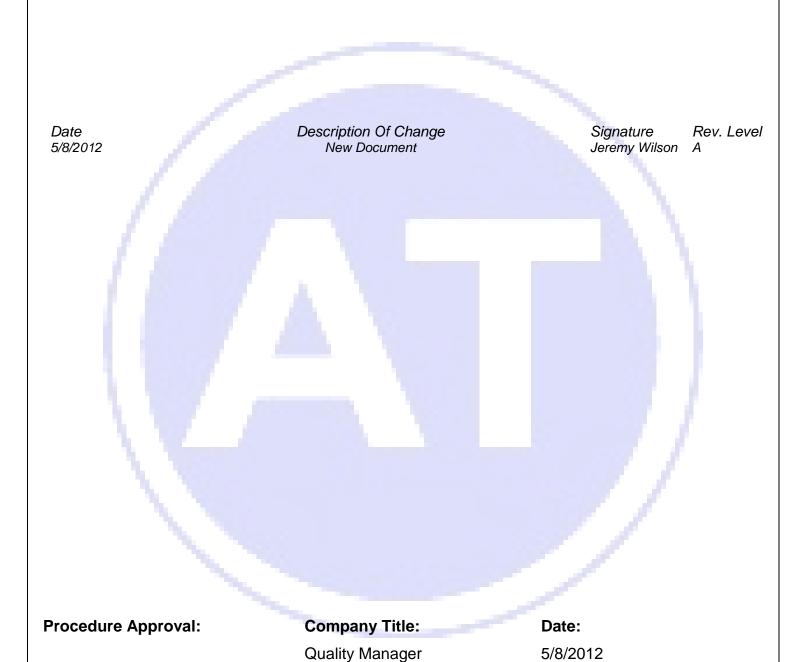
	Revision Level:	Procedure No.
Ameritube LLC	Α	QMS-008
1000 N. Hwy 77, Hillsboro TX 76645	Revision Date:	
	5/8/2012	Page No. 1 of 32

Product Realization



Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 2 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

1. Scope and Objectives

- 1.1. This procedure defines the activities required for the product realization process.
- 1.2. The objective of the product realization process shall be to ensure that a detailed process is utilized to produce products that meet customer requirements.
- 1.3. The results of the product realization process shall be to reduce internal operating costs, improve product quality and improve the overall effectiveness of the quality management system.

2. Applicability

- 2.1. This procedure applies to the product realization process.
- 2.2. This procedure applies to all personnel performing processes that have a direct impact on product quality and the ability of the company to provide our customers with product that meets all requirements.
 - 2.2.1. internal at Ameritube LLC
 - 2.2.2. external at special process suppliers
- 2.3. This procedure is applicable to quality assurance whose function shall be to ensure that:
 - 2.3.1. process steps are followed
 - 2.3.2. applicable documentation is completed

3. Related Documents

- 3.1. QM-001, Quality Manual, Section 7, Product Realization
- 3.2. ISO 9001, Quality Management System Requirements, Section 7, Product Realization
- 3.3. QMS-005, Control of Nonconforming Product
- 3.4. QMS-006, Corrective Action
- 3.5. QMS-007, Preventive Action
- 3.6. Request For Quote (RFQ)
- 3.7. Process Checklist
- 3.8. Purchase Order (PO) packet
- 3.9. Job Packet

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 3 of 32

Product Realization

- 3.10. Certificates of Conformance (C of C)
- 3.11. Inspection Report (IR)
- 3.12. Nonconforming Material Report (NCMR)
- 3.13. Customer Satisfaction Survey



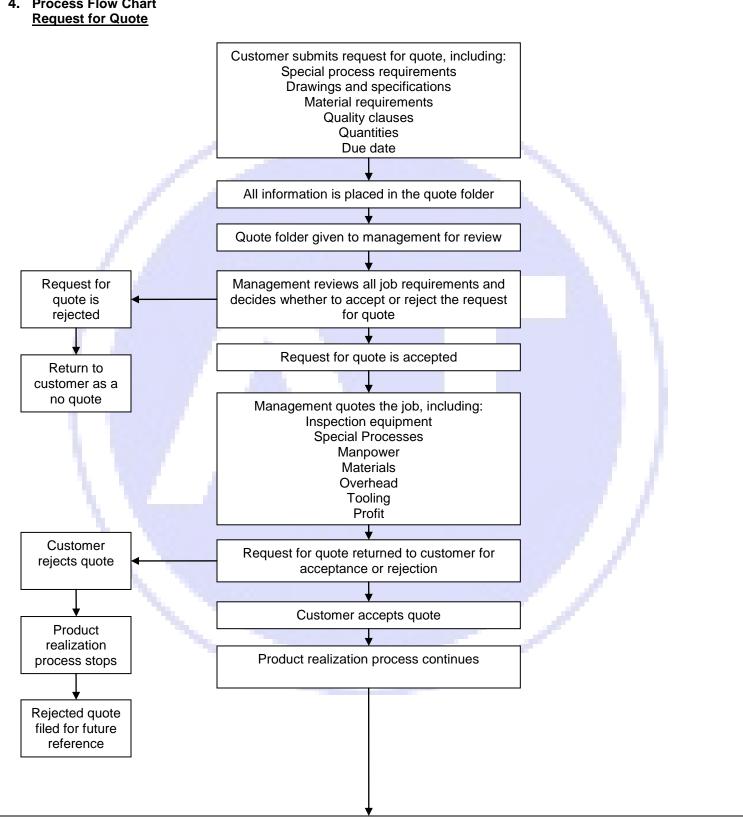


Revision Level:	Procedure No.
Α	QMS-008
Revision Date:	
5/8/2012	Page No. 4 of 32

Product Realization

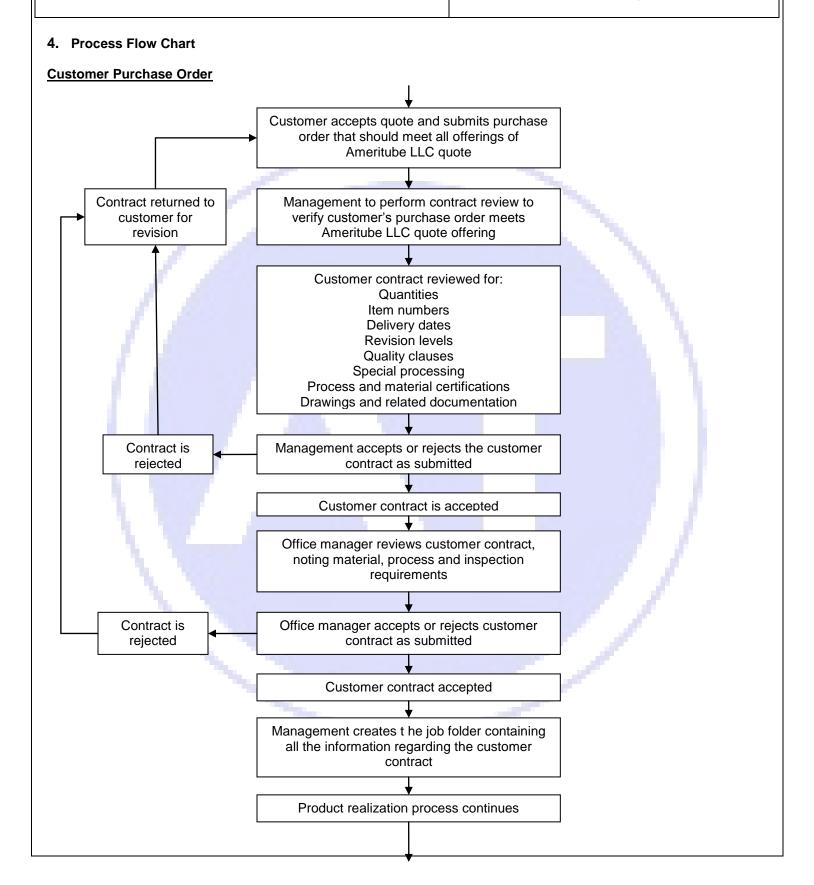
This Document expires one day after printing Last Printed: May 8, 2012

Process Flow Chart



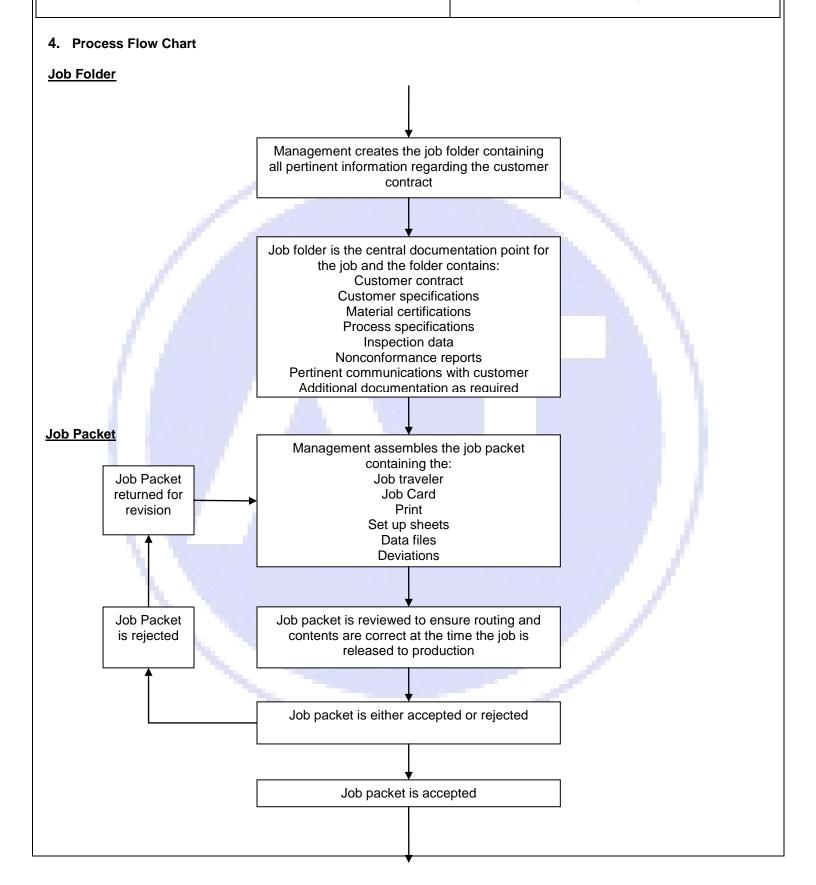
Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 5 of 32

Product Realization



Revision Level:	Procedure No.
A	QMS-008
Revision Date: 5/8/2012	Page No. 6 of 32

Product Realization



Revision Level:	Procedure No.
itevision Level.	
Α	QMS-008
Revision Date:	
5/8/2012	Page No. 7 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

4. Process Flow Chart

Documentation Changes

On occasion, documentation changes occur and these changes may affect:
 Nonconforming material
 Quality requirements
 Customer contract
 Item revision level
 Material change
 Process change
 Delivery date
 Quantity

All document changes must be documented and this documentation included in the job folder

Prior to the document change taking affect, the change must be carefully and thoroughly reviewed.

Changes can affect:

Product configuration

Processing

Material

Delivery Cost

Customer shall provide Ameritube LLC with a:
New specification with correct revision level
All communication pertaining to change
New special process specification
New material specification
Amended contract
Redlined contract

Ameritube LLC shall review all documentation in the job folder and job packet and update with:

Additional documentation as applicable

Current revision level documents

Updated customer contract

Obsolete documentation is clearly marked in the job folder

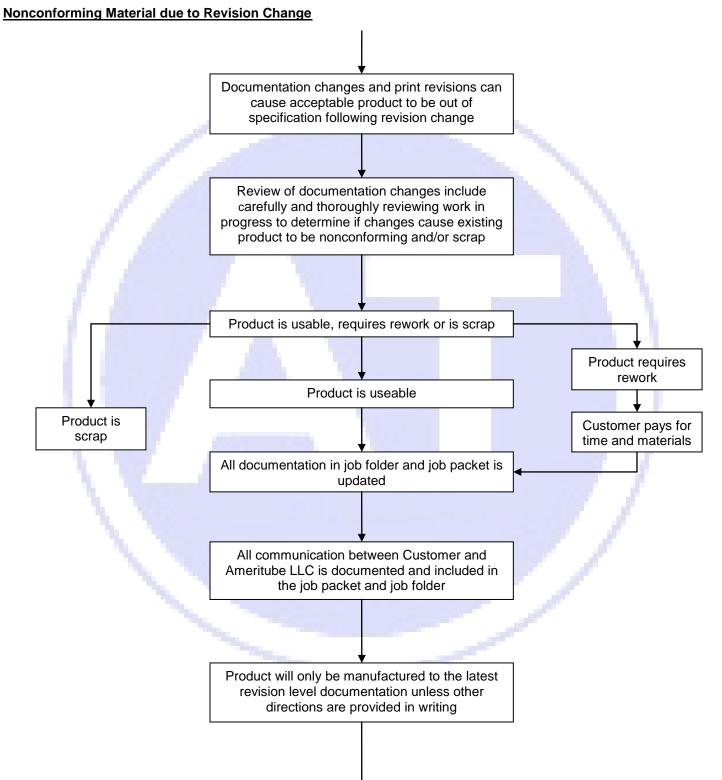
Obsolete documentation is removed from the job packet or marked accordingly when required as reference material

Revision Level:	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 8 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

4. Process Flow Chart

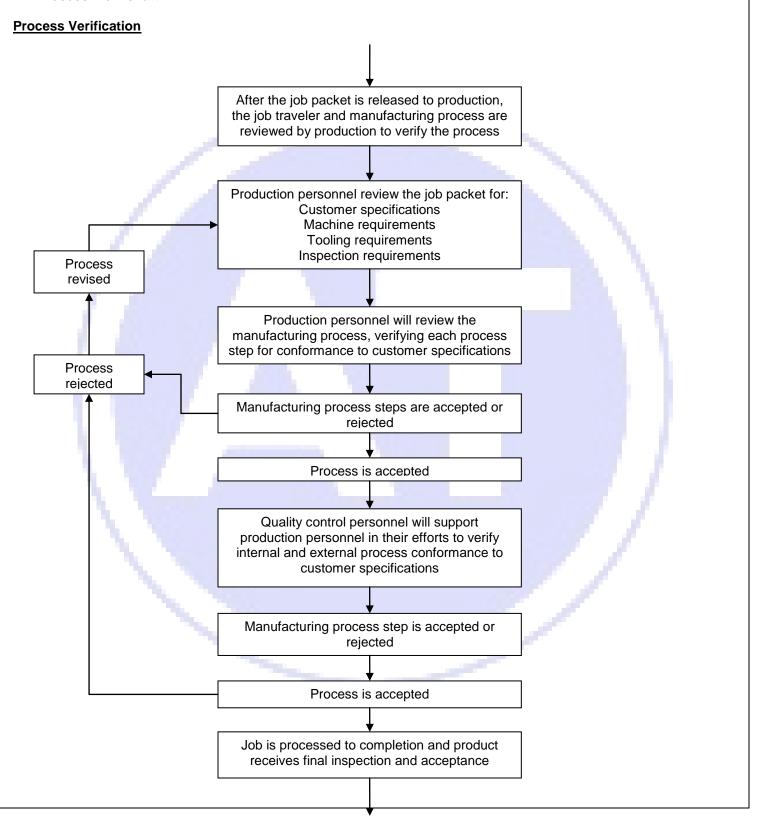


Revision Level:	Procedure No.
Α	QMS-008
Revision Date:	
5/8/2012	Page No. 9 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

4. Process Flow chart



Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 10 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

4. Process Flow Chart

Shipping And Receiving

Upon completion of all manufacturing and verification processes, product is ready for shipment and is placed in the shipping department

When receiving product, internally or externally, personnel verify the following:

Documentation

Material Type

Condition

Quantity

When shipping product, personnel verify:
Packaging requirements
Shipping Requirements
Documentation
Material Type
Condition
Quantity

Customer Feedback

After product has been delivered to the customer, management will follow up with the customer to obtain feedback related to customer satisfaction and product conformance to customer specification

If there are any problems with meeting customer requirements stated in the contract, the problems will be addressed and resolved immediately to achieve the highest level of customer satisfaction following completion of all work

Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 11 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

5. Procedure

- 5.1. In accordance with ISO 9001, Section 7, Ameritube LLC recognizes the importance of all aspects of the product realization process.
- 5.2. Potential customers are encouraged to perform an audit of the Ameritube LLC quality management system in order to verify their requirements can be satisfied.
- 5.3. Communication with the customer is critical for the success of any business relationship. For the purpose of this procedure it is understood that communication with the customer shall take place any time an exchange of data is required to ensure the quality of the final product meets all customer requirements and expectations.

Request for Quote

- 5.4. Customer contacts Ameritube LLC and submits a formal request for quote. To be considered, the RFQ must include:
 - 5.4.1. any drawings, electronic files and engineering specifications as applicable
 - 5.4.2. material requirements
 - 5.4.3. special process requirements
 - 5.4.4. shipping Instructions and requirements
 - 5.4.5. quality clauses
 - 5.4.6. defense priorities and allocations rating, as applicable
 - 5.4.7. any additional documentation required for manufacturing product
- 5.5. All RFQ documentation is placed in the Customer guote folder.
 - 5.5.1. customer documents
 - 5.5.2. material and special process standards
 - 5.5.3. process checklist
- 5.6. Management will perform a document review on quote folder to verify information is adequate to generate a quote.
 - 5.6.1. document review determines that supplied data is inadequate, the quote process will stop and the customer asked to provide additional information

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 12 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.6.2. document review determines that supplied data is adequate, the quote process will continue with Section 5.7
- 5.7. Management shall perform a basic review of the quote folder and determine if the job is a good fit in accordance with the terms and conditions of sales and current capacity and Ameritube LLC scheduling.
 - 5.7.1. if the review is favorable, the quoting process continues with Section 5.8
 - 5.7.2. if the review is unfavorable and the decision is made to discontinue the quoting process, the customer is contacted and told the decision has been made to "No Quote"
 - 5.7.2.1. at this time the customer may exercise the option to restructure the request for quote and resubmit
- 5.8. Management develops a comprehensive quote for the job, including, but not limited to:
 - 5.8.1. internal data
 - 5.8.1.1. raw materials
 - 5.8.1.2. quantities
 - 5.8.1.3. tooling
 - 5.8.1.4. machines
 - 5.8.1.5. manpower requirements
 - 5.8.1.6. special processing
 - 5.8.1.7. overhead
 - 5.8.1.8. profit
 - 5.8.2. customer data
 - 5.8.2.1. cost to customer
 - 5.8.2.2. delivery date(s)
- 5.9. Finished quote is returned to the customer for acceptance or rejection.
 - 5.9.1. if the customer accepts the quote, the product realization process will continue with Section 5.10
 - 5.9.2. if the customer rejects the quote, the customer has the options of ending the process, negotiating on the current quote or resubmitting a new quote

Customer Purchase Order

- 5.10. Customer accepts the quote proposal and submits a purchase order/contract.
 - 5.10.1. the customer purchase order/contract shall not contain any additional requirements that were not addressed by the original RFQ and quote

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 13 of 32
3,3,23.2	- age rior is a se

Product Realization

- 5.11. Management performs a comprehensive contract review to verify the customer purchase order does not contain any additional requirements not previously addressed by the RFQ and quote.
 - 5.11.1. if a discrepancy is found during the review process, the customer shall be contacted and the job placed on hold until the discrepancy is addressed and resolved to everyone's satisfaction
 - 5.11.1.1. Time lost during the resolution process shall be added to the stated delivery date in the contract, unless both parties agree not to add lost time to the delivery date, such agreements shall be conducted in writing.
- 5.12. Contract review will include, but not limited to:
 - 5.12.1, order item numbers
 - 5.12.2. revision levels (purchase order, material ext.)
 - 5.12.3. quantities
 - 5.12.4. delivery date(s)
 - 5.12.4.1. delivery date(s) may become an issue that needs to be resolved if an extended period of time passes between the time Ameritube LLC submits a quote and the time the contract is received from the customer
 - 5.12.5. drawings, electronic files, engineering specifications and related documentation
 - 5.12.6. raw materials
 - 5.12.6.1. raw material availability and cost may become an issue that needs to be resolved if an extended period of time passes between the time Ameritube LLC submits a quote and the time the contract is received from the customer
 - 5.12.7. special processing
 - 5.12.8. quality clauses
 - 5.12.9. defense priorities and allocations rating
 - 5.12.10. process and materials certifications
 - 5.12.11. changes in capacity at Ameritube LLC
 - 5.12.12. changes in Ameritube LLC manufacturing schedule
- 5.13. Management will either accept or reject the customer contract based on the outcome of the contract review.

Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 14 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.13.1. if management accepts the contract, the product realization process will continue with Section 5.15
- 5.13.2. if management rejects the contract, it will be returned to the customer for negotiations and revisions that are acceptable to both parties
 - 5.13.2.1. delivery dates will probably change due to delays caused by re-negotiating the contract5.13.2.2. if the contract cannot be revised and problems resolved, the product realization process will stop at this point
- 5.14. When the customer contract is accepted, management shall review the contract and quote, making notations on critical requirements, including but not limited to:
 - 5.14.1. materials
 - 5.14.1.1. availability
 - 5.14.1.2. price increases
 - 5.14.2. special processes
 - 5.14.3. inspection
 - 5.14.4. any other requirement needing attention prior to starting the job
- 5.15. If any problems are identified at any point of the review process, those problems shall be resolved before process documentation is created.

Process Documentation

- 5.16. Upon acceptance of the customer contract and prior to the release of the job, seven documentation collection points are created concurrently by the office personnel. These are:
 - 5.16.1. Job folder
 - 5.16.2. Job packet
 - 5.16.3. Inspection folder
 - 5.16.4. Cost Analysis file
 - 5.16.5. Work In Progress folder
 - 5.16.6. Shipping folder
 - 5.16.7. Pick Sheet and Inventory file

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 15 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

Job Folder

- 5.17. The job folder is the collection point for all information related to the job, which includes, but is not limited to:
 - 5.17.1. customer contract
 - 5.17.2. drawings, specifications and related documents
 - 5.17.3. material and process certifications
 - 5.17.4. first article, in process and final inspection reports
 - 5.17.5. nonconformance reports
 - 5.17.6. corrective/preventive actions
 - 5.17.7. all pertinent communications with the customer
- 5.18. The job folder is maintained in the office manager's office.

Job Packet

- 5.19. Job packet is the collection point for all information required for production personnel to manufacture the customer product. The job packet contains, but is not limited to:
 - 5.19.1. job traveler to verify routing
 - 5.19.2. material Release Form
 - 5.19.3. print specification's as required
 - 5.19.4. electronic data files as required
 - 5.19.5. set up instructions
 - 5.19.6. additional specifications, as required
 - 5.19.7. all pertinent communications with the customer
 - 5.19.8. first article inspection documentation

Revision Level: Procedure No. QMS-008
Revision Date: 5/8/2012 Page No. 16 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.19.9. in process inspection documentation
- 5.20. The job packet is delivered to the Operation manager's office for additional processing. Operation's manager will:
 - 5.20.1. order material
 - 5.20.2. order hardware
 - 5.20.3. establish process order on the router
- 5.21. Upon completion, the job packet is delivered to the production lead. Production lead reviews the job packet to determine if all documentation required to manufacture the customer product is available to the production personnel.
 - 5.21.1. job packet is complete and job put in queue
 - 5.21.2. job packet is incomplete and returned to appropriate personnel for modification

Inspection Folder

- 5.22. Inspection folder is the collection point for all information required by quality control and quality assurance to verify that customer product has been manufactured to meet all customer requirements and specifications. The inspection folder contains, but is not limited to:
 - 5.22.1. inspection reports
 - 5.22.2. additional customer data, as required
 - 5.22.3. all pertinent communications with the customer

Cost Analysis File

- 5.23. Cost analysis file is the collection point for all information required to determine the actual cost of the customer product and profit from job. The cost analysis file contains:
 - 5.23.1. cost analysis worksheet

Work In Progress Folder

- 5.24. Work in progress folder is the collection point for all information required to track a job in the Ameritube LLC Manufacturing production system. The folder will provide information on, but not limited to:
 - 5.24.1. jobs in house

Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 17 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

5.24.2. jobs in progress

5.24.3. jobs at special process suppliers

5.24.4. delivery date

5.24.5.

Shipping Folder

- 5.25. Shipping folder is the collection point for all information required to track jobs ready for shipment. The folder provides information on, but not limited to:
 - 5.25.1. customer
 - 5.25.2. purchase order number
 - 5.25.3. delivery due date
 - 5.25.4. product number
 - 5.25.5. quantity

Material Release Form

- 5.26. The material release form is used to track product pulled from inventory to be applied to an order. The release form is used to record:
 - 5.26.1. quantity
 - 5.26.2. heat / bundle and batch numbers

Inspection Documentation

- 5.27. Office personnel generate inspection documentation and place the documentation in the appropriate folders. Inspection documentation is based on customer requirements and specifications required by the manufactured product. Inspection documentation Includes:
 - 5.27.1. in process inspection reports placed in job packet
 - 5.27.2. final inspection report placed in inspection folder

Documentation Changes

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 18 of 32

Product Realization

- 5.28. Documentation changes can occur at any point in the product realization process. It is critical that all documentation changes are processed correctly. Documentation changes shall be processed as described in QM-002, Document Control and this procedure.
- 5.29. All documentation changes shall be documented and recorded. Under no circumstances are verbal documentation changes made to the customer contract and related documentation. Documentation change records are placed in the:
 - 5.29.1. job folder
 - 5.29.2. job packet
 - 5.29.3. inspection folder
- 5.30. Documentation changes may affect product quality due to changes in product specifications. Changes affect whether or not the current product conforms to the new customer product requirements. Changes affect, but are not limited to:
 - 5.30.1. customer contract
 - 5.30.2. quantity
 - 5.30.3. cost
 - 5.30.4. quality requirements
 - 5.30.5. engineering specifications
 - 5.30.6. item revision level
 - 5.30.7. material requirements
 - 5.30.8. process requirements
 - 5.30.9. defense priorities and allocations status
 - 5.30.10. delivery schedules
- 5.31. All document changes must come from authorized personnel and be traceable, in most cases in the form of an amended purchase order.
- 5.32. Management shall require appropriate documentation for change review.
- 5.33. Customer shall provide, as appropriate:
 - 5.33.1. red lined or amended contract

Revision Level: Procedure No.
A QMS-008
Revision Date: 5/8/2012 Page No. 19 of 32

Product Realization

- 5.33.2. red lined or revised product specifications
- 5.33.3. new material specifications
- 5.33.4. new special process specifications
- 5.33.5. all communications pertaining to changes
- 5.34. Prior to accepting documentation changes, documentation changes must be carefully and thoroughly reviewed to determine if changes impact:
 - 5.34.1. cost
 - 5.34.2. processing
 - 5.34.3. material
 - 5.34.4. product configuration
 - 5.34.5. delivery
- 5.35. When document changes impact price and delivery, Ameritube LLC and the customer shall renegotiate the contract. The customer shall submit an amended contract that documents changes agreed upon by both parties.
- 5.36. Management shall review all internal, Ameritube LLC and customer documentation, located in various files and folders, to ensure that:
 - 5.36.1. all unnecessary, down level documentation is removed and disposed of as required
 - 5.36.1.1. documents may be shredded
 - 5.36.1.2. documents may be marked as down-level or obsolete and maintained in the job folder
 - 5.36.1.3. documents may be returned to the customer as required
 - 5.36.2. all obsolete documentation, maintained for reference purposes only in the manufacturing process is clearly identified as obsolete
 - 5.36.3. all remaining documentation required for manufacturing is current with the correct revision level shown
- 5.37. Obsolete documentation shall be:
 - 5.37.1. clearly identified as obsolete
 - 5.37.2. removed from the job packet unless required for reference purposes
 - 5.37.3. maintained in the job folder for historical reference

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 20 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

Nonconforming Material Due to Revision Change

- 5.38. Acceptable product may become nonconforming due to revision change. Nonconforming product shall be subject to the guidelines listed in QMS-005, Control of Nonconforming Material. The following information is specific to revision change nonconformance.
- 5.39. Management shall carefully and thoroughly review the documentation changes to identify if changes will affect usability of work in progress. Results of the review shall be communicated to the customer as soon as the results are available.
 - 5.39.1. changes do not affect work in progress, product is "use-as-is" and processing continues
 - 5.39.2. changes affect usability of product and rework must be performed prior to continuing processing (increased price per Lb.); refer to QMS-005, Control of Nonconforming Material
 - 5.39.3. changes affect features that cannot be reworked and product is scrapped (customer pays costs incurred), refer to QMS-005, Control of Nonconforming Material
- 5.40. When rework is required or product is scrapped, the customer shall be contacted to make arrangements to cover the cost of the rework and/or cost of scrapping the product.
- 5.41. All communications with the customer are documented and maintained in the job folder.
 - 5.41.1. revision levels on documents are changed and initialed or stamped and dated as required
- 5.42. Appropriate communications are placed in the job packet for reference use by production as required
- 5.43. All documentation, obsolete and new, shall be maintained in the job folder.
- 5.44. The job packet shall be updated to ensure that all documentation reflects the latest revision level or is marked for reference only.
 - 5.44.1. revision levels on documents are changed and initialed or stamped and dated as required

Production Release

- 5.45. The production manager and authorized personnel shall determine the production schedule for the draw benches. Production release is based upon daily review of:
 - 5.45.1. lead time requirements
 - 5.45.2. delivery date
 - 5.45.3. material availability
 - 5.45.4. manpower

Revision Level:	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 21 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.45.5. machine center availability
- 5.45.6. current customer needs
- 5.45.7. work in progress sheet
- 5.46. Jobs will be assigned based on review of the production schedule.
- 5.47. Upon receipt of a job, the production personnel shall review the job packet and job traveler to verify all documentation required to manufacture the product is available.
 - 5.47.1. if documentation is complete production personnel will proceed with Section 5.50
 - 5.47.2. If documentation is incomplete the bench operator will contact the production supervisor before going any further with the job. Production supervisor will obtain required documentation for addition to the job packet
- 5.48. Production personnel will obtain raw material for the job.
 - 5.48.1. approved material will be distributed by the production supervisor or authorized personnel by retrieval from the material storage
 - 5.48.1.1. Quality control or authorized personnel shall identify the heat number(s) of the material on the material release form and tags to maintain the material traceability.
 - 5.48.2. only approved raw material assigned to the current job will be at the work center
 - 5.48.2.1. raw material for set up, different from the approved material, will be issued in a quantity that will only allow the manufacture of the required number of set up product
 - 5.48.2.2. set up product(s) that do not conform to the requirements of the contract will be clearly identified as setup and marked in such a way to prevent inclusion in the finished product
- 5.49. Production personnel will select required tools per the work order or draw schedule to produce the customer product.
- 5.50. Production personnel will build required tooling to produce the customer product.
- 5.51. Production personnel to run three (3) consecutive tubes that will be the first article for that operation.
- 5.52. First article is submitted to quality control for first article approval to verify the manufacturing process is producing a product that satisfies all customer quality requirements.

Process Verification

5.53. Internal and external processes shall be verified to ensure that process steps are creating a product that meets all customer requirements.

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 22 of 32

Product Realization

- 5.54. Following job release, production and quality control personnel shall review the processes to ensure the job traveler is being followed and that all customer requirements are being met.
- 5.55. The process verification process includes, but is not limited to, verifying:
 - 5.55.1. job traveler is correct
 - 5.55.2. job traveler steps are being followed
 - 5.55.3. tool requirements meet process demands
 - 5.55.4. material meets product requirements
 - 5.55.5. machine capability meets product requirements
 - 5.55.6. product features meet customer product requirements
- 5.56. As production personnel perform each step of the job traveler, they shall determine whether or not they are meeting customer requirements (in process inspection).
 - 5.56.1. if the process defined by the job traveler is meeting all customer Requirements, the process continues at Section 5.60
 - 5.56.2. if the process defined by the job traveler is not producing a product that meets customer requirements, processing shall:
 - 5.56.2.1. stop
 - 5.56.2.2. nonconforming product shall be handled according to documented nonconforming product procedures found in QMS-005, Control of Nonconforming Product
 - 5.56.2.3. corrective/preventive action shall be initiated as defined in QMS-006, Corrective Action and QMS-007, Preventive Action, as appropriate
 - 5.56.2.4. job traveler and related work instructions shall be reviewed and revised to correct the nonconformance.
- 5.57. As part of process verification, quality control personnel support production personnel internally by providing in process and final inspection services on product. Externally procured product/processes are qualified by receiving inspection on dimensional features, review of supplier provided documentation, including material certifications, process certifications, inspection reports and certificates of conformance.
- 5.58. First article inspection is based on the following criteria:

Revision Level:	Procedure No.
Α	QMS-008
Revision Date:	
5/8/2012	Page No. 23 of 32

Product Realization

- 5.58.1. performed on the first 3 pieces produced by a process that is awaiting approval to go into production
- 5.58.2. verifies all features affected by that process
- 5.58.3. Production does not start until the first article inspection process determines that all features generated by the process meet the customer quality requirements.
- 5.59. In process inspection is based on the following criteria:
 - 5.59.1. manufacturing process has been previously approved through a first article inspection
 - 5.59.2. performed periodically on product coming off a production process
- 5.59.3. verifies all required features affected by that process
- 5.60. Final inspection is based on the following criteria:
 - 5.60.1. all manufacturing and special processes have been performed
 - 5.60.2. following acceptance at final inspection the product will ship to the customer
- 5.61. Receiving inspection is based on the following criteria:
 - 5.61.1. outside supplier provides all inspection documentation
 - 5.61.2. outside supplier provides certificate of conformance stating process was performed in accordance with all applicable specifications and quality requirements
 - 5.61.3. dimensional inspection may be performed by Ameritube LLC personnel when warranted by:
 - 5.61.3.1. capabilities of the outside processor
 - 5.61.3.2. contractual requirements from the customer
- 5.62. Based on the results of inspection processes, product is determined to be:
 - 5.62.1. acceptable based on review of:
 - 5.62.1.1. supporting evidence documented on inspection report
 - 5.62.1.2. signed or stamped by inspector
 - 5.62.1.3. dated
 - 5.62.1.4. certificate of conformance
 - 5.62.1.5. material certifications

Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 24 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

5.62.1.6. special process certifications

5.62.2. unacceptable and requiring processing per the Control of Nonconforming Product procedure, QMS-005

Nonconforming Material Resolution

- 5.63. In the event product is found to be unacceptable, the process shall be reviewed to determine the cause of the nonconformance and what action, if any, is required to correct the nonconformance, including the Corrective Action process per QMS 006. Cause can be assigned to one of the following categories:
 - 5.63.1. operator error
 - 5.63.2. machine
 - 5.63.3. customer specification
 - 5.63.3.1. contract
 - 5.63.4. special process supplier
 - 5.63.4.1. material
- 5.64. Following review of the nonconformance and assignment of cause, the material review board will issue a disposition:
 - 5.64.1. use as is
 - 5.64.2. rework
 - 5.64.3. scrap and rebuild
- 5.65. All nonconforming products, identified by in process verification with a disposition other than use as is, shall be segregated from conforming product and reworked or rebuilt before being placed back into the job flow with conforming product.

Split Lots

- 5.66. As required, production lots are split into two or more lots for the following reasons, by way of example and not limited to:
 - 5.66.1. customer reduces quantity on an order leaving unfinished product on hold
 - 5.66.2. customer expedites a portion of the order for early delivery

Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 25 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.66.3. outside processing can only handle smaller portions of a larger lot
- 5.66.4. production realization
- 5.67. When one lot is divided into two, or more, smaller lots, each lot shall be identified with:
 - 5.67.1. New job travelers with a minimum:
 - 5.67.1.1. job number
 - 5.67.1.2. product number
 - 5.67.1.3. quantity
 - 5.67.1.4. operator initials
 - 5.67.1.5. date
 - 5.67.2. additionally, as required:
 - 5.67.2.1. customer name
 - 5.67.2.2. contract number
 - 5.67.2.3. product name
 - 5.67.2.4. material
- 5.68. Lots in progress will be maintained at appropriate machine centers with all documentation readily available.
- 5.69. Lots that are placed on hold will be identified as above, in section 5.68, and kept in a secure location where they will not:
 - 5.69.1. lose traceability
 - 5.69.2. be inadvertently processed
 - 5.69.3. be destroyed
 - 5.69.4. be delivered

Job Packet Review in Production

5.70. Production personnel are responsible for maintenance of the job packet. This process includes, but is not limited to:

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 26 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.70.1. full review of job packet at time of receipt for:
 - 5.70.1.1. job traveler
 - 5.70.1.2. material release form
 - 5.70.1.3. job work orders
 - 5.70.1.4. additional documentation required for completion of applicable processing
 - 5.70.1.5. initials and date from previous owner signifying previous process step was completed
- 5.70.2. inclusion of any additional documentation applying to the process being performed at that point
- 5.70.3. initialing and dating appropriate step on job work order and job traveler at the conclusion of the process before moving job to the next process
- 5.70.4. entering time on work order for time spent on process
- 5.70.5. all unused raw materials will be returned to the certified material cag prior to starting the next job and issuing raw material to the machine center

5.71. Final Inspection

- 5.71.1. inspection reviews all job packet documentation to ensure nothing is missing and all documents signed off, as appropriate
- 5.71.2. pull inspection reports from the inspection folder and perform full final inspection on the product to document product meets all customer requirements
- 5.71.3. generate the certificate of conformance and complete the job certification packet, including:
 - 5.71.3.1. certificate of conformance
 - 5.71.3.2. related exhibits as required by customer
 - 5.71.3.3. material certifications
 - 5.71.3.4. outside supplier certificates of conformance and inspection reports
 - 5.71.3.5. inspection report
 - 5.71.3.6. customer prints
 - 5.71.3.7. additional required customer documentation

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 27 of 32
	·

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

5.71.4. All documentation to be returned to Quality department for MTR generation, product to be moved to shipping to be packaged

Outside Processing

- 5.72. All documentation will be reviewed prior to product being shipped for outside processing
 - 5.72.1. all steps have been initialed or stamped and dated
 - 5.72.2. all documentation is complete
 - 5.72.3. all required inspections have been performed
- 5.73. Purchase order for outside processing will be completed, including, but not limited to:
 - 5.73.1. supplier providing outside processing
 - 5.73.2. ship date
 - 5.73.3. date required
 - 5.73.4. method of shipment
 - 5.73.5. quantity of product
 - 5.73.6. Ameritube LLC job number and customer purchase order number
 - 5.73.7. complete description of work to be performed
 - 5.73.8. additional documentation as required
 - 5.73.9. additional test coupons as required
- 5.74. Shipping department will ship product to outside supplier using best methods
- 5.75. Product returning from outside processing will:
 - 5.75.1. have paperwork verified for certificate of conformance
 - 5.75.2. have type of work verified
 - 5.75.3. have quantity of product verified

Product in Shipping / Receiving Department

5.76. Product in the shipping / receiving department will be:

Revision Level: A	Procedure No. QMS-008
Revision Date: 5/8/2012	Page No. 28 of 32
	•

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.76.1. documented with the appropriate paperwork in the job packet, including:
 - 5.76.1.1. Ready to ship
 - 5.76.1.2. job traveler
 - 5.76.1.3. Material Test Report
 - 5.76.1.4. customer documentation as required

Receiving Materials

- 5.77. Delivery person meets with Ameritube LLC personnel and presents delivery with appropriate paperwork.
- 5.78. Receiving personnel shall use the packing slips to verify the correct number of hollows, lengths, and Material test reports of the material received.
 - 5.78.1. if there is a discrepancy between the packing slip and the actual delivery, the discrepancy will be noted on the packing slip, and then the delivery accepted, as appropriate
- 5.79. Ameritube LLC receiving personnel sign for the delivery.
- 5.80. The shipment shall be recorded in the Receiving Log.
- 5.81. The delivery shall be moved to the proper area.
 - 5.81.1. raw material for jobs will be tagged with the appropriate information to allow traceability to material certifications
- 5.82. Appropriate personnel will inspect the contents of the delivery to verify quantity and condition.
 - 5.82.1. Any problems with the contents are reported to the supplier and resolved.
- 5.83. The packing slip shall be delivered to the office manager
 - 5.83.1. any discrepancies noted on the packing slip shall be brought to the attention of the office manager
 - 5.83.1.1. office manager shall contact supplier and resolve the issue
 - 5.83.1.2. office manager and appropriate manager(s) shall determine the best course of action to be taken inside the shop to overcome any resulting problems
- 5.84. Shop manager shall be notified of the arrival of the shipment and any related problems, as appropriate.

Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 29 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

Product Identification at Shipment

- 5.85. Prior to shipment verify that all customer product is identified
- 5.86. Identification may include:
 - 5.86.1. Material type
 - 5.86.2. Specification number
 - 5.86.3. customer name
 - 5.86.4. customer purchase order number
 - 5.86.5. Ameritube LLC sales order number
 - 5.86.6. Batch or lot number

Preparation for Shipment

- 5.87. Shipping personnel shall verify delivery dates.
- 5.88. Shipping personnel shall verify location of jobs that have a ship date of the current date or earlier (late for delivery).
 - 5.88.1. jobs on production floor
 - 5.88.2. jobs in inspection
 - 5.88.3. jobs at outside processing
 - 5.88.4. jobs in shipping
- 5.89. Shipping personnel will remind production and inspectors of delivery requirements as appropriate.
- 5.90. Shipping personnel stage jobs that are ready for shipment.
- 5.91. Shipping personnel verify quantity and condition of customer product.
- 5.92. Shipping personnel shall use the job folder and job packet to identify and assemble the required documentation, including, but not limited to:
 - 5.92.1. inspection reports
 - 5.92.2. material certifications
 - 5.92.3. special process certifications

Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 30 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.92.4. certificate of conformance
- 5.92.5. NCMR as appropriate
- 5.92.6. deviation requests, as appropriate
- 5.92.7. corrective/preventive actions, as appropriate
- 5.92.8. relevant customer communications
- 5.92.9. packing slip
- 5.92.10. invoice
- 5.93. Shipping personnel to return job folder and job packet documentation to the sales. Sales to schedule shipping arrangements.
- 5.94. If there is going to be a delay in delivery, sales shall contact the customer to inform them of the delay and offer a new recommit date for delivery.
- 5.95. Customer product is packaged according to best industry practices, or customer provided requirements, that will prevent product damage from the shipping process.

Long Distance Shipment

- 5.96. After customer product is properly packaged, the appropriate courier shall be notified.
 - 5.96.1. UPS is the courier of choice for Ameritube LLC
 - 5.96.2. Other couriers are used as required by customer contract
- 5.97. Courier picks up the package and leaves with appropriate shipping documentation.
- 5.98. Shipping documentation is given to the sales department.

Customer Communication

- 5.99. Sales shall contact the customer after the product is delivered to determine the level of customer satisfaction.
 - 5.99.1. if the customer indicates there is a problem, management personnel will investigate the problem and determine the best course of action to satisfy both the customer and Ameritube LLC

Cost Analysis

5.100. Hours entered on the job card are totaled and compared against the estimated hours.

Revision Level:	Procedure No.
Α	QMS-008
Revision Date:	
5/8/2012	Page No. 31 of 32

Product Realization

This Document expires one day after printing Last Printed: May 8, 2012

- 5.101. Cost of tooling and materials is totaled.
- 5.102. Cost of wages is totaled.
- 5.103. Cost of overhead is totaled.
- 5.104. All costs are totaled to determine the actual cost of building customer product and compared to the quoted value.
- 5.105. Data is analyzed to determine loss or profitability.
- 5.106. Data is stored for historical value and can be recalled when it is useful to quote the same or similar product in the future.

6. Responsibilities

- 6.1. Sales
 - 6.1.1. review documentation
 - 6.1.2. provide quotes
 - 6.1.3. communicate with customers
 - 6.1.4. obtain additional information
 - 6.1.5. determine customer satisfaction
- 6.2. Managment
 - 6.2.1. resolve problems
 - 6.2.2. provide direction for manufacturing processes
- 6.3. Office Manager
 - 6.3.1. review documentation
 - 6.3.2. control job folder
 - 6.3.3. control financial information
- 6.4. Office Personnel
 - 6.4.1. review documentation

Revision Level: A	Procedure No. QMS-008
Revision Date:	
5/8/2012	Page No. 32 of 32

Product Realization

- 6.4.2. initiate job packet
- 6.4.3. Production Personnel
- 6.4.4. review documentation
- 6.4.5. follow job traveler
- 6.4.6. verify product quality
- 6.5. Quality Control Personnel
 - 6.5.1. review documentation
 - 6.5.2. support production personnel with product verification
- 6.6. Shipping/Receiving Personnel
 - 6.6.1. review documentation
 - 6.6.2. receive product
 - 6.6.3. package product
 - 6.6.4. deliver product
 - 6.6.5. transfer documentation to sales
- 6.7. Quality Manager
 - 6.7.1. review quality records
 - 6.7.2. issue and control documents, as appropriate
 - 6.7.3. ensure documents are regularly reviewed and updated
 - 6.7.4. ensure that regular internal audits, that address the continued applicability of this document, are scheduled and completed