



Supplier Quality Assurance Manual

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Produced By:



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Introduction

The purpose of this document is to communicate Grayson Thermal Systems' (GTS) requirements for the structure of fundamental management systems for those companies that supply goods and product / process related services to GTS.

GTS requires that suppliers:

- Manage facilities, processes, quality systems and personnel to consistently and cost effectively produce products and services that meet the needs of GTS and its customers.
- Develop, implement and maintain documentation as requested by GTS to assure that products and services are met.
- Provide objective evidence that initial sample requirements have been met and that acceptable process capabilities for all Special / Critical characteristics have been established.
- Be committed to continuous process improvement by demonstrating reduced part variation and waste through defect prevention.

The basis for GTS' Supplier Quality systems requirements is its desire to operate at a level of control based around the QS9000 standard developed by the Automotive Industry Action Group (AIAG). GTS has adopted ISO 9001:2008 as a basic quality system required of all suppliers of goods and services. These requirements are an integral aspect of the GTS purchase order. Although it does not alter or reduce any other requirements of the contract, it does provide a concise understanding of GTS' quality requirements.

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SUPPLIER APPROVAL

All current and potential suppliers to GTS shall be able to demonstrate with objective evidence that they have implemented and maintain or plan to implement and maintain in an agreed timescale quality systems that conform to the requirements detailed in ISO 9000 (at a minimum). Third party registration or planned third party registration to this standard is required by GTS.

A quality systems survey by GTS personnel may be required prior to approval of a purchasing agreement if a third party Quality System Approval has not been achieved or other waiver has not been granted. This GTS survey is an on-site evaluation conducted by GTS representatives. The survey is structured to evaluate the systems conformance to the ISO 9000 requirements.

In addition, the supplier shall be able to demonstrate, when requested, compliance with international standards and regulations regards health, safety and environmental issues relevant to its business.

PLANNING FOR PRODUCT AND SERVICE QUALITY

Each supplier shall develop a management system that promotes continuous improvement in all activities, such as quality, cost, delivery, and where appropriate, design and development. This system shall include education and training in problem solving techniques, employee involvement, and cost of quality data.

Tolerance studies shall be part of the product development process in order to determine whether the supplier's manufacturing process is capable of delivery these requirements.

PRE-AWARD MEETING / INDUSTRIALISATION AGREEMENT

A pre-award meeting (GFN - 282) or industrialisation agreement for new or current suppliers offering new products or services shall be required prior to purchase order release, unless formally deviated by GTS.

Technical, quality, manufacturing, engineering, purchasing, delivery, and business issues shall be reviewed during this meeting to provide the supplier with a thorough understanding of GTS' requirements. A signed Component Supply Feasibility (GFN - 283) agreement may be required prior to the purchase order being issued.

ENGINEERING PROTOTYPE SAMPLE SUBMISSION

Engineering prototype parts with documentation of specification conformance shall be submitted for engineering validation testing to GTS. Each sample or prototype must be accompanied by a completed dimensional results Report. (GFN – 043), material test results report, and performance test results report (GFN - 179 or acceptable equivalent). Specific instructions will be issued by the purchasing team.

PROCESS SIGN OFF

At the discretion of the GTS' Purchasing team, and prior to the ISIR / PPAP submission, a Process Review shall be conducted at the supplier's facility. This review, if required will be completed for the quality planning and manufacturing processes for new or significantly changed products.

PRODUCTION PART APPROVAL PROCESS

All production part sample submissions shall include all requirements listed above in the previous paragraph, and in addition shall include, at the purchasing team's discretion, Part Submission Warrant form (GFN – 276), Appearance Approval Report (GFN - 277) where applicable, process potential and process capability studies, gauge certifications, measurement systems analysis studies, quality planning information (process flow, PFMEA, control plan), marked up (ballooned) and cross referenced actual dimensioned drawings, copies of any outstanding engineering deviations, launch containment plan, etc. Specific instructions will be issued by the purchasing team.

Any shipment of production product without first obtaining either a signed, approved Part Submission Warrant (PSW) or an approved Engineering Deviation (concession) shall be classified as defective product. All costs, penalties, responses, and actions detailed in the Defective Material Notification DMN (GFN - 162) will apply.

VERIFICATION OF PURCHASED PRODUCT

The supplier shall allow both GTS and its customers the right to verify, at the supplier's premises, that product and subcontracted product conforms to specified requirements. Whenever this element is required, the responsible GTS purchasing team member shall specify both the arrangements and method of performing the inspections.

CHANGES TO APPROVED PROCESSES

It is the supplier responsibility to notify the appropriate GTS purchasing team member of all intentions to change the manufacturing process. Written approval from GTS must be received prior to change implementation. Specific instructions can be obtained from the responsible purchasing team member. GTS purchasing will communicate if an Initial Sample Inspection Report will be required. Failure to comply with these requirements shall make the supplier fully responsible for absorption of all costs resulting in failures attributable to the change.

ANNUAL LAYOUT AND VALIDATION

In order to assure continuing purchased parts conformance for the life of the product, a periodic layout inspection and specification validation may be required for each reference or family of references. Specific instructions will be supplied by the purchasing team, however the minimum requirements listed below shall be included.

1. Part Submission Warrant form (GFN – 276). Check box “Other” and list Annual Validation in the “Reason for Submission” section.
2. Details of gauges / measuring equipment used with calibration evidence.
3. Full part layout to the current drawing from each unique tool cavity with results noted on form (GFN – 043).
4. Material test results per contract, drawing, and specification requirements noted on form (GFN – 043). If a certified lab is used, which could include the supplier's facility, the applicable accreditation should be detailed.
5. Ongoing Product Validation testing (performance test) as specified in the contract, drawing and specifications, with the results summarised on form (GFN – 179)
6. Current long term process capability information for all significant characteristics, critical characteristics, key product and process characteristics, or any other such name, as designated on the control plan. The control plan, at minimum, shall contain all drawing significant characteristics (SC) which will be defined by GTS.

MANUFACTURING CONTROL

Dies, Patterns, Moulds and Special Tooling

The supplier shall establish preventive/predictive maintenance procedures on all tooling. Evidence of procedure execution shall be available upon request. These items shall be permanently marked so that the ownership of each item is visually apparent.

Preventive maintenance schedules and tool history records shall be documented and available for review.

Defective Material Notification / Non-conforming Service

A Defective Material Notification (DMN) is issued when GTS receives material or service that fails to conform to specifications or is shipped in an unapproved status. A written corrective action response is required from the supplier detailing the root cause of the non-conformance, and the corrective actions implemented to prevent future occurrences. This response must also include verification of the effectiveness of these corrective actions.

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A formal corrective action plan (e.g., 8D) is required within twenty-four (24) hours of notification. At minimum, this action plan shall identify the problem and what immediate containment actions have been instituted. A completed corrective action plan, listing root cause, corrective actions, verification of corrective action, and prevention actions shall be required no later than thirty (30) days after problem identification. Specific requirements will be given by the purchasing team.

All costs associated with shipping, handling, processing, reworking, inspecting, and replacing defective material including the cost of value-added operations prior to its discovery shall be charged to the supplier.

DEVIATIONS FOR NON CONFORMING MATERIAL

It is not the policy of GTS to accept product that does not meet the requirements of our drawings and specifications. Requests for concessions on nonconforming product shall be submitted to the GTS purchasing and /or plant quality for review by the accepted design authority prior to shipment. Concession Form (GFN – 221) or equivalent shall be used. Any such requests shall be accompanied by a thorough explanation of the root cause for the non-conformance, the actions taken to eliminate these root causes and prevent recurrence, and the date of conforming product availability.

Deviation requests for continuous improvement proposals are encouraged.

CERTIFICATES OF CONFORMANCE / SPC DATA

A signed certificate of conformance, certificate of analysis, and/or SPC data may be required to accompany each shipment of specified components or materials. The certificate of analysis must contain the action results of physical testing or measurements specified by the contract. SPC data requirements must cover special/control characteristics, at minimum. Specific guidance will be given by the GTS purchasing team.

DELIVERY PERFORMANCE EXPECTATION

The supplier shall have 100% conformance to the delivery requirements as specified by the purchasing team. All costs incurred as a result of delivery non-conformance shall be borne by the supplier.

PRODUCT IDENTIFICATION AND PACKAGING

Each container, rack, box, or pallet of material shipped to GTS shall be identified in accordance with GTS requirements as specified in the purchase contract.

Identification shall permit traceability back to specific supplier manufacturing and inspection records. Safety controlled criteria shall conform, at minimum, to customer, national, or international regulations, as required. Exception to this requirement shall be granted only by the GTS purchasing team.

Packaging shall conform to the GTS receiving plant's requirements. Suppliers are responsible for maintaining written instructions detailing proper packaging, storage, and shipping.

SUB SUPPLIER CONTROL

Each GTS supplier is fully responsible for the control and continuous improvements efforts of their suppliers.

Sub-suppliers that furnish products with control characteristics must implement appropriate documented controls.

Sub-supplier controls, quality management systems, and improvement plans shall be reviewed by the supplier on a periodic basis. If the supplier should require assistance in the control of sub-suppliers, a GTS representative should be contacted.

GTS suppliers shall require their sub-suppliers to conform to the requirements specified herein.

COMPONENT WARRANTY

It is the expectation of GTS that all components supplied will conform to the requirements of the Suppliers Warranty Terms and Conditions (GFN – 279).

Applicable Administrative Charges for Nonconformances

At the discretion of the plant and with the concurrence of the purchasing team, a fee of £15 GBP, or equivalent, will be charged for the following situations.

1. Defective Material Notice (DMN) or Nonconforming Service
2. Nonconforming Product Deviation/Concession Requests
3. Shipments of unapproved product.
4. Delivery Performance Failures (in addition to any actual costs associated with the failure)
5. Warranty

SUPPORTING DOCUMENTS

Supporting documents referenced in this document and their sources are listed in Appendix A. It is the responsibility of all suppliers to GTS, both current and prospective to obtain and maintain the current issues of the documents from the listed sources, as these documents describe the industry standards for the common requirements expected of the supplier base. All documents are available from the Purchasing Representative.

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