SHEFFIELD PLATERS

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Revision	Description – ECO#	Date
A	Quality Assurance Manual Initial Release	9/13/2002
B	Revised per ECO# 210	7/23/2004
C	Complete Manual Revision to incorporate ISO9001:2000 standard	10/5/2005
D	Page1,2,8,12,14 & 28 to improve upon findings during ISO 9001:2000 pre-assessment findings, see red lined notes on ECO # 300, and grammatical corrections <class II changes, see ECO attached red lines>.	12/21/2005
E	Whole Document edited from Excel to Word Format, re-organized cross reference chart for easier understanding. SPI Q. Policy left in a single page. All per ECO # 301.	4/06/2006
F	Clerical Revision of Entire document. Updated approvals and org chart. Revised per ECO # 308	10/8/2007
G	Incorporated AC7108 NadCap Requirements, extensive add-ons to existing ISO9001:2000 compliant structure to align with AC7004 & AC7108 requirements. See ECO#309	2/01/2008
H	Minor revisions to clarify requirements. Org chart updated. See red-lined doc, and ECO # 321	7/16/08
I	Updated to ISO 9001:2008 revision.	9/21/09
J	Clerical Revision	9/21/10
K	Revised org chart, quality policy, clerical revisions.	3/1/13

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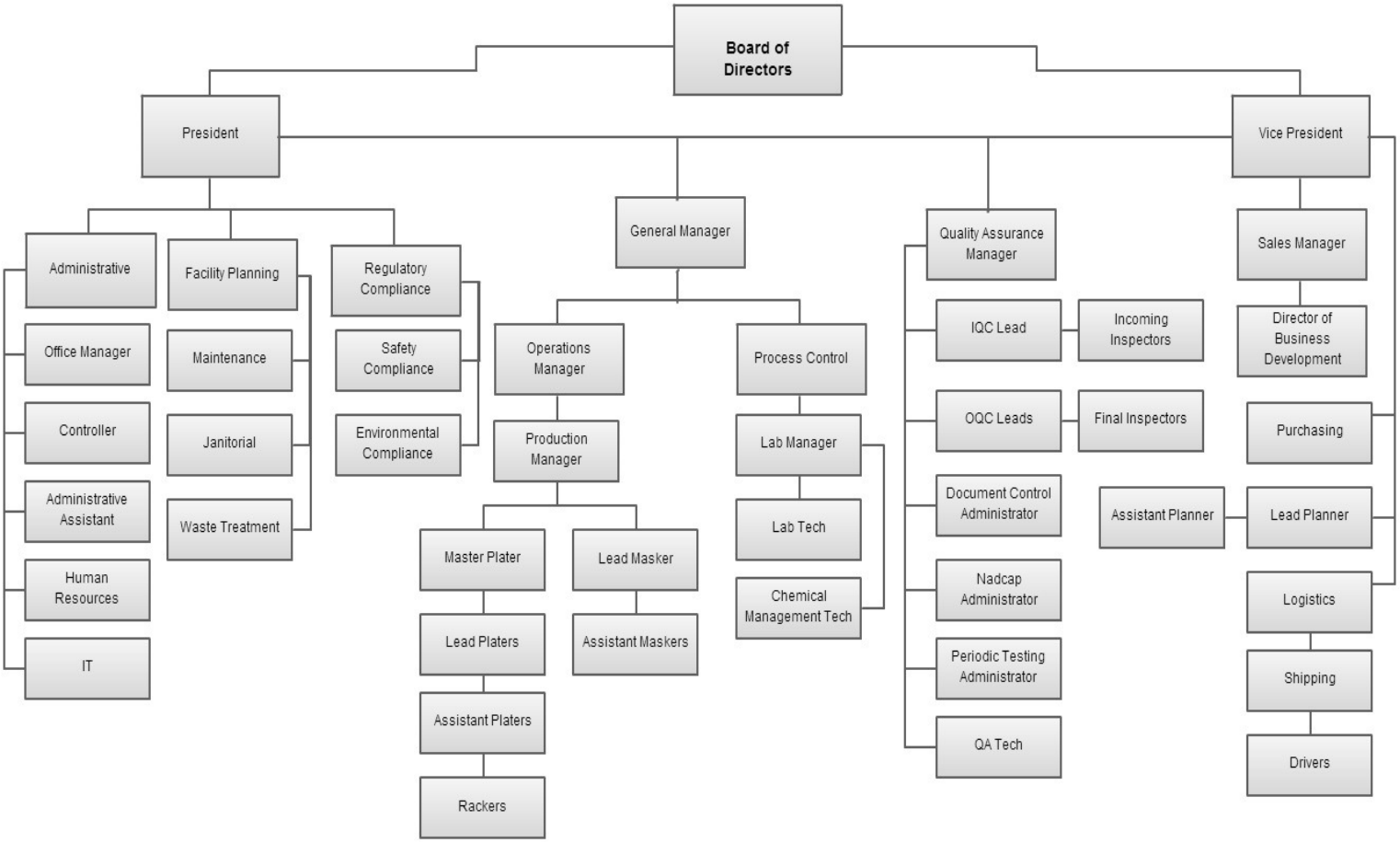
ORGANIZATIONAL CHART



Introduction

Sheffield Platers has developed and implemented a quality system to better satisfy the needs of its customers and to improve total quality management of the company. The quality system complies with the requirements of the AC7004, AC7108, and ISO9001standards and customer requirements.

Quality Manual Purpose and Scope

This Quality Assurance Manual provides guidance and purpose to achieve the policies and goals of Sheffield Platers Incorporated (SPI). The manual is subject to review by the customer.

SPI's mission is to be a world-class metal finishing organization committed to excellence in customer service, value, and market superiority. SPI will provide products and services that meet or exceed our customers' expectations by thoroughly evaluating their unique needs and tailoring our products and performance to those needs. SPI's core values are as follows:
The customer is number one
Total quality control
Continuous improvement
Environmental awareness

Product design and development is not performed by Sheffield Platers Inc. All design activity is performed by our customers.
Service of products under warranty is not within the scope of services provided by Sheffield Platers Inc.

This manual is divided into 22 sections and 3 Attachments corresponding to quality system requirements of the ISO 9001, AC7004, and AC7108 standards, and customer requirements as applicable. Each section starts with a general policy statement expressing the commitment to implement the basic principles of the quality system element that is subject of the section. The general policy statement is followed by more specific procedural policies outlining how the general policy should be carried out and referencing the relevant operational procedures.

The purpose of this manual is to define and describe the quality system, to define authorities and responsibilities of the management personnel affected by the system and to provide general procedures for all activities comprising the quality system. For those customers that only require commercial processing with no Nadcap or Aerospace requirements, full compliance to this manual may not be required. Only contract required documentation will be supplied for those customers.

Another purpose of this manual is to present our quality system to our customers and to inform them what specific controls are implemented to assure process quality.

SHEFFIELD PLATERS INCORPORATED

Quality Policy

It is the mission of Sheffield Platers Inc:

- **to provide exceptional customer service, using industry leading technical capabilities and flawless teamwork to consistently exceed our partners' quality and delivery requirements**
- **to be the industry leader in environmental stewardship**
- **to commit to forming long-lasting partnerships, thus providing a solid platform for Sheffield Platers to continuously improve.**

Política de Calidad

Es la misión de Sheffield Platers, Inc:

- **Proveer servicio excelente al cliente, usando capacidades técnicas que son primeras en la industria, y colaboración perfecta para exceder los requisitos de calidad y entrega de nuestros socios.**
- **Ser el líder de la industria en administración ambiental.**
- **Cometer en establecer asociaciones perdurables, para proveer un andamio fuerte en hacer mejoras continuas en la empresa.**

Sheffield Platers President
Dale Watkins

This policy has been formulated by the President and Quality Manager of Sheffield Platers. This policy is explained and discussed at the general orientation given to all existing and new employees and is also posted in conspicuous locations throughout the company.

SECTION 1.0: MANAGEMENT RESPONSIBILITIES

1.1 General Policy

The executive management is responsible for establishing, implementing and maintaining the quality system. Specific responsibilities consist of: formulating the quality system, defining the organizational structure, assigning authority and responsibilities, periodically reviewing the quality system and providing the resources and personnel necessary to maintain the system. Sheffield Platers has a documented quality policy, which describes the company business objectives and commitment to quality. Through posting of the quality policy, and training, Sheffield Platers ensures that the quality policy is maintained and implemented at all levels of the organization, and is accessible to all employees.

1.2 Organization

1.2.1 Responsibility and Authority

The interrelation of personnel who manage, perform and verify work affecting quality is defined in the organizational chart on page 3. Sheffield Platers organization is comprised of the following departments:

- **The Processing Department, headed by the General Manager.**
- **The Quality Department, headed by the Quality Manager.**
- **The Administration Department, headed by the President.**
- **The Customer Support and Contract Review Department, headed by the Vice President.**

Each department head reports directly to the President, or Board of Directors. The President and the department managers constitute the executive management.

1.2.1.1 Responsibilities

Management responsibilities are defined below. Responsibilities for other positions are detailed in the relevant job descriptions held by the Human Resources Department.

President

- **Environmental, HR and Safety Compliance**
- **Executive Manager**
- **Evaluate overall company performance**
- **Involved in formulating the quality policy**
- **Provides resources necessary to maintain the quality system including Facility Maintenance**
- **Conduct management review meetings**
- **Oversee Continuous Improvement Activities**
- **Oversee and Certify Internal Audits**

VP Marketing & Sales

- **Marketing, New Business & Sales**
- **Contract Review & communication with Customer**
- **Control of Purchasing**
- **Customer Feedback and Satisfaction**

General Manager

- **Oversees work order design & quotes.**
- **Develops and maintains production equipment**
- **Performs production engineering**
- **Defines workmanship standards**

* **Oversees the plating Operation**
* **Oversees the Lab & Chemical Analysis Department**
* **Evaluates production rates**

Quality Manager

* **Establishes and maintains the quality management system**
* **Oversees Calibration**
* **Performs inspections and testing in accordance with the Quality/production plans**
* **Oversees Periodic Testing**
* **Handles all nonconforming products**
* **Evaluates scrap and rework**
* **Coordinates document control activities**
* **Maintains inspection records**
* **Responsible for internal and external audits (reports to president)**
* **Assists in the development and implementation of new procedures**
* **Assists with the training program**
* **Acts as Management Representative for Quality System**
* **Coordinates Continuous Improvement Program (reports to president)**

1.3 MANAGEMENT REPRESENTATIVE

The Quality Manager has been appointed as the Management Representative for the quality system at Sheffield Platers. In the absence of the Quality Manager, the Company President becomes the Management Representative. The Quality Manager has the authority and responsibility to ensure that the processes needed for the quality management system are established, implemented and maintained, and its efficacy is continuously improved, and that the established system complies with the requirements of ISO 9001, AC7004 and AC7108, and customer requirements. Additionally, the management representative reports to top management on the performance of the Quality Management System and any needs for improvement, and ensures the promotion of awareness of customer requirements throughout the organization.

The customer is to be notified upon changes of the management representative assignment.

1.4 MANAGEMENT COMMITMENT

Top management will provide evidence of its commitment to the development, implementation and maintenance of the quality management system, and the continuous improvement of the quality management system, by:

- **Communicating to the organization the importance of meeting customer, statutory and regulatory requirements**
- **Establishing a quality policy**
- **Establishing quality objectives**
- **Conducting management reviews**
- **Ensuring availability of resources, including the necessary infrastructure, work environment, materials and human resources required to achieve conformity to product requirements.**
- **Ensuring customer requirements are determined and met with the aim of enhancing customer satisfaction**

1.5 MANAGEMENT REVIEW

The executive management shall review the quality system at least annually. The purpose of this review is to assess the effectiveness and suitability of the quality system and to evaluate compliance to company policy. The Executive Management is responsible for scheduling and conducting management reviews.

GENERAL

The quality system is reviewed systematicallyin a meeting with top management to discuss the performance of the quality management system, including the quality policy and quality objectives, and evaluate the need for improvements or changes to the system. Management Review Meetings, in conjunction with Internal Quality Audits, are utilized to maintain and improve our Quality System. Management reviews are documented and related records are kept in accordance with applicable procedures.

REVIEW INPUT

Management Review meetings will include discussion of items that include, but are not limited to, the following:

- **Follow up on actions from previous management reviews**
- **Results of internal audits**
- **Status of preventive and corrective actions**
- **Customer feedback**
- **Process performance and product conformity (including quality objectives)**
- **Changes that could affect the quality system**
- **Recommendations for improvements to the quality system**
- **Continuous improvement activities**

REVIEW OUTPUT

Management review outputs will include, but are not limited to, the following:

- **Actions to improvements of the effectiveness of the quality management system and its process,**
- **Improvements to the fulfillment of customer product requirements, and**
- **Identification and fulfillment of resource needs.**

1.6 INTERNAL COMMUNICATION

Top management ensures that appropriate communication takes place regarding the effectiveness of the quality management system, and that the necessary communication processes are established, operated and managed within Sheffield Platers, Inc., including:

a) The operation, planning and outcome of the quality management system by related department managers, through Management Review Meetings.

b) The documentation of quality management processes and procedures through the document control system.

Related Procedures: QP4.1 MANAGEMENT RESPONSIBILITY

SECTION 2.0: QUALITY SYSTEM

2.1 General Policy

Sheffield Platers maintains a documented quality system which has been established to fulfill the requirements of the ISO 9001, AC7004, and AC7108 standards, and customer requirements. These standards create a framework for ensuring control of materials, processes and verification activities, thus providing our customers with confidence that their products are processed in a controlled environment.

Sheffield Platers Inc. fulfills the following items:

1) Determine the processes needed for the quality management system and their application throughout the facility.

2) Determine the sequence and interaction of these processes.

3) Determine the criteria and methods needed to ensure that both the operation and control of these processes are effective.

4) Ensure the availability of resources and information necessary to support the operation and monitoring of these processes.

5) Monitor, measure and analyze (where applicable) these processes.

6) Implement actions necessary to achieve planned results and continuous improvements of these processes.

The above-mentioned processes are controlled by Sheffield Platers Inc. in accordance with related standards and customer requirements. If Sheffield Platers Inc. should choose to outsource certain processes that could affect suitability of the product for established requirements, SPI will ensure these proceses to be under control. The type and extent of control to be applied to outsourced processes shall be defined.

2.2 Quality System Documentation

The quality management system is defined in the following documents:

* **Quality Manual (including the Quality Policy)**
* **Documented Operational procedures and records**
* **Work instructions (work orders)**
* **Applicable national and international standards**
* **Process procedures and internal standards**
* **Processing and quality plans**
* **Customer Specific Requirements**
* **Documented statement of Quality Objectives (Yearly Business Plan)**
* **Additional documents and records as needed to ensure effective planning, operation and control of QMS processes.**

These documented procedures collectively define the quality system which complies with customer requirements and the ISO 9001, AC7004, and AC7108 standards. The methods for controlling these documents are explained in section 5.0, Document Control.

Quality system procedures are made available to all Sheffield Platers employees at defined stations throughout the facility, and individual copies will be made available upon request through the Document Control Department. The customer is notified of changes to the quality control system as required by contract.

2.2.1 Quality System Implementation

All personnel who manage, perform and verify work affecting product quality are responsible for implementing the quality system. The Quality Manager is responsible for coordinating, monitoring and auditing the system. Implementation of the quality system is assessed regularly by way of internal and external audits and management reviews.

2.2.2 QUALITY MANUAL

Quality Manual QM 100 describes the guidelines of the quality management system for Sheffield Platers Inc.

The following items are established and maintained in accordance with this quality manual:

1) Scope of the quality management system including the details of, and justification for, any exclusions.

2) Documented procedures established for the quality management system, or reference to them.

3) Description of interaction between the processes of the quality management system
(For reference see page 13 of this Manual)

4) SPI Quality Policy

2.3 Quality Management System Planning

SPI top management will ensure:

* **Quality Management System Planning is carried out in order to meet the quality sytem requirements of ISO 9001, AC7004, AC7108, and our customers, the requirements of Section 1.0 of this manual, and with the aim of meeting the established Quality Policy and Quality Objectives.**
* **The integrity of the Quality Management System, and its conformity to standard (ISO 9001, AC7004 and AC7108), customer and internally established requirements are maintained when changes to the quality management system are planned and implemented.**

2.3.1 QUALITY POLICY

A Quality Policy has been established by SPI top management and will be maintained as a part of the Quality Management System, which will include periodic review at Management Review meetings. The SPI Quality Policy reflects the business objectives of the SPI organization, and the commitment of the organization to comply with and continually improve the efficacy and efficiency of the Quality Management System. The SPI Quality Policy is utilized as a framework to establish and analyze SPI Quality Objectives and other activities of the QMS.
The Quality Policy is posted in conspicuous locations throughout the SPI facility and is communicated to employees in all levels throughout the organization.

2.3.2 QUALITY OBJECTIVES

Quality Objectives are established based upon customer and business requirements. Top management ensures that quality objectives, which contain necessary tasks to satisfy product requirements are established at all relevant levels and functions of the Sheffield Platers organization. Quality objectives will be measurable and be in accordance with the quality policy.

The Quality Objectives will be established in the Sheffield Platers annual Business Plan, which will describe the specific activities necessary to satisfy our customers, comply with their requirements, and meet internal business objectives. Quality Objectives will include but are not limited to the following: Internal Quality, Customer Returns, Vendor Performance,

Customer Satisfaction rate, and Internal Audit Performance.

Review and reporting of the Quality Objectives will be performed during Management Review meetings.

2.4 PLANNING FOR PRODUCT REALIZATION

SPI plans and develops quality and production processes needed to meet customer requirements. This includes:

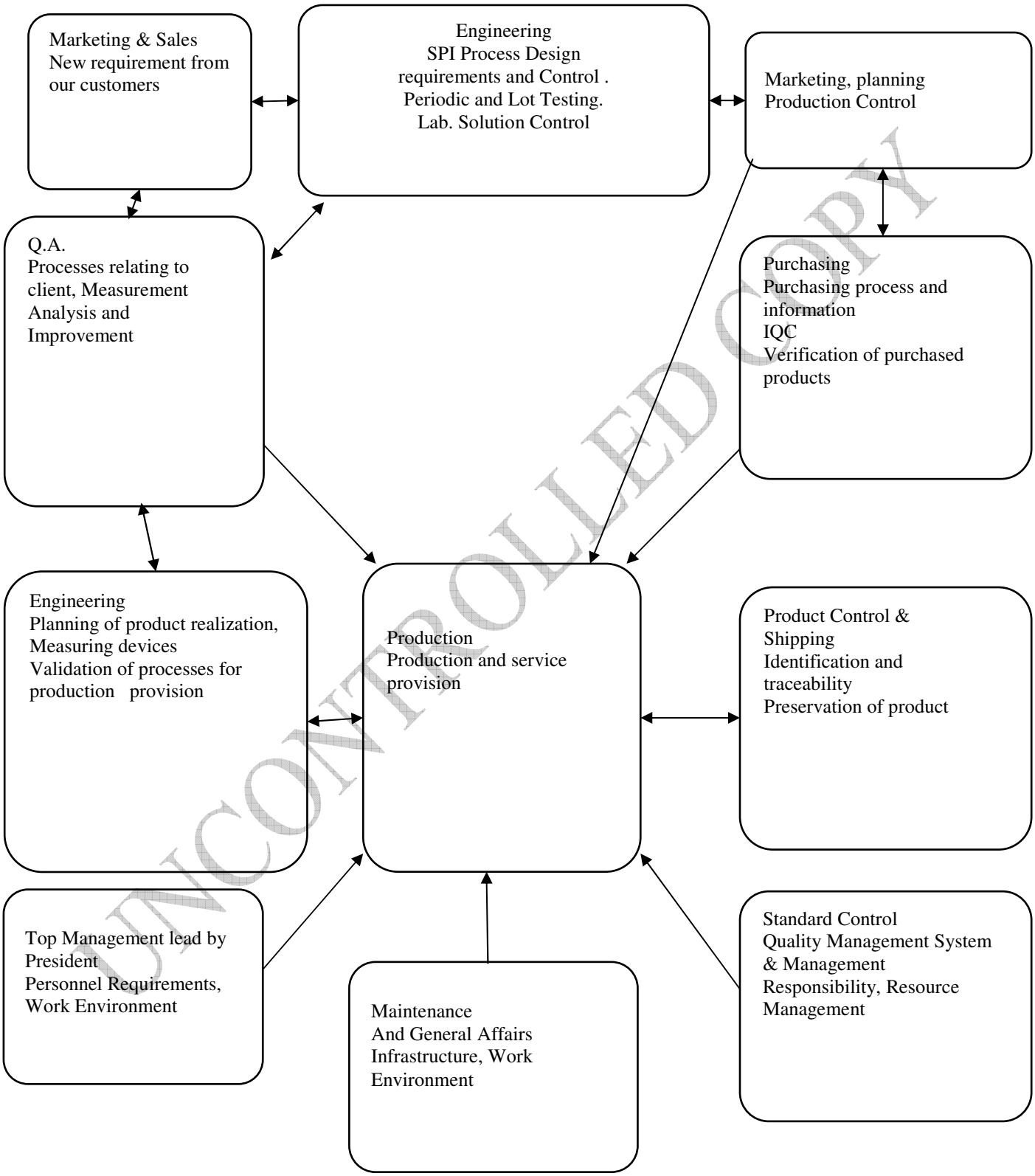
* **definition of quality objectives and requirements for the product,**
* **establishment of processes, procedures and other documentation specific to product processing,**
* **determination and provision of resources necessary to produce product meeting customer requirements,**
* **establishment of verification, validation, monitoring, measurement, inspection and test activities specific to the product and criteria for product acceptance**
* **establishment of documents and records to provide evidence that realization processes and the resulting product meet customer, standard and specification requirements.**

2.5 MONITORING AND MEASUREMENT OF QUALITY SYSTEM PROCESSES

Sheffield Platers applies suitable methods, as appropriate, to monitor and measure quality system processes, with the goal of ensuring planned results are achieved. When planned results are not achieved, Sheffield Platers will take corrective action as needed.

Related Procedures: **SHEFFIELD PLATERS ANNUAL BUSINESS PLAN**

Quality management system processes interaction



SECTION 3.0: CONTRACT REVIEW

3.1 General Policy

All contracts and orders are reviewed to ensure customer requirements are adequately defined and understood and confirm that Sheffield Platers has the capacity to meet the contract requirements.

3.2 Contract Review

Before the acceptance of a contract or order, Sheffield Platers reviews the contract to ensure that customer requirements are adequately defined and documented and that Sheffield Platers has the capacity to meet contract requirements.

Any differences between the contract or order requirements will be resolved prior to initiating that contract. Records of contract review and actions taken based on the results of the review will be maintained with the order documents. When no requirements are defined by the customer, Sheffield Platers will determine the requirements prior to processing the order; when unable to adequately define the requirements after a best effort is made, SPI will reject the order and return the product to the customer.

3.3 Determination of Product Requirements

Prior to processing of product, SPI determines that requirements are adequately defined to ensure appropriate processing. This may include any or all of the following requirements:

- **customer requirements specified on purchasing documents or blueprint, including requirements for delivery and post-delivery activities**
- **requirements not stated by the customer but necessary for specified or intended use, when known by Sheffield Platers (including flight parts)**
- **Requirements of the processing standard specified by the customer or blueprint**
- **Statutory or regulatory requirements applicable to the product (including ITAR/EAR and ROHS requirements)**
- **Any additional requirements considered necessary by the organization**

Sheffield Platers will determine these requirements on a "best effort" basis, and cannot be help liable for product requirements or expectations not stated by the customer through purchasing or blueprint documents, or stated in specified processing specifications.

3.4 Amendment to a Contract

Change orders are received and reviewed by Planning and Quality to ensure that the new requirements are incorporated into the operations plan and all other functions which are affected by the change. Relevant personnel will be made aware of the changed requirements through notation on the order documents or through verbal or written communication from the planning department.

3.5 Records

Contract review records shall be maintained. Acceptance of Customer Purchase Orders is documented by stamping and dating the purchasing document once contract review is completed and all discrepancies have been resolved.

Related Procedures: QP4.3 CONTRACT REVIEW
QP4.9 PROCESS CONTROL/WORK ORDERS

SECTION 4.0: DESIGN CONTROL

Sheffield Platers does not perform design activities.

SECTION 5.0: DOCUMENT and DATA CONTROL

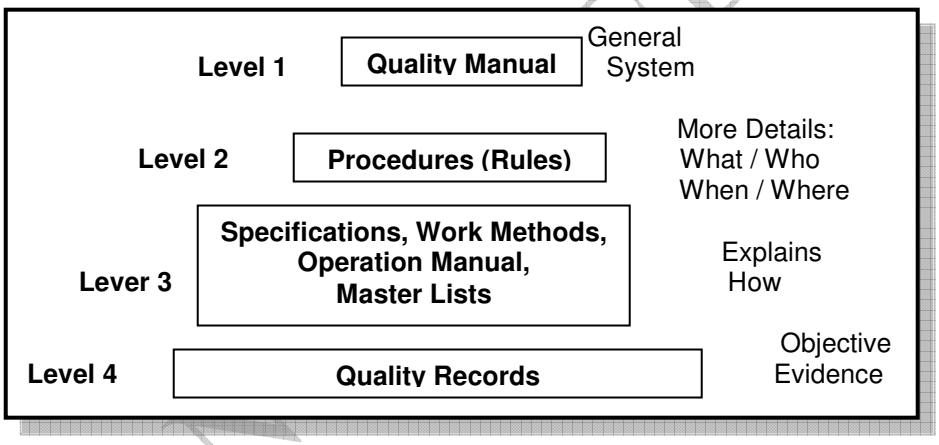
5.1 General Policy

The purpose and scope of document control is to establish and maintain documented procedures and to control all documents and data. The Quality Manager or designated person is responsible for coordinating, enforcing and auditing all document control related activities.

5.2 Quality System Documentation

Sheffield Platers Quality System documentation is comprisesd of the following types of documents:

* **Quality Assurance Manual**
* **Operational Procedures and Accompanying forms or attachments**
* **Work Orders / Travelers**
* **Applicable Industry standards for processes performed**
* **Customer processing procedures as applicable through customer contracts**



5.3 Document and Data Approval and Issue

All documents and data shall be reviewed and approved for adequacy by authorized personnel prior to issue. A document control system has been established to control and identify the current revision status of all documents to preclude the use of invalid or obsolete documents. Operational procedures shall be reviewed by the Quality Department on an annual basis and updated or reapproved as appropriate. Records of this review will be maintained by the document control department. Documents of all forms, including those in electronic format, will be approved and controlled.

Documents and document changes may be initiated by anyone in the organization, but may only be issued by an authorized department. In the event that a process or procedure is changed, the Document Control Department shall review and revise the applicable procedure as needed prior to its use, to ensure compliance with ISO 9001, Nadcap, contractual and statuatory requirements.

This control shall ensure that:

a) The pertinent revisions of appropriate documents are available at all locations where operations essential to the effective functioning of the quality system are performed.

b) **Document changes and the current revision status of documents are identified.**

c) **Documents remain legible, readily identifiable, and in appropriate condition for use**

d) **Invalid and/or obsolete documents are promptly removed from all points of issue or use, or otherwise assured against unintended use;**

e) **Any obsolete documents retained for legal and/or knowledge-preservation purposes are suitably identified**

f) **Externally issued/controlled documents utilized in the course of SPI operations will be controlled by SPI as appropriate to ensure that appropriate documents necessary to ensure compliance to customer requirements are available, usable, and readily identifiable. Externally issued documents will be reviewed as appropriate to determine that the most recent or appropriate revision is used. (Previous revisions may be maintained and used as required by the customer, but will be noted as Obsolete).**

5.4 Document Placement

Documents are distributed to personnel and locations where they are used. When appropriate and relevant, a distribution list for documents will be maintained.

5.5 Document and Data Changes

Changes to documents and data shall be reviewed and approved by the same function/–departments that performed the original review and approval. The designated functions/ departments shall have access to pertinent information upon which to base their review and approval. The nature of the change shall be identified in the document or the appropriate attachments. Revised documents are redistributed and obsolete documents are removed from use.

5.5.1 Documentation Change Incorporation

Incorporation of changes shall ensure timely review, distribution, implementation and maintenance quality system documents. A record of changes shall be maintained and coordinated with the customer as required by contract.

Related Procedures: QP4.5 DOCUMENT AND DATA CONTROL

SECTION 6.0: PURCHASING

6.1 General Policy

Sheffield Platers has created and maintains documented procedures to ensure that purchased products meet the requirements of the purchase order or contract issued to suppliers.

6.2 Purchasing Documents

Purchasing documents clearly describe ordered products and processes, including quality requirements, which may include requirements for the approval of product, procedures, processes or equipment, requirements for the qualification of personnel, and quality management system requirements. Purchasing documents are reviewed and approved prior to release.

6.3 Purchased Product Verification

Purchased products/processing are verified by Sheffield Platers through inspection or other verification activities performed by the requesting department, to ensure that products or services received meet purchase order requirements. Compliance of products and services may be established through various means, as defined by procedure, which may include supplier-provided certification or test reports, which will be reviewed and verified as necessary by Sheffield Platers. When Sheffield Platers chooses to verify product at their supplier's facility, the intended verification arrangements and method of product release will be stated in the purchasing document, and the result of the verification will be documented.

Sheffield Platers assumes responsibility for the quality performance of their suppliers, including customer designated suppliers.

6.4. Right of Entry

Sheffield Platers includes a right of entry provision on every purchase order. The provision allows Sheffield Platers, Sheffield Platers' customer, and regulatory agencies to determine and verify the quality of work, records and material at any place, including the plant of the supplier.

6.5 Supplier Assessment

Sheffield Platers assesses its suppliers and purchases products and services only from those that can satisfy the company's quality requirements. The quality performance of suppliers and vendors is monitored on an ongoing basis.

6.6 Customer Approved Suppliers

Sheffield Platers shall ensure when required that it and its suppliers will use customer-approved special process sources. The requirement will be documented on purchase orders to our suppliers when this requirement is applicable.

6.7 Evaluation of Suppliers

Supplier quality capabilities are assessed to determine the supplier's ability to supply products or services in accordance with SPI requirements. A review of the supplier's capability based on quality history, survey, or customer approval is performed at the time of assessment. Quality performance of suppliers is monitored quarterly. Corrective action may ~~will~~ be taken on suppliers that fall below acceptable quality levels, or when on-time performance expectations are consistently not met. Records of supplier evaluation and performance review will be maintained by the purchasing department.

6.8 Customer Verification

Sheffield Plater's customers are given the right to verify that purchased products/processes conform to specified requirements. Customer verification does not absolve Sheffield Platers from the responsibility to deliver a quality product.

6.9 Delegation of Verification to Supplier

When Sheffield Platers chooses to delegate verification of purchased products/processes to the supplier, the requirements for delegating shall be defined and the supplier shall have demonstrated a level of system and product/process quality as defined in the purchasing procedure.

6.10 Requirements Flow Down

Quality system requirements are flowed down to suppliers to the extent necessary to ensure that characteristics not verifiable are adequately controlled.

Related Procedures: QP4.6 PURCHASING

SECTION 7.0: CONTROL of CUSTOMER-SUPPLIED PRODUCT

7.1 General Policy

Customer supplied property will be handled with care while under the control or use of SPI. Customer supplied product or property is identified, verified, protected and safeguarded as appropriate.

All processing is performed on customer supplied products. Customer supplied products are received and inspected for compliance to the purchase order. Once accepted, they are tagged for identification and put in the staging area where they await the appropriate documentation.

When specified by contract, special handling instructions from customers will take precedence over Sheffield Plater's standard procedures. Any product that is damaged or is otherwise unsuitable for use shall be recorded, controlled to prevent use or further damage and reported to the customer.

7.1.1 Notification and Authorization

Disposition of nonconforming customer-furnished property shall be authorized by the customer. Customer supplied property or product that is lost, damaged, or otherwise found to be unsuitable for use while under the control of Sheffield Platers will be reported to the customer, and records documentingthe incident will be maintained.

Related Procedures: QP4.7 CONTROL OF CUSTOMER-SUPPLIED PRODUCT

SECTION 8.0: PRODUCT IDENTIFICATION & TRACEABILITY

8.1 General Policy

Materials, components, subassemblies and products supplied by the customer are identified throughout the process, through use of a unique job/work order number and identification to the corresponding shop traveler and purchase order. These documents will be identified to the product during all phases of processing from receipt to shipment.

8.2 Responsibility

The Planning Department is responsible for assignment of work order numbers and maintenance of pertinent product identification (such as serial numbers or heat lot numbers) as required by the contract.

All personnel handling product are responsible for maintaining ~~the~~ identification through phases of processing and associated activities.

8.3 Records

The Quality Department maintains records regarding product identification and traceability.

Related Procedures: QP4.7 CONTROL OF CUSTOMER SUPPLIED PRODUCT

SECTION 9.0: PROCESS CONTROL

9.1 General Policy

Processing and individual operations are planned and documented. The method to control the processing of the customer product will be per required industry or customer specifications and/or proprietary processes that meet customer requirements. Personnel performing complex or critical operations are provided with a work order, and when applicable, workmanship criteria. Processing equipment is checked and maintained to ensure continuing process capability. Production areas are maintained to provide a suitable production and working environment (See QP4.9P).

Processing will be carried out under controlled conditions, which will include ensuring that the necessary information, work instructions, equipment (including equipment needed for inspection and measuring activities) are available, and the necessary activities are carried out to meet customer requirements (including inspection/measurement, product release, delivery and post-delivery activities).

9.2 Production Plan

The production plan is specified by the work order prepared by Planning. The work order lists all processing and inspection operations necessary to process and verify parts. The work order will be monitored for verification of sequential operations and acceptance. Processes are controlled by written procedures, process operator training and/or certification, process equipment qualification or continuous process monitoring.

The Operation Manager is responsible for selecting appropriate process control methods for particular processes. The quality planning process includes documenting references to applicable specifications on the work order as required. Evidence that all processing and inspection operations have been completed in sequence, as planned or as otherwise documented and authorized is verified at the final inspection process. Production process changes are to be approved by the General Manager or personnel designated by the General Manager. Production process changes will be controlled and documented, including changes to processes, production equipment, tools and software programs. Results of production process changes will be considered prior to approval, and will be monitored and assessed to confirm that the desired effect was achieved, and there are no adverse effects to product conformity.

9.3 Work order Configuration Control

Work orders are established and control the configuration, part number, and revision of all products as defined by the customer during all phases of processing. Each operator and inspector will be responsible to verify that the part number and revision is documented on the work order.

9.4 Split Orders

Split work orders will be controlled per Sheffield Plater's standard procedure QP4.9.

9.5 Customer Approved Sources

Sheffield Platers shall ensure when required that it and its suppliers will use customer-approved special process sources. The requirement will be documented on purchase orders to our suppliers when this requirement is applicable. The requirement for customer-approved sources will be noted on the contract review and the purchase order to the supplier.

9.6 Tooling

Sheffield Platers maintains proper control and care of all tooling.

Customer Tooling shall be:

* **Utilized per customer requirements and returned when the processing is completed**

Sheffield Platers Tooling shall be:

* **Periodically verified to ensure their continued accuracy.**
* **Properly stored and controlled to prevent misuse, damage or deterioration.**

Procedure 4.9T will document the control of tooling at Sheffield Platers.

9.7 Process Verification

Sheffield Platers validates processes where the resulting output cannot be readily evaluated through subsequent monitoring and measurement activities. Validation will demonstrate the ability of the process to achieve the desired results, and the following requirements will be defined for validation

activities:

- **Criteria for review and approval of process**
- **Equipment and Personnel qualifications**
- **Specific methods and procedures to be used**
- **Record requirements**
- **Criteria, process and frequency of revalidation**

Sheffield Platers monitors and validates chemical processes through the Periodic Testing program, monitoring and validation of process solutions, and use of test coupons to validate product requirements.

Related Procedures: 4.9 PROCESS CONTROL (WORK ORDERS)
4.9T TOOLING
4.10T TESTING CONTROL
4.9BC BATH CHEMISTRY CONTROL

SECTION 10.0: INSPECTION AND TESTING

10.1 General Policy

Inspection and testing are conducted on received materials at significant stages of processing and prior to shipment of the final product. The objective of inspection and testing is to verify product conformance with specified requirements. Records of inspections and tests are established and maintained to show evidence that products comply with stated requirements. These records may be acceptance of work order operations, certifications, inspection or test data, or tech data records. If Sheffield Platers, selects to have inspection and tests performed by an outside suppliers, the supplier used shall be an approved, qualified supplier of Sheffield Platers. Inspection and production personnel use appropriate and calibrated measuring and test equipment. The level of inspection performed will be determined based on specification and customer requirements, part and process characteristics and end use.

10.2 Receiving Inspection

10.2.1 All incoming parts will not be released for processing until they have been inspected or verified as conforming to the customer specified requirements. The conformity verification will be visual inspection in accordance with the processing work order or customer shipper or purchase order.

10.2.2 The extent and nature of inspections performed will be dependent on the type/kind of inspection required to provide evidence of conformity. Inspection may be visual, dimensional, or certification review.

10.2.3 When incoming product is released for urgent production purposes prior to verification, it will be positively identified and recorded in order to permit immediate recall and replacement in the event of nonconformity to the specified requirements.

10.2.4 In the event that incoming product is released for urgent production purposes prior to verification, Sheffield Platers shall ensure product conformity or obtain customer approval prior to shipment.

10.2.5 In-Process Inspection

In-process inspections are specified on work orders accompanying the products during their processing operation. The actual features monitored during in-process inspection will be specified ~~are listed~~ on the work order and are performed by the processing personnel.
In-process inspections are performed at the required place in the processing flow, as defined by the job traveler. In-process inspection may be verification of processing equipment such as verification of time, temperature, solution or visual inspection for attribute characteristics (as determined by customer or specification). In-process testing (adhesion, finish, dimensional, panels, and solution) may be required based on the applicable specification. Further processing will not be performed until the required in-process inspections have been completed.

10.3 Final Inspection

All finished product is subjected to final inspection and/or testing in accordance with the work order and documented procedures, to conformity of the finished product to customer and specification requirements.
The Final QA Inspectors will verify that all reqired receiving and in-process inspections and testing have been carried out and the results meet the specified requirements before proceeding.

No product shall be dispatched until all the activities specified in the operations work order and the final inspection plan has been completed and the associated documentation is available and authorized.

10.4 First Article Inspection (as required)

When required by customer or specification, or advised by the General Manager or Quality Manager, a first production article will be run and inspected for conformity to requirements. The first article will be documented as required on the work order, an inspection report, or certification as All first article documentation will be retained and shall list the inspections performed and, the actual results/characteristics observed in performance of the inspection or tests. The process may be adjusted, as appropriate, by the General Manager or Quality Assurance Manager, or their designee, based on the first article inspection and customer feedback.

10.5 Inspection and Test Records

All types of inspections performed are documented to show the product has been inspected and whether the product has passed or failed any inspection or test according to defined acceptance criteria. These records identify the inspection authority responsible for the release of the product.

10.6 Inspection Options

Sheffield Platers may perform sampling as required by ~~the~~ customer/contract or processing specification. Sampling will be per specification customer requirements. When no sampling plan is specified by the specification or customer, sampling will be performed by ANSI Z1.4. Statistical process control may be performed when determined to be as appropriate by the Quality Manager or required by the customer.

Inspection requirements identified by the engineering drawing or specification take precedence over the inspection options described here.

Related Procedures: QP 4.10, INSPECTION ACTIVITIES
QP4.10T, TESTING CONTROL
QP4.10LTM, LOT TESTING MANUAL

SECTION 11.0: INSPECTION, MEASURING & TEST EQUIPMENT

11.1 General Policy

Appropriate monitoring and measuring equipment to ensure conformity to product requirements is obtained and maintained by Sheffield Platers. All measuring and test equipment used for verification of products is calibrated using calibration standards traceable to National Institute of Standards and Technology. The accuracy of the required measurements is defined and the appropriate equipment is selected to perform the measurements. Calibration certificates are documented and maintained. The calibration status of measuring equipment is identified with calibration stickers and/or traceable back to individual calibration records. All calibration systems meet the intent of ISO 10012-1.

All inspection, measuring, and test equipment and comparative references (gages) used for acceptance of product and for control of production processes are calibrated at established intervals against certified equipment having a known valid relationship to nationally recognized standards. Equipment will be re-calibrated as necessary after performance of maintenance that may compromise the calibration status. Equipment will be safeguarded from adjustments that may invalidate the measurement results, and will be protected from damage and deterioration during handling, maintenance and storage.
Equipment used for purposes other than acceptance of products or control of production processes is exempt from the requirements for calibration. Such equipment is labeled with "Reference Only" stickers. Uncontrolled measuring equipment will not be stored in the inspection areas.

11.1.1 Definition

Inspection, measuring and test equipment includes all types of devices used to verify materials, products, processes or other inspection, measuring and test equipment. This also includes personally owned equipment used for product acceptance.

11.2 Traceability to NIST

All measuring and test equipment used for acceptance of products is calibrated using standards traceable to National Institute of Standards and Technology.

11.3 Identification

All equipment shall be identified with regards to calibration status. Suitable indicators include labels or stickers. Records traceable to the calibrated item may be used for identification and traceability.

11.4 Calibration and Maintenance

When inspection, measuring and test equipment is found to be greater than twice the manufacturer specification for tolerance, an assessment is performed by the Quality Manager to determine if the result may be nonconforming product. If so, product shall be reviewed and the customer notified as appropriate per procedure QP4.13 and QP4.11.

Related Procedures: QP4.11 CONTROL OF INSPECTION, MEASURING, AND TEST EQUIPMENT

SECTION 12.0: INSPECTION AND TEST STATUS

12.1 General Policy

The inspection and test status of all products is identified to indicate the conformance or nonconformance of the product. This identification is maintained throughout the processing of product to ensure that only product that has passed the required inspections and tests is utilized. Inspection and test requirements will be identified at applicable stages of the process to determine the compliance of the product to customer and process requirements. (See sections 6.0 and 10.0)

12.2 Identified by Suitable Means

The inspection or test status of product being processed shall be identified by the sequential operations of the work order. Inspectors and other personnel authorized to perform inspections and testing are responsible for stamping or initialing the work orders with their inspection stamp or signature.

12.3 Individual Traceability

The status of all phases of inspection, is indicated with the acceptance or rejection stamp or a signature in the appropriate area of the operations work order. Each inspection stamp is traceable to an individual employee. Traceability to the employee is maintained through the signature/stamp log.

12.4 Nonconforming Product

Any product that fails any one of the inspection phases is identified with a nonconformance tag. The process for regulating nonconforming product is provided in section 13.0, Nonconforming Material.

12.5 Authority to Release Product

The inspector performing the final inspection has the authority to release product for shipment once he/she has deemed it acceptable. An acceptance stamp in the final inspection operation of the operations work order is evidence the product has been released for shipment.

12.6 Inspection Stamps

When stamps are used, inspection stamps are designed to clearly identify Sheffield Platers and personnel to whom the stamps are issued. Stamps that create illegible impressions are permanently removed from the system and stamps that are retired are removed from service for six months. Lost stamps are permanently removed from the system. A stamp log listing all issued stamps is maintained by the Sheffield Platers Quality Control Department.

Related Procedures: QP4.12 INSPECTION AND TEST STATUS

SECTION 13.0: CONTROL OF NONCONFORMING MATERIAL

13.1 General Policy

All nonconforming material is identified, documented, evaluated, segregated to prevent the product from being used, installed or shipped, and dispositioned by The Quality Manager or the designated person(s). Responsibility for disposition of nonconforming product is maintained by the Quality Manager as defined in 13.1.1, and when required, the customer will maintain the authority for product disposition. All Sheffield Platers personnel are responsible for rejecting material that does not meet the defined requirements.

13.2 Disposition Restrictions

Sheffield Platers procedure for Non-conforming product (QP4.13) shall be limited at preliminary review to "rework to specification", "scrap", return to customer" or "submit to the customer on a concession". Re-grading will not be allowed by Sheffield Platers. "Repair" or "use as is" dispositions will be made by the customer Nonconformities, inculding customer returned material, will be documented.

Nonconforming products are identified and documented using a tag and a nonconformance report. The nonconformity is also recorded on the work order.

13.3 Repaired or Reworked Product

All product that is reworked to specification will be re-inspected per documented instructions, and all re-inspections will be documented.

13.4 Scrap Product

Scrap product shall be marked or separated from production material identified and returned to the customer with documented reports of the nonconformance. Scrap material will be segregated in shipment and clearly identified to the customer.

13.5 Suspect Product Notification

Sheffield Platers shall notify the customer when nonconformity is discovered in our process or products which may affect products already delivered.

13.6 Test Failures on Tanks

Sheffield Platers shall quarantine any processing tank that has a test failure. A "Quarantine Tag" shall be placed on the tank. The tank shall not be put into service until all required testing has passed.

Related Procedures: QP4.13 CONTROL OF NONCONFORMING PRODUCT

SECTION 14.0: CORRECTIVE AND PREVENTIVE ACTION

14.1 General Policy

Causes of product and quality system nonconformities are investigated and corrective actions are implemented to prevent their recurrence. Processes, processing operations, quality records and customer complaints are analyzed to detect any sources of potential quality problems and preventive actions are implemented before the problems develop. Controls are applied to ensure that corrective and preventive actions are implemented and that they are effective as noted in procedure QP4.14.

14.2 Initiation of Corrective and Preventative Action

Any employee may propose corrective and preventive actions, but only the Quality Manager and/or the Engineering Manager can authorize and initiate their implementation.

The Quality Manager reviews and records any changes to the documented procedures resulting from corrective and preventive actions.

14.3 Corrective Action

Corrective Actions shall encompass:

- **Review of customer complaints and reports of product or process nonconformities;**
- **investigation of the cause of nonconformities relating to processes and quality systems;**
- **determination of the corrective action needed to eliminate the cause of nonconformities;**
- **application of controls to ensure that corrective action is taken and that it is effective;**
- **flow down of the corrective action requirements to a supplier when it is determined that the root cause of a nonconformity is the responsibility of the suppliers;**
- **repetitive product nonconformances**
- **Internal audit findings**

Sheffield Platers will maintain records of corrective action requests and the actions taken to correct identified issues ~~them~~. Sheffield Platers shall respond to corrective action requests using SPI's internal format, unless it is required by the customer to utilize their specific form or format.

14.4 Preventive Action

Preventive Actions will encompass:

- **use of appropriate sources of information which affect product quality to detect, analyze and eliminate potential causes of nonconformities;**
- **the determination of the steps needed to deal with any problems requiring preventive action;**
- **the initiation of preventive action and the controls to ensure that it is effective;**
- **ensuring that relevant information on actions taken is submitted for management review.**

Sheffield Platers maintains records of preventive actions requests and the actions taken in response to them.

14.5 Follow Up

Every Corrective and preventive action is followed up by the Quality Manager to determine if the action has been implemented and ensure its effectiveness.

Related Procedures: QP4.14 CORRECTIVE AND PREVENTIVE ACTION

SECTION 15.0: HANDLING, STAGING, PACKAGING, PRESERVATION AND DELIVERY

15.1 General Policy

Sheffield Platers will take appropriate measures to prevent product damage and deterioration. Receipt to and from processing areas are controlled. The condition of stored products is assessed at established intervals. Packaging is specified and controlled. Products are protected prior to and during delivery.

15.2 Handling and Preservation

SPI will ensure that product and customer property is handled during processing and delivery operations in such a way that the integrity and conformity to requirements of the product is preserved. Activities to preserve product will include identification, handling, packaging, storage and protection.

15.3 Staging Areas

All staging areas are the responsibility of the Engineering Manager. Only products that are properly identified and that have passed the mandatory inspections are authorized to enter and leave the staging areas. Product which is entered into the staging area is tagged with identifying information to ensure that any product removed maintains its identification to prevent loss of traceability.

15.4 Packaging and Delivery

Hardware shall be packaged as received or as specified by the customer. When packaging is not specified by the customer, hardware shall be packed for protection based on part characteristics and delivery method. Hardware shall be shipped via Sheffield Truck, Federal Express or United Parcel Service unless otherwise specified by the customer.

Packaging shall be verified by the Inspection Department. The Inspection Department shall stamp the work order upon verification.

15.5 Shipping Documents

All applicable packing sheets and quality documentation is verified and provided as defined by contact and/or specification. At a minimum, a packing list and certificate of conformance will be supplied.

Related Procedures: QP4.15 HANDLING, STORAGE, PACKAGING, PRESERVATION AND DELIVERY PROCEDURE

SECTION 16.0: CONTROL OF QUALITY RECORDS

16.1 General Policy

Quality records shall be controlled and maintained to demonstrate achievement of the required quality and the effective operation of the quality system. Records are identified, indexed and stored in a suitable environment to minimize deterioration and to prevent loss. Records will be maintained such that they remain legible, readily identifiable and retrievable. Records are normally stored by the Quality Department. Retention periods for quality records are established and recorded; procedures for the disposal of records are established.

16.2 Retention Periods

The standard retention period for records is 8 years minimum. Records for any customer that requires retention beyond 8 years will be controlled as required by contract.

16.3 Availability

All records shall be available for customer and regulatory agencies for examination.

16.4 Indexing and Storing

All records are indexed and grouped to facilitate their retrieval. Binders, drawers, cabinets, and file boxes containing records are clearly labeled with their contents

Related Procedures: QP4.16 QUALITY RECORDS

SECTION 17.0: INTERNAL QUALITY ASSESSMENT

17.1 General Policy

Planned and documented quality assessments/audits are conducted at least once a year to ensure compliance of the quality system and associated processes to ISO 9001, AC7004 and AC7108 and SPI QMS requirements. The audits are conducted by qualified personnel independent of those having direct responsibility of the audited activities. Auditors are selected with the goal of ensuring impartiality and objectivity; auditors do not audit their own work. Identified nonconforming conditions are brought to the attention of the responsible managers and, when appropriate, corrective action will be required to eliminate nonconformances and their causes, per the requirements of QP4.14 <Corrective and Preventive Action>.

17.2 Planning and Scheduling

The Quality Manager or the designated person establishes the internal audit plan and schedule. The Quality Manager leads the audit team and will assign the applicable team members to each specific activity to be audited. Documented procedures are established that define the responsibilities and requirements for planning and conducting audits, establishing records and reporting results.

Audit Results will be reviewed by top management during Management Review meetings, and will be approved and certified by the company president.

Related Procedures: QP4.17 QUALITY INTERNAL AUDITS

SECTION 18.0: TRAINING

18.1 General Policy

Personnel assigned to perform specific tasks are qualified on the basis of appropriate education, training or experience. Records of personnel qualifications and training are maintained in their personnel file, training files, or the department records.

Training programs are based on the skills and knowledge required to perform specific tasks in their related departments. This training will be provided to each employee directly by their department supervisors, or by other properly qualified individuals.

Employees will be assessed to ensure competence in their assigned functions. Identified deficiencies will be addressed, and the employee re-assessed to confirm that the required competence has been achieved.

Related Procedures: QP4.18 EMPLOYEE TRAINING

SECTION 19.0: SERVICING

This section is not applicable to Sheffield Platers' business.

SECTION 20.0: STATISTICAL TECHNIQUES

20.1 General Policy

Where and when appropriate, statistical techniques are employed to verify the acceptability of process characteristics and process capabilities. The Quality Manager is responsible for identifying the need for the use of statistical techniques. Written procedures implement and control the application of statistical techniques.

20.2 Sampling

When required by contract, Sheffield Platers sampling plan will be approved by the customer prior to implementation on the customer product. When not specified by specification or customer, the default sample plan is ANSI Z1.4 2003. The Quality Manager identifies the need for the use of sampling. All sampling will be random, and statistically valid.

Related Procedures: QP4.20 STATISTICAL CONTROL

SECTION 21:0 CONTINUAL IMPROVEMENTS

21.1 General Policy

Continual Improvement

Sheffield Platers will continually improve the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review. Continual Improvement plans shall be documented and shall include goals, descriptions of the current status and resources required.
The process for continual improvement is described within Continual Improvement, procedure.

21.2 Data Analysis

Sheffield Platers collects and analyzes process and quality data to demonstrate the suitability and effectiveness of its processing and its Quality Management System, and to evaluate where improvements to the system can be made. Data will be gathered from monitoring and measurement activities of both process and product, and from other relevant sources. Analysis of data will be provide information related to customer satisfaction, conformity to product requirements, characteristics and trends of processes and products, including opportunities for preventive action, and supplier performance. Performance data will be analyzed for trends on a periodic basis.

Related Procedures: QP4.21 CONTINUAL IMPROVEMENT

SECTION 22.0 CUSTOMER SATISFACTION

22.1 General Policy

Customer Satisfaction

Sheffield Platers will monitor information related to customer satisfaction, including customer feedback regarding whether SPI has met customer requirements. Documented procedures for collecting and analyzing customer satisfaction data have been established by Sheffield Platers, and records documenting customer satisfaction data will be maintained.

Sheffield Platers is a customer-focused organization. The ability to meet customer requirements, with the goal of enhancing customer satisfaction, is taken into consideration when determining company policy and business objectives.

Customer feedback and customer satisfaction data will be reviewed by top management at Management Review meetings.

22.2 Customer Communication

SPI has established effective arrangements for communication with customers in relation to product information, inquiries regarding order handling and contracts, including amendments, nonconforming product, and customer feedback, including customer complaints.

Related Procedures: QP4.22 CUSTOMER SATISFACTION

Attachment "A"

ISO Clause	Title	Document	ISO Clause	Title	Document
4	Quality Management System	N/A (title only)	*7.2.3*	Customer Communication	QM100, QP4.22
4.1	General Requirements	QM100	*7.3*	Design and Development	N/A (title only)
4.2	Documentation Requirements	N/A (title only)	*7.3.1*	Design and Development Planning	Excluded
4.2.1	Documentation Requirements – General	QM100	*7.3.2*	Design and Development Inputs	Excluded
4.2.2	Quality Manual	QM100	*7.3.3*	Design and Development Outputs	Excluded
4.2.3	Control of Documents	QM100, QP4.5	*7.3.4*	Design and Development Review	Excluded
4.2.4	Control of Records	QM100, QP4.16	*7.3.5*	Design and Development Verification	Excluded
5	Management Responsibility	N/A (title only)	*7.3.6*	Design and Development Validation	Excluded
5.1	Management Commitment	QM100, QP4.1	*7.3.7*	Control of Design and Development Changes	Excluded
5.2	Customer Focus	QM100, QP4.22	*7.4*	Purchasing	N/A (title only)
5.3	Quality Policy	QM100	*7.4.1*	Purchasing Process	QM100, QP4.6
5.4	Planning	N/A (title only)	*7.4.2*	Purchasing Information	QM100, QP4.6
5.4.1	Quality Objectives	QM100, Business Plan	*7.4.3*	Verification of Purchased Product	QM100, QP4.6
5.4.2	Quality Management System Planning	QM100	*7.5*	Production and Service Provision	N/A (title only)
5.5	Responsibility, Authority and Communication	N/A (title only)	*7.5.1*	Control of Production and Service Provision	QM100, QP4.9 (various)
5.5.1	Responsibility and Authority	QM100, QP4.1	*7.5.2*	Validation of Processes for Production and Service Provision	QM100, QP4.10T, QP4.9BC
5.5.2	Management Representative	QM100, QP4.1	*7.5.3*	Identification and Traceability	QM100, QP4.7
5.5.3	Internal Communication	QM100	*7.5.4*	Customer Property	QM100, QP4.7
5.6	Management Review	N/A (title only)	*7.5.5*	Preservation of Product	QM100, QP4.7, QP4.15
5.6.1	Management Review – General	QM100, QP4.1	*7.6*	Control of Monitoring and Measuring Devices	QM100, QP4.11
5.6.2	Review Input	QM100, QP4.1	*8*	Measurement, Analysis and Improvement	N/A (title only)
5.6.3	Review Output	QM100, QP4.1	*8.1*	General	QM100
6	Resource Management	N/A (title only)	*8.2*	Monitoring and Measurement	N/A (title only)
6.1	Provision of Resources	QM100	*8.2.1*	Customer Satisfaction	QM100, QP4.22
6.2	Human Resources	N/A (title only)	*8.2.2*	Internal Audit	QM100, QP4.17
6.2.1	General	QM100	*8.2.3*	Monitoring and Measurement of Processes	QM100, QP4.10T, QP4.9BC,

					Business Plan.
6.2.2	Competence, Awareness and Training	QM100, QP4.18	*8.2.4*	Monitoring and Measurement of Product	QM100, QP4.10, QP4.10T
6.3	Infrastructure	QM100	*8.3*	Control of Nonconforming Product	QM100, QP4.13
6.4	Work Environment	QM100, QP4.15	*8.4*	Analysis of Data	QM100, P4.10T, QP4.9BC, QP4.20
7	Product Realization	N/A (title only)	*8.5*	Improvement	N/A (title only)
7.1	Planning of Product Realization	QM100, QP4.1, QP4.3, QP4.9	*8.5.1*	Continual Improvement	QM100, QP4.21
7.2	Customer Related Processes	N/A (title only)	*8.5.2*	Corrective Action	QM100, QP4.14
7.2.1	Determination of requirements related to the product	QM100, QP4.3, QP4.9	*8.5.3*	Preventive Action	QM100, QP4.14
7.2.2	Review of Requirements related to the product	QM100, QP4.3, QP4.9			

Attachment "B"

Definition of Terms

AMBIENT TEMPERATURE FOR PROCESS TANKS: Unless otherwise specified by customer, specification or technical data sheet, ambient is the natural uncontrolled temperature at the location of the tank and need not be monitored or controlled

AUTOMATIC PROCESS LINE: A fully automatic process line is one in which all the variables of a chemical process sequence are maintained, controlled and recorded by an automated, e.g. computer, system. Variables include (but are not limited to) solution immersion times, solution temperatures, step sequencing, and current/voltage settings. An automated process line does not require operator intervention to validate or monitor any part of the processing operation. The operator may be required to initiate, sequence or queue the specified, pre-established and programmed handling equipment or process, but does not alter or adjust the process variables, with the exception of halting a sequence that is in failure mode (in response to an alarm, warning, etc).

BATCH: A quantity of parts of the same part number that are processed on the same route card/traveler.

CHEMICAL ETCHING FOR CLEANING: The chemical removal of metal with the intent of removing surface contamination and oxide. AC7108/2 is not required for this.

CHEMICAL ETCHING FOR NDT: The process of controlled chemical removal with the intent of removing a small amount of material to open up surface cracks or to reveal a grain structure.

CHEMICAL MILLING: The process of controlled chemical removal of metal to achieve a final dimension.

CONCESSION REQUESTS: A request to the prime contractor that allows for the material to be outside engineering requirements.

CONTROL LIMITS: Calculated operating limits resulting from statistical process control programs.

CONTROL PLAN: A formalized written plan that intends to control the product characteristics and the associated processing variables. The control plan assures that the good improvements established by your project will not deteriorate once the project is returned to manufacturing.

CORROSION PIT: For salt spray testing on aluminum panels, the most common type of corrosive attack is pitting -- a highly localized reaction to the salt spray environment resulting in cavities of variable size, shapes and depths. Corrosion pits commonly occur at surface scratches, breaks in protective coatings, and variations in surface compositions (for example, grain boundaries or nonmetallic inclusions) or finishes. After exposure, salt spray test panels should be rinsed and dried cautiously so that any corrosion by-products are not disturbed. Evaluation for corrosion pitting should be conducted as soon as possible after salt spray exposure because continued corrosion activity may occur within observed pits. Typical characteristics of a corrosion pit are, a rounded, elongated or irregular appearance when viewed normal to the test panel surface, a "comet tail" or line or "halo" (i.e., surface discoloration) that emanates from the pit cavity, some quantity of corrosion by-product inside or immediately around the pit (on aluminum test panels the by-product may be granular, powdery or amorphous, and white, grayish or black in color). To be considered a corrosion pit, an observed surface cavity must exhibit at least two of the above characteristics. Surface cavities that exhibit only one of these characteristics may require additional analysis before being classified as a corrosion pit. Visual inspection with 10X magnification is typical practice when corrosion by-products are not visible with the unaided eye. For example MIL-A-8625 also defines a corrosion pit as having depth greater than its width. Measurement of pit dimensions can be difficult since the extent of a pit is usually not fully revealed from the surface. For example some typical corrosion pit measurement methods are described in ASTM G 46.

DEIONIZED WATER: 50,000 ohm•cm resistivity minimum or <20 µS/cm. Examples could be water produced by reverse osmosis or resin transfer columns.

DEIONIZED WATER FOR ANALYSIS PURPOSES (Lab Water): 500,000 ohm•cm resistivity minimum or <2 µS/cm.

ENGINEERING REQUIREMENTS: Technical requirements identified in the purchase order, specifications or drawing.

FIRST PIECE: First time processing a specific part number.

FROZEN PROCESS: The shop paper / traveler / work instruction that is pre-approved by the main contractor and cannot be changed without re-approval or repair / MRB authority.

IN PROCESS: Parts have been accepted for processing and released to manufacturing but not yet accepted at final inspection or scrapped. (In process inspections are typically "visual" (water break, uniformity, coverage, etc.) "checks" to determine if parts should proceed to the next processing step.

INVALID TEST: A test where it can be shown that the test piece was of an incorrect material, or it was processed incorrectly, or it was tested incorrectly.

JOB: All of the hardware processed to a single order control document as a lot or multiple lots with a unique control number.

LOT: Unless otherwise specified, shall be all parts of the same part number, material, size and shape, processed at the same time, using the same processing materials, under the same conditions in not more than 8 hours and presented for inspection at one time.

Definition of Terms(continued)

MATERIAL CONDITION: This can include the heat treatment condition, the hardness and the surface finish, e.g. shot peened. Depending on the substrate material and process being carried out some or all of these conditions may be required to be known.

MATERIAL REVIEW BOARD (MRB): Is authority granted by the prime contractor to allow sub-contractors to reprocess material under their authority that does not meet drawing requirements, using out of manufacturing sequence steps, to return the material back to drawing requirements. MRB authority may allow material to exceed drawing requirements.

POLICY: A written company philosophy on how something should be done in very broad generic terms. The existence of a procedure shall satisfy the requirements for a policy.

PROCEDURE: A detailed "how to", step-by-step revision controlled document used to enforce or implement company policy.

PROCESS PARAMETER: A process parameter is any variable that can influence the process and as such may vary depending on the process in question. For process solutions, examples are: solution temperature, contact/immersion time, concentration of constituents. For painting, examples are: mixing time, induction time, pot life, drying time, oven cure time, humidity and temperature. For electrolytic processes examples are: current density/amperage, voltage and ramp rate. See Procedure 4.9 for a list of process parameters that must be recorded either by an automatic system or by the operator.

REPAIR - Using approved processing to return material to a usable condition, even though it does not meet drawing requirements. Requires MRB/Customer approval.

REPLACEMENT TEST: A repeat test where the original test can be shown to be an invalid test. A replacement test may be done once without customer permission.

RETEST: A repeat test where the original test result is believed to be wrong but cannot be invalidated. A retest can only be done if permitted by specification or customer. Does not apply to solution analysis

REWORK: Using standard approved processing to return material to drawing requirements before the next processing step.

SHOP PAPER/ TRAVELER: The paperwork that controls and records the manufacturing process.

SHOP TARGET LIMIT - A processor defined operating limit that defines an action point to prevent the solution constituent from exceeding the Technical Bulletin Limits/Specification Limits prior to the next analysis.

SYSTEM ACCURACY TEST: See definition in AMS2750

TECHNICAL BULLETIN LIMITS: The specification or manufacturer-set-limits beyond which the process must be shut down.

TECHNOLOGY: For the purpose of AC7108 technologies are defined as;

- Anodizing
- Conversion Coating.
- Chemical Milling
- Etching
- Electroplating
- Electropolishing
- Electroless plating.
- Painting & Dry Film Lubricant.
- Surface preparation for metal bond.
- Vacuum Cad and Ion-Vapor Deposition of Aluminum.
- Cleaning and Descaling as stand alone processes.
- Passivation

TEMPERATURE UNIFORMITY SURVEY (TUS): See definition in AMS2750.

TEST MATRIX: A revision controlled document compliant to the format and content of Appendix C that includes an itemization of all lot and periodic test requirements including test method, test specification, test pieces (quantity, material and dimensions) and frequencies.

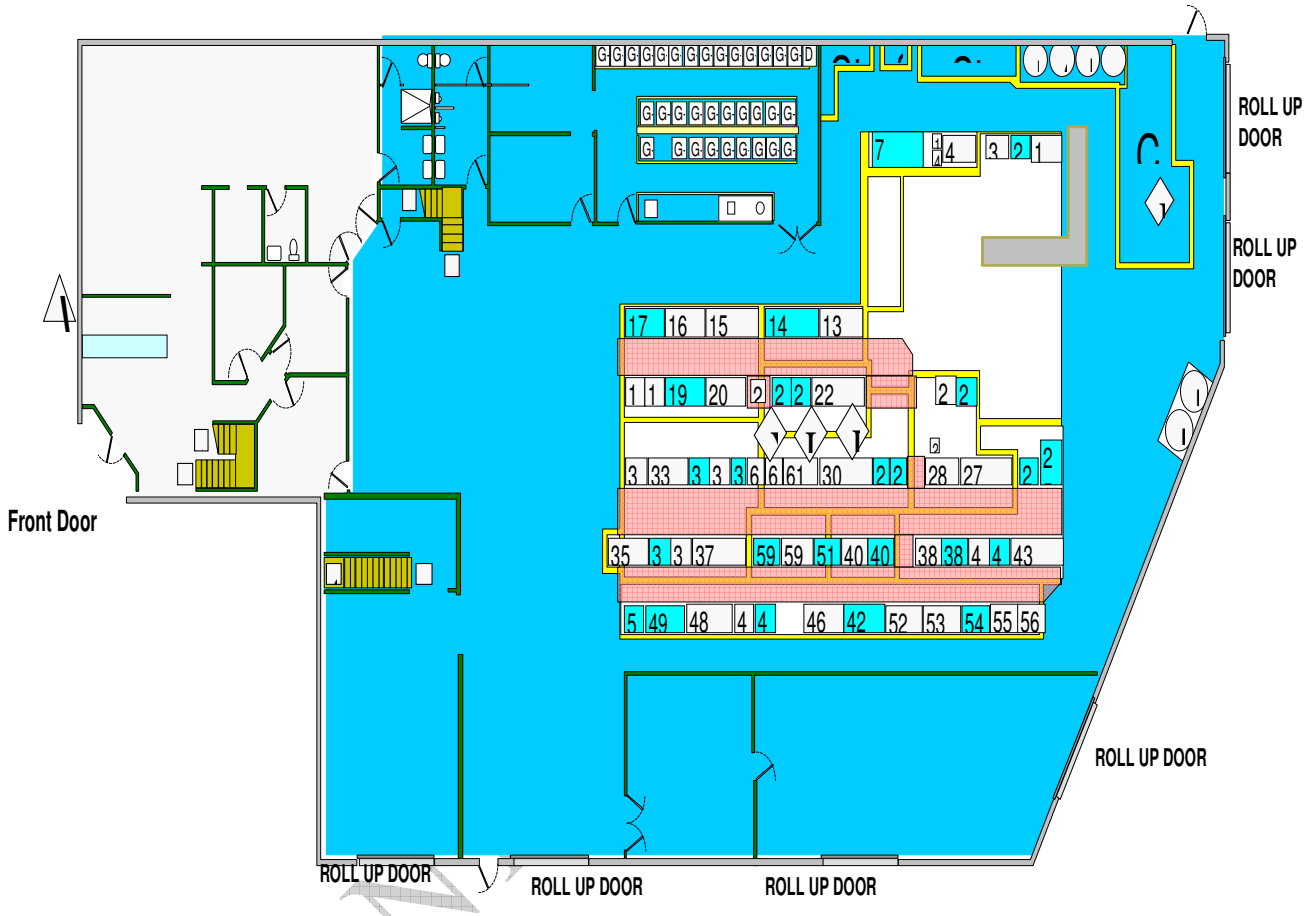
TEST PIECE: A specific piece of material, or sample of parts, that is processed and assessed/tested to determine the performance or a characteristic of a process. Test pieces are not typically included in the delivered batch.

TREND ANALYSIS: The concept of collecting information/data and attempting to spot a pattern or trend, in the information. A negative trend is when trend analysis predicts a diminishing effect to a process or parameter such as a specification limit being exceeded prior to the next test being conducted. This does not mean that the specification limit is exceeded; it means that it will be exceeded if no action is taken

VALIDATED TESTING FAILURE: Either the original test failed, the test could not be invalidated and a retest was not permitted or the retest, if permitted, or replacement test also failed.

Attachment "C"

Facility Layout



Date: March 10, 2005 Map Book Coordinates 1208 G5	**Hazard Symbol Map**	Drawing for ground floor (Second floor offices only, Front business offices only)
Sheffield Platers, Inc. 9850 Waples St. San Diego, CA 92121	**Sheffield Platers Inc**	Contact Person: Dale L. Watkins Day: 858-546-8484