

Thermal Structures Inc.

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Quality Assurance Procurement Clauses Appendix “A”

NOTICE TO SUPPLIERS

Appendix “A” when referenced on the face of the Purchase Order is an integral part of the Order. Failure by the supplier to conform to the specified Appendix “A” requirements listed on the Purchase Order shall be cause for rejection and return of articles at the Supplier’s risk and expense.

- 1) **QUALITY PROGRAM REQUIREMENTS:** The supplier shall provide, document and maintain a Quality System in accordance with either ISO 9001, AS 9100, AS 9120 or TS16949, including a measuring instrument calibration system in accordance with ANSI/NCLS Z540-1, ISO 10012.1, A2LA or equivalent standard. This Quality System is subject to verification by Thermal Structures, Inc. surveillance.
- 2) **DELETED**
- 3) **SOFTWARE QUALITY ASSURANCE:** The supplier shall provide, document and maintain a Software Quality Program in accordance with DOD-STD-2168 (latest revision), or other software program requirements as specified by the purchase order for deliverable and non-deliverable software including software used in the automated manufacturing/testing of deliverable hardware. Upon request, documented evidence of compliance to the applicable document shall be made available for review by Thermal Structures, Inc.
- 4) **SOURCE INSPECTION:** This order is subject to Thermal Structures, Inc. source inspection. Thermal Structures, Inc. Quality Assurance must be notified forty-eight (48) hours in advance of the time the articles and/or processes will be ready for inspection or test.
- 5) **GOVERNMENT INSPECTION:** This order is subject to Government inspection prior to shipment from your plant. Upon receipt of this order promptly notify and furnish a copy to the Government Representative normally servicing your plant so that Government inspection can be appropriately planned.
- 6) **APPROVED SOURCES:** All material furnished or processing performed by a sub-tier supplier under this order must be by a source approved by Thermal Structures, Inc. customer. Contact Thermal Structures, Inc. Quality Assurance prior to placing sub-tier orders.
- 7) **SPECIAL PROCESS CERTIFICATIONS:** Each shipment shall be accompanied by a legible copy of the certification for the special process performed under the terms of each purchase order. Special processes include, but are not limited to, heat-treating, welding, penetrant inspection, plating, and passivation. The certification shall list all applicable specifications, including revision letter/number to which the process conforms, the type or class (if applicable), the date.

- 8) **RAW MATERIAL CERTIFICATIONS:** Each shipment shall be accompanied by a legible copy of the material certification as furnished by the raw material supplier. Material certifications must conform in all respects with the raw material requirement of the specification(s) listed on the Purchase Order. The certification shall reflect the applicable heat/lot number, the applicable chemical properties, the applicable physical properties and the mill source of the material.
- 9) **CERTIFICATION OF COMPLIANCE:** Supplier shall provide a certification of compliance with each shipment, signed and dated by an authorized supplier representative. The certification shall include:
- a. Purchase Order number
 - b. Part number and revision letter
 - c. Quantity and if applicable, serial number
 - d. Manufacture’s name and if applicable, manufacture’s part number
 - e. Applicable date code or lot number
 - f. Material specification(s) and revision letter used to produce the item. Material supplied by Thermal Structures, Inc. shall so be noted.
 - g. A statement that parts/material conforms to the applicable drawing, specifications and purchase order requirements.
 - h. Actual hardness values obtained as a result of required heat treatment if applicable.
 - i. Fixed process number and revision, if applicable.
- 10) **FIRST ARTICLE INSPECTION REPORT:** A First Article Inspection Report per AS9102 or equivalent, is required for the initial production of articles produced to Thermal Structures, Inc. or Thermal Structures, Inc. customer designs and shall be submitted with the initial shipment, a change in drawing revision, or a change in process. The First Article Inspection Report shall account for all the dimensional and notation requirements listed on the drawing/specification. The First Article part shall be tagged accordingly.
- 11) **DETAILED INSPECTION PLAN:** Supplier shall initiate and maintain written inspection instructions for articles produced to Thermal Structures, Inc. or Thermal Structures, Inc. customer’s designs that will ensure all characteristics are subjected to an inspection plan (e.g. 100% inspection, statistical process control, sampling inspection, tool controlled with periodic accuracy verification etc.)
- 12) **LOT INSPECTION REPORT:** The supplier shall submit with each shipment of material or hardware an inspection report for the lot of material or hardware being shipped. The Lot Inspection Report shall account, via actual documented verification, for the entire dimensional and notation requirement listed on the drawing.

- 13) MEASURING AND TEST EQUIPMENT (M&TE): Supplier of calibration services shall perform calibration of M&TE in accordance with ANSI/NCLS Z540-1, ISO 10012.1 or equivalent standard. Certificates of Calibration must clearly state that the service was performed with equipment traceable to the National Institute of Standards and Technology.
- 14) AGE CONTROL OF SHELF LIFE MATERIALS: The supplier shall submit a certification with each shipment that specifies the material is shelf life limited (i.e., age sensitive). The certification shall state the shelf life and environmental storage conditions. The supplier shall also ensure that a minimum of 75% of the shelf life is remaining at the date of shipment, unless directed otherwise by the purchase order. When the product requires refrigeration to maintain shelf life, the exterior package shall be marked “REFRIGERATE UPON RECEIPT” using ½” min. high letters.
- 15) CONTROLLED PROCESSES: The supplier shall ensure controlled processes performed on articles produced to Thermal Structures, Inc. or Thermal Structures, Inc. customer designs are accomplished in accordance with previously approved process sheets. Supplier must notify Thermal Structures, Inc. Quality Assurance in writing and receive written approval prior to making any changes to controlled processes. This also applies to any manufacturing or other process changes that could affect the quality of the articles.
- 16) PRESERVATION, PACKAGING AND SHIPPING: The supplier is responsible to ensure that all materials are packaged with adequate containment to ensure that material/hardware is delivered undamaged to Thermal Structures, Inc. If goods are damaged due to inadequate containment, packages will be returned to the supplier at their expense for resolution. Suppliers are encouraged to implement low cost, reusable packaging where feasible. Exterior container marking/packing list information shall contain the following information as a minimum:
 - a. Supplier name and address
 - b. Purchase Order number
 - c. Part number/Specification number
 - d. Quantity
 - e. Shipment number (packing list number)
 - f. Lot number/Batch number (if applicable)
- 17) RECORD RETENTION: The supplier shall retain all records relating to inspection and control of products for eleven (11) years minimum after completion of the contract, unless otherwise specified. These records shall be made available to Thermal Structures, Inc. for review when requested.

- 18) **NONCONFORMING MATERIAL REVIEW:** Material that departs from drawing and specification requirements shall be identified and controlled to prevent unauthorized use/delivery to Thermal Structures, Inc. The supplier may request Material Review consideration by Thermal Structures, Inc. for nonconforming material that cannot be reworked to fully conform to drawing/specification requirements. Any nonconforming material received at TSI may result in a Corrective Action Request. Failure to respond to a TSI request for corrective action in the specified time frame may have an adverse consequence on supplier approval status.
- 19) **INSPECTION AND AUDITING AT SUPPLIER’S FACILITY:** Customers of Thermal Structures, Inc. reserve the right to perform audits and inspect products at the facility of Thermal Structures, Inc. suppliers.
- 20) **DELETED**
- 21) **AVIATION PRODUCTS:** This purchase order is for “Aviation Products” and is subject to surveillance by the Federal Aviation Administration (FAA) at the supplier’s facility.
- 22) **PREFERENCE FOR DOMESTIC SPECIALTY METALS:** This purchase order for specialty metals (such as titanium and stainless steel) requires that the metal for this order has been melted within the United States or in a qualifying country per DFARS 252.225-7014.
- 23) **FOREIGN OBJECT DAMAGE (FOD):** The supplier shall establish and maintain a FOD program per NAS412 or equivalent.
- 24) **COUNTERFEIT PARTS / MATERIAL:** The supplier shall establish and maintain a parts / material prevention program that contains all the applicable elements of AS6174, section 3.
- 25) **CONFLICT MINERALS:** Thermal Structures requires that all materials / parts that are supplied to Thermal Structures be “DRC Conflict Free” per the Dodd-Frank Wall Street Reform and Consumer Protection Act.
- 26) **DIGITAL PRODUCT DEFINITION PER D6-51991:** Digital Product Definition (DPD) per Boeing Quality Assurance Standard D6-51991 applies to this TSI purchase order.
- 27) **EXECUTIVE ORDER 13489:** For all subcontracts to TSI suppliers related to government contracts Executive Order 13489 applies to this TSI purchase order.
- 28) **COMBATING TRAFFICKING IN PERSONS (FAR 52.222-50) (DFAR 252.222-7007):** The supplier shall notify its employees and agents of the U.S. Government’s policy regarding Combating Trafficking in Persons as described in 52.222-50(b), as well as those resulting actions that may be taken against employees or agents for violations of this policy. The supplier shall implement the required compliance plan described in 52.222-50(h) to prevent any prohibited activities identified in 52.222-50(b) and to monitor, detect, and terminate the contract with any subcontractor(s) engaging in prohibited activities.

- 29) PRODUCT OR SERVICE CONFORMITY, PRODUCT SAFETY AND ETHICAL BEHAVIOR: All TSI suppliers shall ensure that their personnel are aware of;
- a. their contribution to product or service conformity,
 - b. their contribution to product safety,
 - c. the importance of ethical behavior.
- 30) CYBER SECURITY COMPLIANCE (FAR 52.204-21) (DFAR 252.204-7009, 252.204-7012): Cyber Security requirements involved in DoD contracts apply to this TSI purchase order.
- 31) EMPLOYMENT REPORTS ON VETERANS (52.222-37): This clause will apply for subcontracts of \$150,000 or more.
- 32) SUBCONTRACTS FOR COMMERCIAL ITEMS (252.244-7000): This clause and the terms of this clause, including paragraph (c), may appear in subcontracts awarded under this contract, including subcontracts for the acquisition of commercial items.
- 33) CONTROL OF WORK TRANSFER: The supplier shall have a process for the control of work transfers. When applicable, approval shall be obtained by contacting Thermal Structures Purchasing department prior to sending to sub-tier. This applies to address changes, manufacturing location changes, or sub-tier changes. The supplier shall also notify Thermal Structures of the first delivery of product delivered under stated work transfer. (ref AS9100 Sect 8.1, 8.4, and 8.5)
- Note: For guidelines on implementing a process for work transfer, reference the [IAQG Supply Chain Management Handbook \(SCMH\)](#).
- 34) EXECUTIVE ORDER ON COMBATING RACE AND SEX STEREOTYPING: Executive Order 13950 of September 22, 2020. This clause will apply for all orders.

35) PRATT & WHITNEY END ITEM USE:**Applicable Specification Requirements:**

ASQR-01, SQOP:01-01, AS9100, AS9120, AS9102, PWA 300, PWA 370,
ESA CONTROLS

P&W-MCL MANUAL SECTION F-17, F-MASTER, F-22, F-23, F-14 & F-52

PWA 367, CPW 100, CPW 135 ESA CONTROLS, CPW 330

UTC QDL APPLIES (UTC QUALIFIED DISTRIBUTOR LIST)

SQL (PW SOURCE QUALIFICATION LIST)

Lab Certified Source (LCS) Requirements**For LCS certified suppliers:**

Supplier to certify hardware as tested to current Pratt & Whitney (P&W) LCS Materials Control Laboratory Manual requirements, including F-Sections as applicable. All documents shall be stamped "Parts have been controlled to PWA 300 requirements and LCS per P&W-MCL Manual Section F-17" or a similar statement

For suppliers without PW LCS certification:

Suppliers shall certify hardware is tested to current Pratt & Whitney (P&W) Materials Control Laboratory Manual F-Sections as applicable. All documents shall be stamped "Parts have been controlled to PWA 300 or CPW 100 as applicable" and include certifications with Complete Supply Chain Traceability,

CERTIFICATIONS:

Complete Supply Chain Traceability shall be supplied. Including C of C documents and all Test Reports including Periodic Tests by Specification. Complete and conforming material and test reports in accordance with PWA 300 or CPW 100. All results (acceptance and periodic) shall be shown on the test report. Chain of Custody is documentation showing the custody, control and transfer of material through the Supply Chain.

Certifications from distributors must indicate that material has been stored according to the conditions listed in the procurement specification.

When conversion processing (working of metals by pressure, which includes, but not limited to, rolling, pressing, and forging to produce metallic articles of desired shapes and sizes) is being performed by a source other than the original mill source, the conversion source must report starting size, final size, and general conversion method. When heat treating is being performed, actual times and temperatures shall be reported, this shall include specific cooling rates and size of material when heat treated.

Mill Producers and Converters shall test each size/shape of material of each heat/lot to determine compliance with metallurgical and mechanical properties required by specification, including quality checks and any tests listed as Capability, Acceptance, Preproduction and Periodic. Testing is required at Post Conversion.