied is free from radioactive contamination. Radioactivity is defined as 0.19uSv(microsieverts) and above. Background levels in the United States range from 0.05 to 0.15 uSv
38	Quality Manual	Quality Manual must be available in English
44	Domestically Melted Material	Material must be melted domestically and certification must state that material has been melted in the United States
45	GE Lab Approval	The supplier shall have a GE S-400 approved test laboratory, or use a test laboratory that is GE S-400 approved
46	Government Property	The supplier shall adhere to all requirements of FAR52.245.1 including but not limited to proper storage, handling and the extent of liability for loss, theft, damage or destruction of Government Property.

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49	Chemical Processing	Chemical processing shall only be performed by suppliers accredited by PRI (Nadcap) Chemical Processing Task Group to AC7108 plus any applicable checklists covering scope of work on purchase order
50	Nondestructive Testing	Nondestructive testing shall only be performed by suppliers accredited by PRI (Nadcap) NonDestructive Testing Task Group to AC7114 plus any applicable checklists covering scope of work on purchase order
51	Welding	Welding shall only be performed by suppliers accredited by PRI (Nadcap) Welding Task Group to AC7110 plus any applicable checklists covering scope of work on purchase order
52	Customer Special Process Approval	By accepting this PO supplier acknowledges they have current approval by the prime contractor and are on the approved processors list including Boeing D1-4426, Northrop Grummans Approved Source List, Lockheed Martin QC-001, Sikorsky SAC Approved Source List, Bell Approved Process Sources. If the prime contractor is not listed immediately contact HOWMET (RTI Advanced Forming Inc.) procurement.