



Westfield Electroplating Company

Quality Control Manual

Revision: H

January 14th 2011

Westfield Electroplating Company

Documentation Requirements

General

Our quality management system is defined in this Quality Manual; the manual contains the quality policy and quality objectives. The quality management system was designed to comply with AS7004E. All procedures, records and systems referenced in this manual including the organization chart make up the quality management systems and are considered to be part of the quality management system and are controlled accordingly.

The quality management system is available to all personnel and is maintained current on the company intranet.

Quality Manual

We shall maintain a documented quality management system to assure that all products conform to the applicable requirements as specified by the end customer. The scope of the quality management system shall be outlined in this Quality Manual. The quality manual shall provide reference to all other quality systems and procedures that make up the quality management system.

The basic quality system is made up of the following programs and procedure classes:

LabPro:	Laboratory and Solution Control Program
TestPro:	Testing Control Program
CalPro:	Calibration Control Program
JobPro:	Job Control Program
TrainPro:	Training Program
GP:	General Procedures
LP:	Laboratory Procedures
IP:	Inspection Procedures
QP:	Quality Procedures
OP:	Operations, Cleaning, and Plating
PS:	Processing Specifications
CP:	Coating Procedures
FC:	Flow Codes/Process Maps
TRAVELER:	Material Traveler accompanying jobs

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Documentation Requirements Continued

Control of Documents

Document required by our quality management system shall be controlled in accordance with GP000. Records which are a special type of document shall be controlled in accordance with GP041

The following procedures define the controls needed to perform the listed activity:

1. To approve document for adequacy prior to use. (GP000)
2. To review and update as necessary and re-approve documents. (GP003)
3. To ensure that changes and the current revision status of documents are identified.(GP003)
4. To ensure that relevant versions of applicable documents are available at points of use. (GP003)
5. To ensure that documents remain legible and readily identifiable. (GP003)
6. To ensure that documents of an external origin determined to be necessary for planning and operation of the quality management system are identified and their distribution controlled. (GP002)
7. To prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any reason. (GP003)

Control of Records

All records established to provide evidence of conformity to requirements and of the effective operation of the quality management system shall be controlled per GP041.

The identification, storage, protection, retrieval, retention and disposition of records is controlled by GP041.

GP041 defines the methods for controlling records that are created and/or retained by us.

Records shall remain legible, readily identifiable and retrievable for the time specified in GP041 for each class of record specified.

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Management Commitment

Communication

The following policy shall guide or actions in order to meet customer as well as statutory and regulatory requirements. All management personnel shall assure that the policies are understood, implemented, and maintained at all levels of the company.

Quality Policy

WE SHALL MEET OR EXCEED OUR CUSTOMERS REQUIREMENTS WHILE CONTINUALLY LOOKING TO IMPROVE THE QUALITY AND ECONOMY OF OUR SERVICES.

Policy on safety and health

WESTFIELD ELECTROPLATING SHALL CONTINUALLY UPGRADE ITS SYSTEMS AND PROCEDURES TO MEET THE LATEST ENVIRONMENTAL, SAFETY, AND HEALTH REQUIREMENTS STIPULATED BY THE FEDERAL, STATE, AND LOCAL GOVERNMENTS, AS WELL AS ANY UNIQUE REQUIREMENTS IMPOSED BY OUR CUSTOMERS.

Management Policy

I believe that we should seek out all opportunities to improve our processes and minimize rework and scrap. That no single person in the company knows the whole story. Each and every individual in the company can help identify opportunities for improvement. Problem areas must be identified and quantified as to cost severity and reoccurrence. I am committed to improving communication and encourage a team approach to problem resolution. We all must strive to continuously improve so that we can maintain strength and security in our highly competitive industry.

Michael P. Stolpinski

Management Review

A key component of the quality management system is a review of performance. Management shall define and measure key attributes of our business to measure our success at meeting requirements

Resources

The organizational chart shall identify the key positions to be maintained. The positions shall be filled by qualified and trained individuals. The organizational chart shall include a position of internal auditing to be filled by a member of company management.

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Responsibility and Authority

The authority and interrelationship of personnel managing, performing, and verifying work affecting quality shall be defined by the following organizational chart:

Every individual identified in the organizational chart has the responsibility and authority to:

1. Initiate action to prevent the occurrence of any nonconformities relating to the product, process, and quality systems.
2. Initiate, recommend, or provide solutions through designated channels.

The quality control manager and director of quality are directly responsible for and authorized to:

3. Identify and record any problems relating to the product, process and quality system.
4. Verify the implementation of solutions.
5. Control further processing, delivery or installation of nonconforming product until the deficiency or unsatisfactory condition has been corrected.

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Management Representative

The president of the company shall appoint a member of company management to the position of AS9000 Representative. This AS9000 Representative, irrespective of other responsibilities, shall have the authority and responsibility to:

1. Ensure that the quality system is established, implemented, and maintained in accordance with applicable sections of AS9000.
2. Report on the performance of the quality system to top management to resolve quality management issues.

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Management Review

The director of quality shall review the quality management system annually to ensure it continues to be suitable, adequate and effective in meeting the quality policy and objectives in accordance with GP059. The review shall include assessing opportunities for improvement and the need for changes to the quality policy and objectives.

Records of the review shall be maintained as part of the quality records.

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Provision of Resources

We shall determine and provide the resources needed to implement and maintain the quality management systems and continually improve its effectiveness and enhance customer satisfaction by meeting customer requirements. The resources consist of both people and equipment.

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Human Resources

Personnel performing work affecting conformity to product requirements shall be competent on the basis of appropriate education, training, skills and experience. Conformity of product requirements can be affected directly by the operator or indirectly by personnel performing any task within the quality management system.

GP038 defines the education, training, skills and experience required for personnel.

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Competency, Training and Awareness

Each person responsible for a critical aspect of production, inspection, or testing shall be trained and evaluated to assure necessary competence in the assigned tasks. Periodic retraining shall be conducted to assure personnel maintain necessary competence. In the event that a person does not maintain competence, their approval status and related stamps shall be revoked until they can successfully pass an evaluation. All training and evaluations shall be conducted by the area manager or by a person assigned by the area manager. Records of all training shall be maintained in the quality control department. All training shall be documented in accordance with GP038. The documentation shall indicate the type of training and evaluating as well as any re-training/re-evaluating schedule. The purpose of the training and evaluations are to assure that the personnel are aware of the relevance and importance of the activities that they perform in relationship to the overall objectives and goals of the company at large.

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Work Environment

The work environment shall be defined and managed to achieve conformity of products in accordance with GP017

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Planning of Product Realization

In planning product realization, we shall determine the following, as appropriate:

1. Quality objectives and requirements for the product.
2. The need to establish process and documents, and to provide resources specific to the product.
3. Required verification, validation, monitoring, measurement, inspection and test activities specific to the product and criteria for product acceptance.
4. Records needed to provide evidence that the realization process and resulting product meet requirements.
5. Configuration management appropriate to the product.

When a new process is being considered for production a thorough review of requirements shall be conducted in accordance with PE003.

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Customer-Related Processes

Determination of Requirements Related to the Product

When an order is received the order shall be examined to determine the following:

1. Requirements specified by the customer, including requirements for delivery and post delivery activities.
2. Requirements not stated by the customer but necessary for specified intended use, where known.
3. Statutory and regulatory requirements related to the product.
4. Any additional requirements considered necessary.

The determination of requirements is conducted in accordance with GP024 at the quoting stage and GP033 when an order is received.

Review of Requirements Related to the Product

Once the requirements are known and prior to accepting the job a review shall be conducted of the requirements to ensure that:

1. Product requirements are defined.
2. Contract or order requirements differing from those previously expressed are resolved.
3. We have the ability to meet the requirements.
4. Special requirements of the product are determined.
5. Risks have been identified. (e.g., New process, expedited delivery)

This review shall take place in accordance with GP033.

Records of the review and actions arising from the review shall be maintained in accordance with GP033.

Where the customer provides no documented statement of requirement, a JOH (Job on Hold) shall be generated in accordance with GP033 to confirm customer requirements before accepting the order.

Where product requirements are changed, the new requirements shall be reviewed as stated above and revised instructions shall be released to the shop floor. The original traveler package shall be removed from the floor and destroyed.

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Purchasing

Purchasing Process

We shall ensure that product conforms to specified purchase requirements. The type and extent of control applied to our suppliers will be dependent upon the effect of the purchased product will have on our final product.

We hold responsibility for confirming conformity of all products purchased from suppliers, including product from sources defined by the customer.

We shall evaluate and select suppliers based on their ability to supply product in accordance with our requirements. The criterion for selection, evaluation and re-evaluation of suppliers is carried out in accordance with GP028.

We shall maintain our approved supplier base in accordance with GP028.

Purchasing Information

Purchase orders and related documentation shall describe the product to be purchased, including where appropriate all pertinent product requirements, inspection, test samples, notification requirements, and right of entry provisions. The purchase order shall be created in accordance with GP055.

We shall ensure the adequacy of purchase order requirements prior to release to the supplier.

Verification of Purchased Product

We shall perform receiving inspection or other activities necessary to ensure purchased product meets specified purchase requirements. The receiving inspection shall take place in accordance with GP029.

When purchased product is released for production use pending completion of all required verification activities, it shall be identified and recorded to allow recall and replacement if subsequently found that the product does not meet requirements. This partial release activity shall take place and be documented in accordance with GP029.

We do not delegate verification activities to our suppliers.

When we or our customer intends to perform verification at our supplier's premises, we shall state the intended verification arrangements and methods of product release in the purchasing information in accordance with GP055.

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Production Provision

Control of Product Provision

Our processes shall take place under controlled conditions. The controlled conditions shall include as applicable:

1. The availability of information that describes the characteristics of the product.
2. The availability of work instructions.
3. The use of suitable equipment.
4. The availability and use of monitoring and measuring equipment.
5. The implementation of monitoring and measuring equipment.
6. The implementation of product release, delivery and post delivery activities.
7. Accountability of all products during production.
8. Evidence that the production and inspection/verification operations have been performed.
9. Provision for the prevention, detection and removal of foreign objects.
10. Monitoring and control of utilities and supplies.
11. Criteria for workmanship, specified in the clearest practice way.

When planning new production activities the following shall be considered as applicable:

1. Establishing, implementing and maintaining appropriate processes to manage critical items, including process controls where key characteristics have been identified.
2. Designing, manufacturing and using tooling to measure variable data.
3. Identifying in-process inspection/verification points when adequate verification of conformance cannot be performed at later stages of processing.
4. Special processes

This activity is controlled by PE000

Control of Production Process Changes

Production process will periodically need to be revised, the Process Engineering group are the only personnel authorized to make these changes.

All changes to processes, production equipment, tools, or software programs shall be controlled in accordance with GP000 and GP003.

When changes are made to production processes, the process shall be assessed to confirm that the desired effect has been achieved without adverse effects to the process or product in accordance with PE004.

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Production Provision Continued

Control of Production Equipment, Tools and Software Programs

Production equipment, tools and software programs used to automate and control/monitor product or processes, will be validated prior to release for production and shall be maintained in accordance with GP001 and GO018.

When production equipment is placed into storage periodic preservation/condition checks shall be defined and conducted.

Validation of Processes for Production Provision

As a special process house many of the processes we perform cannot be evaluated on the end product directly. For these processes we use process control and periodic testing to assure product conformance.

The validation shall consist of all pre-production and periodic testing defined by the specifications to which the coating is applied as well as any and all lot testing requirements.

Special processes are controlled in accordance with Process Engineering class of procedures PE's. The PE class of procedures establishes arrangements for these processes including as applicable:

1. Defined criteria for review and approval of the processes.
2. Approval of equipment and qualification of personnel.
3. Use of specific methods and procedures.
4. Requirements for records.
5. Revalidation.

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Production Provision Continued

Identification and Traceability

Where appropriate, we shall identify the product by suitable means through the process. The primary method of doing this is with a material traveler created in accordance with GP033. Each lot of parts received into the facility shall be accompanied by a uniquely numbered traveler. If two lots of the same parts are received into the facility, they shall carry a different traveler number.

The traveler shall identify the product status with respect to monitoring and measurement requirements on via stamps and/or authorized signatures at the completion of each process step.

Acceptance authority media such as stamps, electronic signatures, and passwords shall be controlled in accordance with GP031 and GP032.

The parts shall be identified by a tag and traveler system. Unique information specific to the parts, such as serial number or lot number, shall be included on the traveler to prevent mix-ups with other lots of similar parts. Whenever serial numbers are provided they shall be recorded onto the traveler to provide traceability of process history.

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Production Provision Continued

Customer Property

We shall examine upon receipt or before processing or use all government and customer furnished parts, equipment, or material for the following:

1. We shall conduct a receiving inspection in accordance with GP019 to assure the product conforms to requirements.
2. We shall periodically inspect all products in storage in accordance with GP020 to detect and/or correct any deterioration or damage.
3. We shall functionally test any piece of equipment before implementation into normal manufacturing, testing, or inspection service in accordance with GP021 to assure correct operation.
4. We shall identify the material to prevent mix-ups in accordance with GP022.

We shall report to the government or customer any damage or malfunction we discover upon receipt. We shall report any damage to parts, equipment, and material that occurs during our possession. We shall document the cause of the damage as well as any required corrective action or repair in accordance with GP014.

Preservation of Product

We shall preserve parts during internal processing and delivery to the customer in order to maintain conformity. Preservation shall include Identification, handling, packaging, storage and protection.

Preservation shall be controlled in accordance with GP050.

GP050 addresses preservation of product including as applicable:

1. Cleaning
2. Prevention, detection and removal of foreign objects.
3. Special handling for sensitive products.
4. Marking and labeling including safety warnings.
5. Shelf life control and stock rotation.
6. Special handling for hazardous materials

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Production Provision Continued

Control of Monitoring and Measuring Equipment

For each process we perform the type of monitoring and measurement to be taken and the monitoring and measurement equipment needed to provide evidence of conformity of product shall be selected based upon the criteria established in GP053.

We shall maintain a register of the monitoring and measuring equipment and define the process employed for their calibration/verification including details of equipment type, unique identification, location, frequency of checks, check method and acceptance criteria in accordance with QP000.

Each monitoring and measurement method shall be controlled by an Inspection Procedures (IP) class document. The procedure shall be used to assure that measuring and monitoring activities are carried out in a manner that is consistent with monitoring and measurement requirements.

Environmental conditions required for the calibration, inspection, measurement and testing to be carried out is defined in QP000. Any alterations to the standard conditions are listing in the individual IP's or QP's used.

Where necessary to ensure valid results, measuring equipment controlled per QP000 shall:

1. Be calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded.
2. Be adjusted or re-adjusted as necessary.
3. Have identification in order to determine its calibration status.
4. Be safeguarded from adjustments that would invalidate the measurement result.
5. Be protected from damage and deterioration during handling, maintenance and storage.

All measuring and monitoring equipment shall be controlled in accordance with QP000 to allow for recall of equipment requiring calibration or verification.

When equipment is received for calibration in a condition not conforming to requirements, we shall assess the validity of the previous measuring results. Action shall be taken to correct the condition and notify customers if product impact has occurred in accordance with QP000.

Results of all calibrations and verification activity shall be maintained in accordance with QP000 and GP041

When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application shall be confirmed prior to initial release and any time after the program logic has been modified in accordance with GP063.

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Internal Audit

Internal audits shall be conducted at planned intervals in accordance with GP027 to determine whether the quality management system:

1. Conforms to planned arrangements to the requirements of AS7004E and to our quality management system.
2. Is effectively implemented and maintained.

Audits shall be planned, take into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods shall be defined in GP027. The selection of auditors and conduct of the auditors shall ensure objectivity and impartiality of the audit process. In no instance shall an auditor audit their own work.

The responsibilities and requirements for planning and conducting audits, establishing records and reporting results are defined in GP027.

Records of the audits and their results shall be maintained in accordance with GP027 and GP041

The supervisor for the area audited shall ensure that any necessary corrections and corrective actions are taken without delay to eliminate the detected nonconformance and their cause. Follow up activities shall include the verification of actions taken and the reporting of verification results. These activities are conducted in accordance with GP027.

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Monitoring and Measurement of Processes

The quality management system shall be monitored to evaluate its ability to achieve planned results. When planned results are not achieved, correction and corrective actions shall be taken, as appropriate. These activities shall be conducted in accordance with GP064.

In the event of process nonconformity we shall perform the following activities in accordance with GP064:

1. Take appropriate action to correct the nonconforming process
2. Evaluate whether the process nonconformity has resulted in product nonconformity.
3. Determine if the process nonconformity is limited to a specific case or whether it could have affected other processes or products.
4. Identify and control any nonconforming product.

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Monitoring and Measurement of Product

We shall monitor and measure the characteristics of the product to verify that the product requirements have been met. These activities shall be carried out at appropriate stages of the process in accordance with the schedule documented on the material traveler generated in accordance with GP033. The material traveler and related inspection documents shall be maintained in accordance with GP041.

Measurement requirements for product acceptance shall be documented on the material traveler and shall include:

1. Criteria for acceptance and/or rejection
2. Where in the sequence measurements and testing operations are performed.
3. Required records of the measurements results (at minimum, indication of acceptance or rejection)
4. Any specific measurement instruments required and any specific instructions associated with their use.

When critical items, including key characteristics have been identified we shall identify them on the traveler so that they can be controlled and monitored.

We shall only use sampling plans recognized by the government or customer such as, but not limited to, ANSI/ASQ Z1.4 or MIL-STD-1916. Sampling shall only be used when allowed by government and customer specifications or contracts.

When parts are released to the customer pending completion of all required measurement and monitoring activities, it shall be clearly identified and recorded on the traveler, packing clip and certification. Parts release pending completion of inspection shall be recorded to allow for easy recall and replacement if it is subsequently found that product does not meet requirements.

Upon completion of inspections and test the person authorizing the release of product for delivery to the customer shall be identified on the traveler.

Parts shall not be released to the customer unless all contractual requirements have been met, unless otherwise approved by the customer.

Parts shall be delivered to the customer with all required certifications and test reports accompanying the parts unless other arrangements have been made.

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Control of Nonconforming Product

We shall identify and control any product which does not conform to product requirements to prevent it unintended use or delivery in accordance with GP023

The responsibility and authority for review and disposition of nonconforming product, and process for approving personnel making these decisions is documented in GP023.

Where applicable, we shall deal with nonconforming product by one or more of the following ways:

1. By taking action to eliminate the detected nonconformity.
2. By authorizing its use, release or acceptance under concession by relevant authority and, where applicable, by the customer.
3. By taking action to preclude its original intended use or application
4. By taking action appropriate to the effects, or potential effects, of the nonconformity when nonconforming product is detected after delivery or use has started.
5. By taking actions necessary to contain the effects of the nonconformity on other processes or product.

We shall notify our customers of any situation that arises that would make a previously acceptable part questionable or rejection-able in as timely a manner as possible in accordance with GP043.

We shall not use dispositions of "Use-as-is" or "Repair", unless specifically authorized by the customer, if the nonconformity results in a departure from contract requirements.

Product dispositioned for scrap shall be conspicuously and permanently marked, or positively controlled, until physically rendered unusable as defined in GP023.

When nonconforming product is corrected it shall be subjected to 100% re-verification to demonstrate conformity to the requirements.

As needed, we shall complete an "ICAN" (Internal Corrective Action Notice) form detailing the discrepancy as well as any corrective action measures required to fix the discrepancy. A "WRID" (WEPCO Request for Information and Disposition) shall be issued and submitted to the customer for rework or repair. Issuance and completion of the cause and corrective action forms shall be in accordance with GP014. These records shall be maintained in accordance with GP041.

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Corrective Action

The implementation of corrective and preventative action shall be in accordance with GP014. The corrective and preventative action taken shall be to the extent necessary to eliminate the actual or potential nonconformance based on the risk potential of the nonconformance. We shall update travelers and procedures as required by ICAN (Internal Corrective Action Notice) in accordance with GP014.

GP014 establishes and defines requirements for:

1. Reviewing nonconformities (Including customer complaints)
2. Determining the cause of the nonconformity
3. Evaluating the need for action to ensure that nonconformities do not recur.
4. Determining and implementing action needed
5. Records of the results of action taken
6. Reviewing the effectiveness of the corrective action taken
7. Flowing down corrective action requirements to supplier when it is determined that the supplier is responsible for the nonconformity.
8. Specific actions where timely and/or effective corrective actions are not achieved
9. Determining if additional nonconforming product exists based on the cause of the nonconformity and taking further action when required.

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Original date of Issue March 15th 1961

Prior Revision G dated Jan 13th 2009

This document is a complete rewrite of the quality manual to comply with the new outline defined in AS7004E. As such line by line change control was not kept. Revision G has been archived for historical review purposes.

Westfield Electroplating Company has approved this manual as being fully descriptive of the procedures followed when controlling the quality of its products.

No changes that are significant and may affect the quality level of the processed articles may be made to this manual without the written approval of the quality control manager and the prior knowledge and approval of the customer.

KEVEN W. KUDELKA
DIRECTOR OF QUALITY

JEREMIAH VAZQUEZ
CHIEF INSPECTOR