



## Forest Grove Division Quality Assurance Provisions

The Quality Assurance Provisions (QAPs) as specified herein, shall become an integral part of the Purchase Agreement when indicated by the provision number(s) on the Purchase Order as a supplement to the TTM Supplier Quality Agreement (CORP-SA-001) and the TTM Specification for Base Material (CORP-SA-002). These provisions also supplement the presently existing terms and conditions of the Purchasing Agreement. Subcontractor/Service(s) identified on the Approved Vendor List (AVL) shall access this document via the TTM website, per instructions on the purchase order.

The Subcontractor/Service(s) supplying material and/or service(s) is required to review this document and establish and maintain, as required, documented procedures for ensuring the control and compliance of these specified provisions. The applicable provision(s) shall be specified on the purchase order. A Subcontractor/Service(s) who is unable to access the TTM website to review the QAPs must contact the TTM Technologies Purchasing Department.

A Subcontractor/Service(s) requiring exception(s) to specified provisions must submit a written request to the TTM Technologies Purchasing Agent.

**Q-1 First Article Inspection (AS9102):** First Article Inspections shall be performed per the requirements of SAE AS9102. The First Article Report is required for items manufactured by or purchased by the Supplier, including end-use customer specification controlled items no matter how simple (studs, bolts, nuts, fasteners, etc.) The First Article sample(s) shall be fabricated utilizing parts, materials, and processes proposed for full production. Additionally, the manufacturing shall have occurred at the same location for which production is proposed. Form 2 Box 6: enter the specification, including revision, of the material, process or inspection. Certificates must also state specification, revision, and traceability information (lot number). Form 2 Block 8: enter name and full address of material, process or inspection supplier. Upon request, provide soft copies of First Article Reports usable for subsequent upload to net-inspect.com or other customer site. TTM can provide a template upon supplier request. The First Article Inspection Report must include: PO, annotated print (bubble note), and certificates of conformance/analysis.

**Q-2 First Article Inspection:** If the product provided or the part being processed for TTM is for a UTAS member end use, as shown by a provided drawing released by UTAS/Hamilton/Kidde design authority, or an Out-Sourcing Process Sheet referencing UTAS or Hamilton, the following conditions apply: This PO is subject to the requirements of ASQR-01, HSM17, HSM19, Hamilton end item use. Ten (10) year record retention requirement.

**Q-3 Calibration Service:** The Calibration Service must be in compliance with ANSI/NCSL Z540-1-1994.

**Q-4 NADCAP Accreditation:** NADCAP accreditation is required for all Subcontractors

CONTROLLED DOCUMENT – SEE THE ONLINE DOCUMENT FOR THE MOST CURRENT REVISION

**Q-5 UTAS End Product Conditions:** If the product provided or the part being processed for TTM is for a UTAS member end use, as shown by a provided drawing released by UTAS/Hamilton/Kidde design authority, or an Out-Sourcing Process Sheet referencing UTAS or Hamilton, the following conditions apply: This PO is subject to the requirements of ASQR-01, HSM17, HSM19, Hamilton end item use. Ten (10) year record retention requirement.

**Q-6 Ten (10) Year Record Retention:** The Supplier and any subcontractor(s) shall maintain, on file for a minimum of ten (10) years from the date of Manufacture, Certifications, Test Data and Release Notes and any other quality records for all material shipped to TTM Technologies, Inc. Documents must be available within 24 hours of request.

**Q-7 Pallet Performance Requirements:** Surface roughness of the pallet (Ra) must be  $\leq 32\mu''$ . Gold plating 6-16  $\mu''$ .

CONTROLLED DOCUMENT – SEE THE ONLINE DOCUMENT FOR THE MOST CURRENT REVISION