High Temp Metals, Inc.
12500 Foothill Blvd.
Sylmar, CA 91342-6038
Phone: 800-500-2141  818-362-5357
FAX: 818-362-9884
Email: sales@hightempmetals.com

# QUALITY MANAGEMENT SYSTEM MANUAL

## 1. INTRODUCTION

High Temp Metals, Inc. (HTMI) is a distributor of high temperature, corrosion resistant, shielding, electronic, and controlled expansion grades of Nickel and Cobalt alloy metals. Grades are stocked in sheet, plate and bar. Our large and extensive inventory allows fast deliveries on hard to find metals for the aerospace, petrochemical and electronic industries. HTMI has in-house capability to shear, band saw, abrasive saw, and water jet cut materials from stock. For more information about the company and our capabilities, visit our website at **http://hightempmetals.com/**. Our AQMS is designed to comply with the requirements of the aerospace standards AS 9100 and AS 9120.

## 2. NORMATIVE REFERENCES

All the terms and definitions given in ISO 9000 apply to our AQMS. The requirements in ISO 9001:2015, AS 9100D and AS 9120B also apply to our AQMS.

## 3. SYSTEM PROCESS DESCRIPTION AND INTERACTION

We have identified the processes and their interaction needed for the successful operation of the Quality Management System (QMS) for this site as shown in Appendix "A".

## 4. CONTEXT OF THE ORGANIZATION

### 4.1 Understanding the Organization & its Context

The internal and external issues for our organization that are relevant to our purpose and strategic direction and that may affect our ability to achieve the intended results of our QMS are:

- Whether our employees understand the role they play in the success of the QMS objectives and perform their job functions accordingly to achieve success in meeting the QMS goals. We provide training as needed to both help employees understand their role in achieving the QMS objective goals, and to help them perform their job duties to achieve success in meeting the QMS objectives goals (see section 7.1).
- Whether we can deliver products conforming to the customer's requirements within the time frame we have agreed by contract that we will deliver the product. We use risk-based thinking when considering whether we can accept the customer's requirements and we monitor the information relative to these issues by setting measurable quality objectives (see section 6.2).
- Whether our external suppliers can provide the procured material and services, relative to our product, within the time frame of our contract (PO), and that are conforming to all our requirements. We mitigate the risk of these issues by utilizing known suppliers with a history of acceptable performance, vetting new suppliers as described in section 8.4 below and monitoring and reporting supplier performance at the management review.

### 4.2 Understanding the Needs & Interests of Interested Parties

The interested parties for our organization are our employees, our direct customers and our suppliers. Our employees need an adequate and comfortable work environment conducive to being able to fulfill our customer's requirements, and they are interested in the success of the company in order to have continued employment. The customer needs and interests are the same as the external issues noted above, i.e. will we be able to deliver conforming product by the contract delivery date, and we monitor and review the information relevant to their needs and interests by setting measurable quality objectives (see Section 6.2). The suppliers are interested in continuing to have us as a customer and therefore need to deliver conforming product to us per the delivery date agreed to in our PO to them.

### 4.3 Determining the Scope of the Quality Management System

***AS 9100D:*** *The scope of the Quality Management System (QMS) is:*

***"Providing customer required shapes cut from high temperature, corrosion resistant, shielding, electronic, and controlled expansion grades of Nickel and Cobalt alloy metals.***

***AS 9120B:*** *The scope of the Quality Management System (QMS) is:*

**"The distribution of high temperature, corrosion resistant, shielding, electronic, and controlled expansion grades of Nickel and Cobalt alloy metals."**

The Scope of the AQMS is further defined by Appendix "A" that describes our processes, interaction, inputs and outputs within the AQMS.

The following sections are not applicable to the above QMS requirements that are due to the nature of the HTMI operations (the clause numbers relate to the clauses in AS 9100).

**8.3** We supply raw materials as specified by the customer and have no product design authority or responsibility. Therefore, this section has been determined to be not applicable to our AQMS as allowed by clause 4.3 of AS 9100.

**8.4.3 b.** We do not have a need to approve the material being purchased, the methods, processes, equipment or the release of the material since we flow-down to the supplier all the needed requirements in the form of conformance with established industry specifications and/or specific customer requirements. Therefore, this section has been determined to be not applicable to our AQMS as allowed by clause 4.3 of AS 9100.

**8.4.3 d.** There are no special interactions required between us and our suppliers beyond the normal interactions of a customer and supplier. Therefore, this section has been determined to be not applicable to our AQMS as allowed by clause 4.3 of AS 9100.

**8.4.3 g.** We have no product design or development responsibility. Therefore, this section has been determined to be not applicable to our AQMS as allowed by clause 4.3 of AS 9100.

**8.4.3 j.** We do not apply statistical techniques for material acceptance. Therefore, this section has been determined to be not applicable to our AQMS as allowed by clause 4.3 of AS 9100.

**8.5.3** We do not utilize any customer or external provider's property. Therefore, this section has been determined to be not applicable to our AQMS as allowed by clause 4.3 of AS 9100.

## 4.4 Quality Management System & its Processes

The processes of the QMS, and their sequence, interaction, inputs and outputs are identified in Appendix A of this manual. Our QMS addresses the requirements as defined in AS 9100, AS 9120 and any applicable QMS requirements defined by our customers. Any applicable statutory and regulatory requirements, other than those applied to all businesses by the State and Federal governments such as OSHA, are defined by our customers.

The outsourced processes that can affect material conformity to customer requirements are NDT and testing of the mechanical properties of the material, e.g. tensile and yield strength. These outsourced processes are controlled by our purchasing procedures wherein the suppliers of the processes are approved as described in Section 8.4 below, and the requirements are defined in the purchase order to the supplier. These are usually in the form of reference to a specification that defines the requirements for the process and verification that the process meets requirements is confirmed by the certification records received from the supplier and/or the receiving inspection performed by HTM.

# 5. LEADERSHIP

## 5.1 Leadership & Commitment

The top manager at HTMI is the company President. The President is committed to the development, implementation and continual improvement of the Quality Management System. Evidence of the President's commitment includes:

a) Understanding the importance of meeting customer requirements as well as any required statutory and regulatory requirements,

b) Having established the quality policy (see Section 5.2),

c) Having established the quality objectives (see Section 6.2),

d) Conducting management review meetings to review and continually improve the quality management system (see Section 9.3),

e) Ensuring availability of resources as required for meeting customer requirements (see Section 7.1).

f) Ensuring that internal audits are conducted to assess our compliance to AS 9100, AS 9120 and our AQMS documents.

### 5.1.2 Customer Focus

In order to help achieve customer satisfaction with the materials provided by HTMI the President ensures that customer requirements are determined and met as described in Section 8.2 and customer satisfaction is determined as described in Section 9.1.2. In addition, material conformity and on-time delivery performance are part of our quality objectives that are monitored by the President. If the data indicate that the objective goals are not, or will not be achieved, the President will initiate appropriate action(s).

## 5.2 Policy

### 5.2.1 Establishing the Quality Policy

The President of HTMI has established and, by approving this Aerospace Quality Management System Manual, has approved the following Quality Policy that provides a framework for the quality objectives:

> ***HTMI, Inc. will provide our customers with materials that meet their requirements while continually improving the effectiveness of our QMS.***

In simple terms, our policy is to give our customers what they want and keep improving.

### 5.2.2 Communicating the Quality Policy

In addition to being defined in this Quality Manual the policy is also posted in the facility for easy access by all employees. Also, the President has communicated the policy to all employees and applied the policy through the establishment of the quality objectives as noted below in Section 6.2. Since this Quality Manual is available to any relevant interested party, e.g. our customers and suppliers, the Quality Policy is therefore likewise available.

## 5.3 Organizational Roles, Responsibilities & Authorities

The President ensures that the roles, responsibilities and authorities for the employees are defined and communicated through their personal and daily job interaction with all employees. Also, some responsibilities may be defined and documented in the QMS procedures and/or work instructions.

The President has designated the Vice President (VP) as the Management Representative who oversees the Quality System Management and:

a) the ensures that the QMS conforms to the requirements of AS 9100,
b) ensures that processes needed for the Quality Management System are established, implemented, maintained, and are delivering their intended outputs,
c) monitors the performance of the Quality Management System and any need for improvement via the Management Review Meetings or as he deems necessary,
d) ensures the promotion of customer focus throughout the organization and
e) ensures integrity of the QMS is maintained when QMS changes are made.

# 6. PLANNING

## 6.1 Actions to Address Risks & Opportunities

When implementing this QMS management continuously considers risks and opportunities as applicable to the processes we have. This includes considering the risks associated with such things as the:

- customer specified material requirements,
- customer required delivery times,
- ability of suppliers to meet requirements and
- risk associated with establishing the calibration interval for monitoring & measuring equipment.

And the opportunities for improvement are considered that may:

- enhance desirable effects and
- prevent or reduce undesirable effects.

The management addresses the risks and opportunities as part of the implementation of each process, e.g. when determining whether a customer RFQ or PO can be accepted, or when placing purchase orders to suppliers. We use Appendix B herein as a guide for assessing the risk. The overall effectiveness of the actions is determined by how well the quality objective targets are met and if the results are not as expected, appropriate action(s) is (are) determined.

## 6.2 Quality Objectives & Planning to Achieve Them

Quality objectives have been established by the President that relate to on-time delivery and material rejects. The objectives are ongoing, consistent with the quality policy, have measurable targets and are tracked and monitored. The President reviews the quality objectives, as a minimum, at the Management Review meetings. All the employees have a role in achieving the objectives and any actions needed, as a result of the review of the performance to the goals, are assigned at the review (see Section 9.3 below). The objectives, and progress toward achieving them, may also be posted at the facility.

## 6.3 Planning of Changes

The integrity of the quality management system is maintained through the document control process when changes to the system are planned and implemented. Actions and any required follow-up involving QMS changes are documented at the Management Review meetings.

# 7. SUPPORT

## 7.1 Resources

The President and the VP determine and provide the resources needed to implement, maintain and continually improve the QMS, taking into account the capabilities of, and constraints on, existing resources and what we may need to procure from suppliers.

### 7.1.2 People

The President and the VP determine and provide the necessary personnel for implementing the QMS.

### 7.1.3 Infrastructure

The President & the VP, as part of their routine responsibilities, assure that the infrastructure is provided so as to ensure conformity to material requirements. Employees are encouraged to offer suggestions for improvement to the infrastructure that will then be evaluated by the President and/or VP. As part of maintaining the infrastructure, any preventive machine maintenance is conducted per the manufacturer's recommendations along with the required maintenance of the fork lifts.

#### 7.1.3.1 Data Backup Policy

Data backup is automatically performed daily to another onsite server, to an offsite server and to a USB flash drive.

### 7.1.4 Environment for the Operation of Processes

The President and VP, as part of their routine responsibilities, assure that the work environment is provided and managed so as to assure conformity to material requirements. Employees are encouraged to offer suggestions for improvement to the environment that will then be evaluated by the President and/or VP.

### 7.1.5 Monitoring & Measuring Resources

#### 7.1.5.1 General

HTM utilizes equipment that requires a known state of accuracy. A software system is maintained that serves as a registry for the equipment, including details of the type, ID, location, frequency of verification or calibration, method and acceptance criteria**.** If equipment is found to be out of conformance to requirements, it shall be removed from service and repaired/replaced. A review of inspection records will be performed to identify any material that might possibly be affected and appropriate action will be taken to determine material conformance. The details and results of the investigation are recorded using the corrective action process.

Records of the calibration are maintained per *QP 7502 – Control of Quality Records*.

#### 7.1.5.2 Measurement Traceability

The measuring equipment used is verified using a set of gage blocks that are calibrated at specified intervals against measurement standards that are traceable to national measurement standards.

Each piece of measuring equipment carries a unique ID number and is safeguarded from adjustments, as applicable, and damage or deterioration that would affect its calibration status.

If equipment is found to be unfit for its intended purpose, it shall be removed from service and repaired/replaced and management determines if the validity of previous measurement results has been adversely affected and shall take appropriate action as needed..

### 7.1.6 Organizational Knowledge

The organizational knowledge needed for the operation of our QMS is provided by the skill of the employees, the information provided by our customers in the form of purchase orders and/or specifications and the Sales Order created for furnishing the material to the customer requirements. All relevant documentation is available as needed to the employees.

## 7.2 Competence

The initial competence of new employees is assessed through the hiring interview process. The President or VP assesses whether the ongoing competency of the employees is adequate to the task(s) assigned through daily, direct supervision and determine whether any training is required. If the President or VP determine that training is required, either to achieve the desired competency in a position, or in preparation for another position, records are maintained of the training need and the training accomplished per *QP 7502 – Control of Quality Records*. The effectiveness of training conducted is evaluated by the President and/or the VP through their direct daily supervision and interaction with every employee.

## 7.3 Awareness

Management continually reinforces, through the daily, personal interaction with the employees, the need to be aware of the company's quality policy, quality objectives, their contribution to the effectiveness of the QMS, the product conformity and safety, and the need for ethical behavior. Management further ensures that employees have access to the QMS documentation and informs them of any QMS document changes relevant to their job.

## 7.4 Communication

In addition to the internal communication provided by the routine daily supervisory process and face-to-face interaction, management holds periodic all-hands meetings to provide employees with information related to all aspects of the business. The President and/or the VP are the primary contact for any external communication other than customers and suppliers. Management and Sales personnel are the primary ones who communicate with both suppliers and customers.

## 7.5 Documented Information

### 7.5.1 General

We have determined that the controlled documents to be maintained for the QMS are this quality manual and the sub-tier procedures, Work Instructions and forms maintained on the company server by the Management Representative and some external controlled documents as described in our quality procedure *QP 7501 – Control of Documents*.

### 7.5.2 Creating & Updating

The controlled documents are created, updated and maintained per our quality procedure *QP 7501 – Control of Documents*. Requirements for the controlled documents, including identification, approval, revisions and document availability, are defined in the procedure. Documented information, in the form of records that provide objective evidence that the QMS is being implemented as required, is controlled and retained per our quality procedure *QP 7502 – Control of Quality Records*.

### 7.5.3 Control of Documented Information

All documented information is controlled per the requirements defined in the procedures noted in 7.5.2 above. All electronic documentation is maintained by the Management Representative and is protected from loss by any means through a data backup that is automatically performed daily to another onsite server, to an offsite server and to a USB flash drive.

## 8. OPERATION

### 8.1 Operational Planning & Control

We plan for the supply of material starting with review of the customer requirements (see Section 8.2 herein). The quality requirements for the material procured, including any cutting, inspection and test requirements and the acceptance criteria, are flowed down from the customer, usually in the form of customer purchase order. The records required to provide evidence that the material meets requirements are defined in, and maintained per, *QP 7502 – Control of Quality Records*.

### 8.1.1 Operational Risk Management

HTM simply supplies raw materials per the customer requirements, therefore there is ***low*** risk associated with customer orders. Any risks associated with customer orders, such as a short delivery, or a very special material, are evaluated by the President or VP during the order review process as described in Section 8.2 below. Other risks that may be associated with the QMS are addressed by the President and/or the VP as part of their ongoing responsibilities for the management of the company. The Risk Management Matrix (Appendix B) is utilized as needed for the evaluation of situations, and special customer orders/requirements that are beyond low risk. HTM may also elect to forego orders that management deems as greater than low risk.

### 8.1.2 Configuration Management

8.1.2.1 Configuration management, planning and identification are done through our planning document which also acts as our Job Card (aka a Traveler). The planning document is part- and purchase-order specific so each configuration is identified and either lot controlled or serial number controlled. The planning document has all the relevant information needed to complete the configuration as per customer requirements.

8.1.2.2 Any changes flowed down from our customer are reviewed for changes to configuration of the material by the President or VP. If the job has been released to production the job will be placed on hold pending review of the change requirements. The review will take into consideration:

- Material configuration revisions
- Impacts on delivery, price, ability to complete
- Changes in special processes
- Any changes required for documentation
- All relevant and related documents are changed accordingly to reflect the customer changes.
- Verification of change is confirmed at inspection

8.1.2.3 Evidence of the configuration management process can be found with the planning documents.
All details including revisions, inspection reports and related information is kept with the job planning documents.
Configuration auditing appropriate to our organization, is accomplished through the internal audit process.

### 8.1.3 Product Safety

Since we supply only raw material there is no inherent safety issues related to the product. We employ good and common industry practices for safely handling the materials.

### 8.1.4 Prevention of Counterfeit Parts

Since we supply only raw material, the counterfeit issue is limited to whether the material is exactly as described on our purchase order and the subsequent documentation, e.g., Mill Test Report (MTR), provided by the suppler. We mitigate the risk of counterfeit material by dealing only with known suppliers that have a reputable history in the industry. We further mitigate the risk of counterfeit material by reviewing the test report data to verify it meets the specified requirements. If we have any concern as to the validity of the test data, we have the ability to send the material for testing by an independent laboratory and we have the in-house capability to identify the chemistry of the material.

### 8.2 Requirements for Products

### 8.2.1 Customer Communication

Customer communication, including that related to material information, inquiries, contracts, and order handling (including changes), and customer feedback including complaints, is conducted through the Sales department and/or the President and/or VP.

### 8.2.2 Determining the Requirements for Products

All customer material requirements, including any applicable statutory and/or regulatory requirements, are determined through receipt of a customer request for quote (RFQ) and the customer's purchase order. For some repeat orders, the RFQ may be skipped and the process begins with the receipt of the customer PO.

### 8.2.3 Review of the Requirements for Products

The RFQ is reviewed by the applicable Salesperson and a quotation is prepared by Sales. Upon receipt of a customer purchase order, the Salesperson reviews the order against the quotation to ensure that the requirements on the quote and order match so that all the requirements are accurately defined on the order. A final review of the customer's order is performed to ensure that:

- all necessary requirements are defined and any differences in the quote and the order have been resolved,
- we have the ability to meet the defined requirements,
- any special requirements of the material have been determined
- all appropriate risks, e.g., short delivery, have been evaluated.

The approval documented on the Job Card is the verification that the customer requirements have been reviewed and are acceptable.

### 8.2.4 Changes to Requirements for Products

If the customer changes the material requirements after the order is finalized and the change is acceptable, a new Job Card is generated to replace the previous one and the review and approval process is repeated.

## 8.3 Design & Development of Products & Services

This requirement is not applicable to our QMS as explained in Section 4.3 above.

## 8.4 Control of Supplier Provided Processes, Products & Services

### 8.4.1 General

HTMI accepts responsibility for the conformity of all supplier provided processes, products and services, including those defined by our customers.

We utilize only customer specified and/or customer approved special process suppliers when the customer flows down such a requirement to us. The ASL notes such customer approval and mandated suppliers.

We manage the risk associated with the supplier selection by maintaining multiple material and process suppliers. Suppliers, with an unacceptably high risk will be identified through their poor performance data.

As noted below, we require our direct suppliers to flow-down any applicable requirements to their suppliers.

For supplier of services that may be performed on material we procure after we receive it, e.g. subsequent heat treating or testing, the service is required to be conducted to either specific customer requirements or to industry specifications that will result in meeting the customer's requirements.

We do not procure material that is directly shipped to our customer from our supplier.

**8.4.1.1** The following further controls related to procurement from our suppliers:

a. The President and/or the VP is the sole authority for the selection and control of suppliers. When considering whether to approve a new supplier the President or VP considers any risks in using them, such as their past delivery and quality performance, along with the following criteria:

   - Sole source supplier – if the supplier is a sole source of the required material or service, this is considered grounds for approval.

- Customer approved supplier – if our customer has approved and/or specifies a supplier, this shall be considered adequate for approval.
- Quality, delivery and price as ascertained by the President or VP.

b. We maintain a register (list) of all approved suppliers as the Approved Suppliers List (ASL). The list includes the approval status, the scope of approval, approval criteria. The performance of the suppliers is evaluated for each order received through the receiving inspection process and any rejected material is returned to the supplier, or scrapped, whichever the supplier recommends.

c. We review the performance of our suppliers, including their conformance to product requirements and on-time delivery, once each year as a minimum, at the management review.

d. The President and/or VP determine the necessary actions, if any, needed as a result of the performance review, as an output of the management review.

e. Since we require the supplier to furnish all required material records to us and we then control those records in accordance with our procedure for the control of records, we have no need to define any requirements for record control to our suppliers

**8.4.2 Type and Extent of Control**

By closely monitoring the quality and delivery performance of our suppliers we ensure that the supplier's performance does not adversely affect our ability to consistently delivery conforming material to our customers.

We also:

a. ensure that suppliers that provide processes, e.g. heat treat, maintain control of their processes by specifying that the performance and acceptance of the process be conducted per well-established industry specifications such as the AMS 2759 series for the heat treatment of alloy steels.

b. control the suppliers by monitoring their quality and OTD performance and if they do not perform to expectations we may request they provide corrective action, and/or we may disqualify them as a HTM supplier.

c. take into consideration:

1. that all our material and material processing suppliers can have an impact on our ability to consistently meet our customer's requirements and therefore the same controls apply to all of them.

2. the effectiveness of the controls applied to our suppliers by the performance monitoring we do as noted above.

3. the results of the supplier performance review that is conducted as per 8.4.1.1 c. above.

d. verify the material purchased from our suppliers, or the material properties obtained by a material process supplier through examination of the documentation required from the supplier, e.g., the Mill Test Reports from the original supplier, or a heat-treat certification from a subsequent heat treat supplier; and a random verification of dimensional characteristics may also be made.

We do not accept material or processing of material from our suppliers until we have verified that the requirements have been met. We also do not delegate the verification of the material or the material processing to our suppliers.

We review the data on the test reports provided by the material supplier to verify it conforms to the specified requirements. If the material is designated by our customer as a critical material, or for use in a critical application, we re-test the material properties using an independent test laboratory for each line item so designated on the order.

**8.4.3 Information for Suppliers**

Materials are purchased for the customer using a documented purchase order (PO). The President and/or VP ensures that the PO communicates the purchase requirements appropriate to our operations that include the following, as applicable to each order:

a. Defining the industry specification for the material or process we procure on our PO to the supplier and verifying the requirements are met when the material is received through a review of the required material and/or process certification records supplied.

b. This requirement is not applicable to our QMS as explained in Section 4.3 above.

c. The specifications we require the procured material to meet, e.g. NDT, have within the specification any needed personnel qualification requirements.

d. This requirement is not applicable to our QMS as explained in Section 4.3 above.

e. The supplier's performance is evaluated by monitoring their quality and delivery, viz. material rejects and on-time delivery and management ensures the suppliers are aware of such evaluation.

f. We reserve the right to perform source inspection at our supplier's premises as noted in our standard conditions defined in our "Purchase Order Standard Clauses" form that is attached to our PO to the suppliers.

g. This requirement is not applicable to our QMS as explained in Section 4.3 above.

h. Specifying on our PO to the supplier any applicable requirements for special requirements, critical items or key characteristics, if those are given to us by the customer.

i. Identifying in the PO to our supplier any applicable requirement(s) for test, inspection or other requirements for the material, beyond what is required in the industry specifications identified in our PO.

j. This requirement is not applicable to our QMS as explained in Section 4.3 above.

k. The PO to our supplier further identifies the following needs as applicable:

- We have no need to impose any specific QMS requirements on our suppliers nor do our customers require that we impose such requirements on our suppliers and therefore this sub-clause is not appropriate to our operation.
- Utilizing only customer specified and/or customer approved special process suppliers when the customer flows down such a requirement to us. The ASL notes any customer approved and mandated suppliers.
- Noting in our standard condition defined in our "Purchase Order Standard Clauses" form that is attached to our PO to the suppliers, to notify us about nonconforming processes and products and obtain our approval for same if it is proposed to ship the material in that condition.
- Noting in our standard condition defined in our "Purchase Order Standard Clauses" form that is attached to our PO to the suppliers, the importance of guarding against counterfeit material.
- Noting in our standard condition defined in our "Purchase Order Standard Clauses" form that is attached to our PO to the suppliers, any applicable requirements to notify us of any changes to their processes, or any other changes that would affect the material or material processing being supplied to us and to get our approval for same prior to shipment.
- We identify in the PO to the supplier all the applicable requirements for the material or the material processing, including those specified by our customer.
- We identify in the PO to the supplier all the applicable requirements for the testing of the material or for furnishing us any needed test specimens. Since we require the supplier to furnish all required material records to us, and we then control those records in accordance with our procedure for the control of records, we have no need to define any requirements for record control to our suppliers.

l. We reserve the right of access to our supplier's facilities for us, our customers and any applicable regulatory body through a standard condition defined in our "Purchase Order Standard Clauses" form that is attached to our PO to the suppliers.

m. We require suppliers, through our standard condition defined in our "Purchase Order Standard Clauses" form that is attached to our PO to the suppliers, to ensure their personnel are aware of:

- their contribution to material and material processing;
- their contribution to product safety;
- the importance of ethical behavior.

## 8.5 Production and Service Provision

### 8.5.1 Control of Production and Service Provision

The only "production" process we employ is when we occasionally cut a piece of material to a length specified by the customer. Production is scheduled for the shop by the President or VP. Production is controlled through the use of the Job Card that provides all the control needed to furnish material that meets the customer's requirements.

Because we furnish only raw material procured from suppliers, our monitoring and measuring activity consists of:

- verifying the material as received (as noted in Section 8.4.2 above) and

- verifying the results of any subsequent processing, e.g. heat treating, by our suppliers (also as noted in Section 8.4.2 above)
- verifying the appropriate characteristics of the material to the requirements specified on the customer's purchase requirements. Typically, these are the dimensional characteristics of the material. All inspection records are maintained in accordance with *QP 4240 – Control of Quality Records*.

8.5.1.1 The Machine Operator validates production processes during set up. Operators are responsible for preservation and condition checks. Suitable maintenance of equipment to ensure process capability is carried out. The Job Card contains specific provisions for inspection of the first article to validate the NC programs and processes used for the specific material.

8.5.1.2 Any processes considered "special processes" that are outsourced are required to conform to recognized industry specifications such as AMS material specifications, ASNT specifications, etc. and those specifications were developed to insure the processes are valid. The receipt of certifications and/or test reports that verify the specifications were met therefore is considered the validation of the processes. No "special processes" are performed in-house.

8.5.1.3 The only "production process" we employ is the cutting of some material. The process is verified by subsequent dimensional inspection to ensure the cut dimensions conform to the specified requirements.

### 8.5.2 Identification and Traceability

Material is identified in the customer PO, including the material description and possibly a customer part number (including revision level if supplied by the customer). The material in a lot may be serialized. The Job Card contains the customer PO number. Therefore, traceability is maintained from the customer PO number to the production records associated with the material supplied for that customer PO. Those records are maintained per *QP 4240 – Control of Quality Records*.

### 8.5.3 Property Belonging to Customers or External Providers

This requirement is not applicable to our QMS as explained in Section 4.3 above.

### 8.5.4 Preservation of Product

8.5.4.1 HTMI has minimal involvement regarding material preservation in that all the materials we supply are highly resistant to corrosion and deterioration.

8.5.4.2 Material is stored in our warehouse in accordance with good and common industry practice for each type of material, i.e. sheet, plate, bar, etc. All material storage locations are identified by storage location numbers and the data are maintained in a software system specifically for warehouse control.

8.5.4.3 Handling of the materials is accomplished through the use of forklifts and jib cranes with vacuum lifters.

8.5.4.4 Packaging methods follow good and common industry practice unless there are unique packaging requirements specified by the customer, such as export packaging.

### 8.5.5 Post-Delivery Activities

The post-delivery activities applicable to our AQMS are limited to only product warranty issues that may arise. When a warranty claim is submitted by the customer we investigate as to the validity of the claim and top management will determine the applicable action to be taken, e.g. material replacement, full or partial cost refund or future credit.

### 8.5.6 Control of Changes to Production

The President and VP have the authority to approve production process changes. Changes that affect quality are assessed, controlled and documented on the Job Card and final inspection of the material insures that the change has not had any effect on material conformity.

## 8.6 Release of Products & Services

The appropriate characteristics of the material are verified (inspected) to the requirements specified on the customer's purchase requirements prior to release for shipment to the customer. Typically, these are the dimensional characteristics of the material. Material properties are verified at receipt as noted in Section 8.4.2 d. above. All inspection records are maintained in accordance with *QP 7502 – Control of Quality Records*.

## 8.7 Control of Nonconforming Product

HTMI controls all nonconforming material in accordance with *QP 8700- Control of NC Product* to ensure the customer receives material conforming to their requirements.

Records of the nonconformity, the disposition and any customer concessions are maintained in accordance with *QP 7502 – Control of Quality Records*.

# 9. PERFORMANCE EVALUATION

## 9.1 Monitoring, Measurement, Analysis & Evaluation

### 9.1.1 General

The AQMS processes are monitored, measured, analyzed and evaluated through the internal audits and management reviews. Corrective action is taken as appropriate to insure conformity of the process.

### 9.1.2 Customer Satisfaction

The constant interface with all the customers by both the President and the VP provides the information we need to obtain an adequate sense of the perception of those customers as regards how well their requirements are being fulfilled. Any formal complaints from customers are documented by the President or the VP, including the nature and resolution of the complaint. If the President or VP determines that the complaint may indicate a systemic problem, the corrective action process will be used to implement and document the cause and action taken. Surveys may be solicited from customers as an added method for determining customer satisfaction; however, because of the subjective nature of surveys and the traditionally poor response rate, use of this method is purely at the discretion of the President.

As part of insuring customer satisfaction, we have identified quality objectives related to two of the things we believe are of utmost important to customers – on-time delivery and conforming material.

### 9.1.3 Analysis & Evaluation

Appropriate data are collected and analyzed to demonstrate the suitability and effectiveness of the quality management system and to evaluate where improvements can be made.

Typically, analysis of data may provide information about:

a) Customer satisfaction from results of the evaluation of delivery performance and rejections
b) Data indicating performance to the quality objectives.
c) Rejection data indicating material nonconformance.
d) Any data that could provide information leading to QMS improvements or preventive actions.
e) Ongoing monitoring of performance of suppliers.

## 9.2 Internal Audit

Internal audits of the quality system are planned and conducted per *QP 9200 – Internal Audits* to ensure the AQMS is in conformance to AS 9100, AS 9120 and our internal AQMS controlled documents and is effectively implemented and maintained.

## 9.3 Management Review

### 9.3.1 General

The following sections describe the inputs and outputs for the Management Review. Records of the reviews are maintained per *QP 7502 – Control of Quality Records*.

### 9.3.2 Management Review Inputs

The President reviews the following agenda inputs at each Management Review meeting conducted, as a minimum, once per calendar year:

a) any follow-up actions resulting from previous management review(s),
b) any changes that we believe may affect the QMS,
c) information on the performance effectiveness of the QMS, including trends in:
    1) customer feedback – through Customer complaints and solicited and unsolicited feedback,
    2) the extent to which the quality objectives have been met,
    3) process performance and product conformity,
    4) nonconformities & corrective action,
    5) monitoring & measurement results,
    6) audit results,
    7) supplier performance
    8) on-time delivery performance
d) resource requirements,
e) identification of any risks
f) the effectiveness of any actions taken to address risks & opportunities and
g) any opportunities for improvement.

### 9.3.3 Management Review Outputs

Output from review of the quality management system, in the form of decisions and/or action items documented in the record, includes any needed actions related to all the above inputs.

## 10. IMPROVEMENT

### 10.1 General

We determine and select opportunities for improvement and implement any needed actions in order to meet customer requirements and enhance customer satisfaction by any or all of the following:

- improving procurement practices to meet the customer requirements and addressing future needs and expectations,
- correcting, preventing or reducing undesired effects and
- improving the performance and effectiveness of our QMS.

### 10.2 Nonconformity and Corrective Action

In order to eliminate the recurrence of systemic nonconformities, or other undesirable situations they are investigated as to cause and the appropriate corrective action is administered in accordance with *QP 1020 – Corrective Action.*

### 10.2.1 Preventive Action

We also maintain a preventive action process that is defined in our procedure *QP 1021 – Preventive Action.*

### 10.3 Continual Improvement

HTMI strives to continually improve the effectiveness of the quality management system by implementing the following process.

Process Inputs:

- The quality objectives are established and monitored for performance to the goals,
- Internal audits are conducted per a defined audit schedule and the results are reviewed at the periodic management reviews, and
- Internal corrective actions, supplier corrective action requests and internal preventive actions may be initiated in accordance with established procedures and the results reviewed on an on-going basis and at the periodic management reviews.

Process Results:

The above inputs, along with any other data that the President deems appropriate, are reviewed as a whole at the management reviews. Collectively, this process provides the necessary information from which to determine whether there is continuing improvement to the overall QMS.

# REVISION LOG

Changes to current revision may be *italicized* and/or **bolded.**

| Rev # | Description |
|---|---|
| 15-1 | Complete re-write |
| 15-2 | Added scope applicable to AS9100C; added Appendix B, and Revision Log; revised sections 7.4.1 & 7.4.2 to specifically address sub-clauses a) through i) for AS 9100 and AS 9120. |
| 16 | Revised section 7.4.2 to specifically address sub-clause h) of AS9120 & i) of AS9100. |
| 17 | Revised & renumbered to align with and address the requirements of AS 9100D and AS 9120B |
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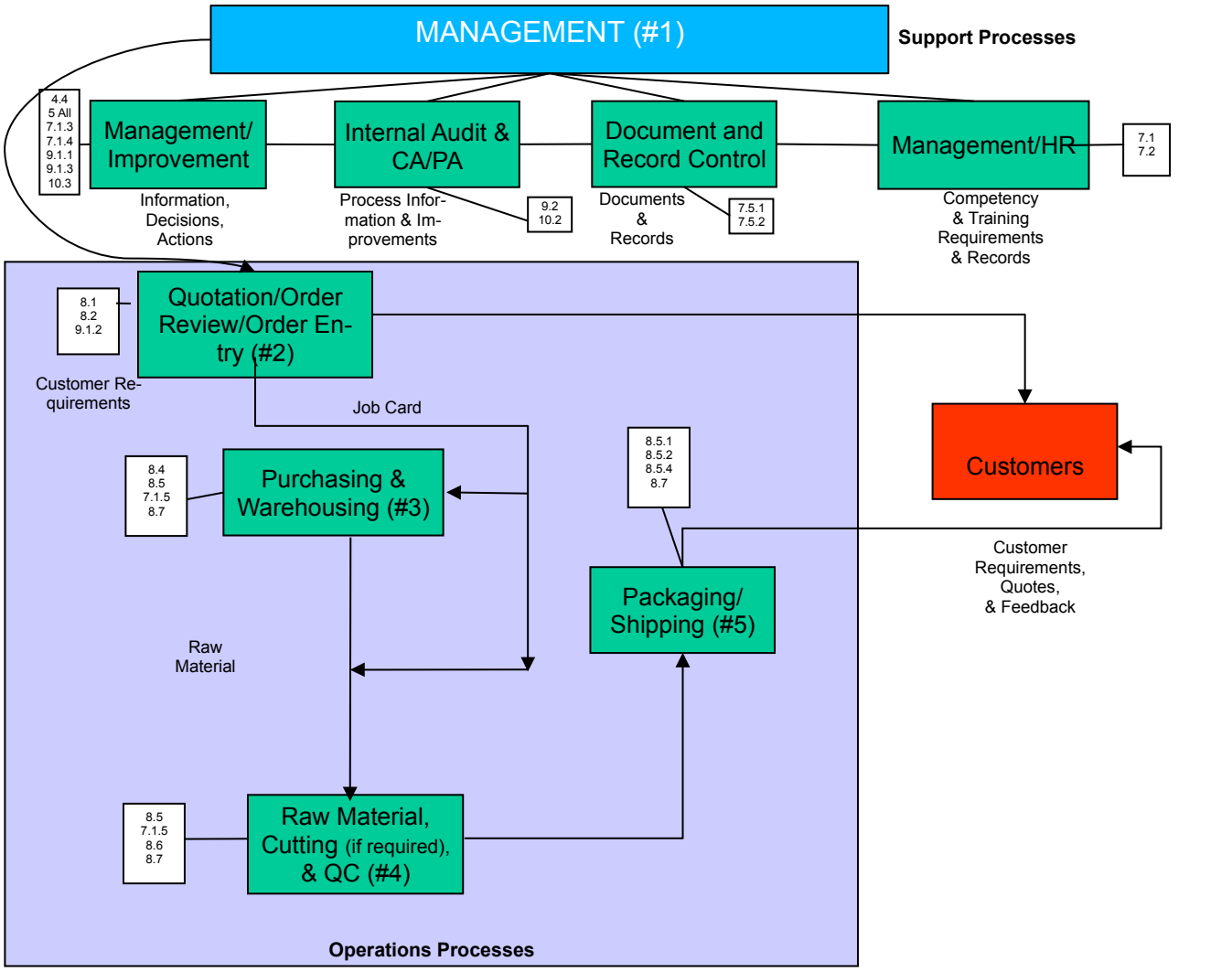
# APPENDIX A
## QMS Process Flowchart



# APPENDIX B

## Risk Management Matrix