

AT-1927-86 Heat Treat Supplier Management Procedure

SQ Heat Treat Supplier Management Procedure

PURPOSE:

The purpose of the SQ Heat Treat Supplier Management Procedure is to provide the process to evaluate potential Heat Treat Suppliers and to define how Allison maintains the Approved Heat Treat Supplier List

SCOPE:

The SQ Heat Treat Supplier Management Procedure and Approved Heat Treat Supplier List apply to all SQEs and/or assignees

DEFINITIONS:

SQ	Supplier Quality
SQE	Supplier Quality Engineer
ATI	Allison Transmission Incorporated
OS	Opportunity Scenario
Allison Supplier Management Portal	Portal used to manage supplier quality related documentation

REFERENCES:

AT-1927	Supplier Quality Manual
AT-1927-16	Process Control Plan Audit
AT-1927-30	Supplier Process Change Evaluation (SPCE)
AT-1927-87	Allison Heat Treat Approval List (Supplier Copy)
AT-1927-88	Heat Treat Certification Addendum
AT-101528	Heat Treat Checklist
CQI-9	AIAG Special Process, Heat Treat System Assessment

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Section A – Evaluation of Potential Heat Treat Suppliers and Approval

1. Heat Treat Process (and supplier) approval at PPAP
 - a. During the time of PPAP of a new component that requires Heat Treat, it is the responsibility of the Tier I supplier to identify who will be processing the parts for Heat Treat, and who the source is (if external to their facility)
 - b. Tier I source processes parts per the applicable ATI technical specification (TPS) and required technical documentation for evaluation to Allison SQE and/or Allison Materials Engineering Lab
2. Heat Treat Process change approval of a current production part
 - a. Tier 1 supplier submits a request to ATI commodity manager for request of Heat Treat Supplier change via supplier process change evaluation form (SPCE)
 - b. The commodity manager assesses the SPCE, and processes the documentation per the SPCE procedure
 - c. The SPCE is screened, and reviewed internally at ATI by the Procurement Team, the applicable Product Line Team (PLT), and the Materials Engineering Lab
 - i. An approved SPCE would generate an associated OS and drives a PPAP requirement in the Allison Supplier Management Portal
 - ii. A rejected SPCE would be sent back to the supplier, with comment/reasoning or further action required for the Heat Treat Supplier change to be accepted by Allison
 - d. If the chosen supplier on the SPCE form is currently not on the Approved Allison Heat Treat Supplier List, then that supplier must go through the evaluation process
 - i. The potential heat treat source, at a minimum, provides to Allison for evaluation:
 1. The Allison Heat Treat self-assessment form
 2. Their latest CQI-9 Heat Treat System Assessment
 3. Any other pertinent information requested by Allison
3. Heat Treat Supplier Evaluation
 - a. Prior to approval and addition to the Allison Approved Heat Treat Supplier List, the potential heat treat source must complete an onsite evaluation
 - b. During that evaluation, the Allison SQE completes the evaluation utilizing:
 - i. Allison Process Control Plan Audit (reference AT-1927-16)
 - ii. Heat Treat Checklist A-101528
 - c. During the Heat Treat supplier audit, the supplier should provide supporting documentation which speaks to the strength of their Heat Treat process:
 - i. Heat Treat procedures
 - ii. Heat Treat equipment and tooling calibration history
 - iii. Part inspection plans
 1. Inspection results
 - iv. Process monitoring systems
 - v. Temperature uniformity surveys
 - vi. Internal systems audit process and prior data
 - vii. Other associated process documentation
 - d. After the heat treat supplier audit is complete, the Allison SQE assesses the supplier's ability to process Allison parts with regard to the applicable technical specifications
 - i. If the supplier is approved, they will be added to the Approved Allison Heat Treat Supplier List
 - ii. If the supplier is "conditionally approved" or "rejected", the Allison SQE will document the reasoning for the status via an open issues list, and where applicable, work with the supplier to gain full approval status.
 1. Depending on the reason for a "conditional approved" status, some suppliers may be added to the Approved Allison Supplier Heat Treat List.

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2. Where applicable, the Allison SQE can utilize the Materials Engineering Lab for technical support in the development of a supplier.

Section B – Allison Approved Heat Treat Supplier List Maintenance

1. Suppliers currently on the Allison Approved Heat Treat Supplier list will remain approved if they meet one or all of the following criteria:
 - a. Ship parts to Allison, or Allison Tier I sources, for approved TPS specification processing within the last 12-month window
 - b. If heat treat supplier processes parts within 12 months and has no issues with new PPAPs or revisions
 - c. Pass Allison Materials Lab part sampling inspection with no major issues
 - d. Pass audit process (Allison Process Control Plan Audit, CQI-9, or Allison Heat Treat Audit)
2. A supplier that is currently on the approved list can have their status change to “conditionally approved” or “rejected” based upon:
 - a. Failed heat treat audit
 - b. Documented quality issues
 - c. Failed part sampling by Allison Materials Lab
 - d. Not shipping Allison products for greater than 12 months
3. A supplier that fails to maintain the necessary quality system and technical processing capability that results in them being moved to the status of rejected, must work with the Allison Procurement organization to develop a recovery plan
 - a. Failure to do so could result in a complete exit from that supplier as a source for Heat Treat components
4. Allison designates two types of Heat Treat Suppliers:
 - a. Commercial Heat Treat Supplier – Supplier who processes commercial products to enhance the mechanical properties of materials for multiple customers
 - b. Internal Heat Treat Supplier – Supplier that has capable heat treat technology and processing available and in use for them to enhance the mechanical properties of materials
 - i. Internal Heat Treat Suppliers are not approved to process other Tier I sourced parts
 - ii. It is the responsibility of both Commercial and Internal Heat Treat Suppliers to monitor their outsourced processing including:
 1. Incoming inspection of Heat Treat certificates with each batch of material
 - a. Allison requires that Heat Treat Suppliers provide the Heat Treat Certification Addendum in addition to the standard heat treat certificate
 - i. The Heat Treat Addendum can be found on the Allison external website
 2. Periodic review of Heat Treat processing via documented auditing process
 3. Where applicable, use of 3rd party company for analysis of chemistry and metallurgy
5. Allison maintains Technical Specifications and Approved supplier lists on the external Allison website (reference Allisontransmission.com, Supplier Quality Forms (AT-1927-87), and Purchasing Related Forms (F11097)
 - a. Per CQI-9 (section 1.5), it is the responsibility of the supplier to maintain a procedure that ensures that all customer specifications are up to date
 - b. Allison requires that Tier I sources maintain their own list of approved suppliers, their approval process, and how their supply list is maintained
6. The audit schedule for suppliers on the Approved Heat Treat Supplier List is based upon supplier performance, and necessity. Reference Table A for criteria for auditing.

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TABLE A – Approved Heat Treat Supplier Audit Cadence

	If Supplier has shipped during last 12 months	If Supplier has not shipped > 12 months	If Supplier failed new PPAP parts with similar HT	If Supplier has current HT quality issues	If Supplier has failed ATI or Tier 1 Sampling Plan
ATI HT Audit	N/R	Required (Remote)	Required (Remote)	Required (Remote or Onsite)	Required (Remote or Onsite)
CQI-9 Audit	Required (Remote) Must Provide Latest CQI-9 Annually	Required (Remote)	Required (Remote)	Required (Remote or Onsite)	Required (Remote or Onsite)
CP Audit	N/R	N/R	Required (Remote or Onsite)	Required (Remote or Onsite)	N/R
3rd Party Certification. (N/R if Tier 1 has internal Metallurgical and Chemistry lab capabilities)	N/R	Required	Required	Required	Required
ATI MET lab Verification	N/R	N/R	As Determined by Commodity SQE	As Determined by Commodity SQE	Required
Tier 1 Audits Tier 2 HT Source	N/R - However, Tier 2 HT to provide HT certification with every batch shipped	Required (Remote)	Required (Remote or Onsite)	Required	Required (Remote or Onsite)