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|  | Western Grinding Co., INC. | |
| | Quality Manual | Revision: B Effective Date: 9/8/16 |


Western Grinding, Inc.

Quality Manual


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1. Introduction

Western Grinding, Inc. developed and implemented a Quality Management System (QMS) to meet requirements of the AS9100 Revision C and ISO 9001:2008 described in this manual to improve our operational effectiveness and enhancing customer satisfaction by consistently providing products that meet customer and applicable regulatory requirements, and by continually improving the QMS.

2. Scope

Western Grinding Co., Inc. performs machining, precision grinding, and metal finishing for the aerospace and industrial industries.

2.1 Exclusion and Non-applications

The following requirements of ISO 9001:2008 and AS9100C have been excluded or not applicable to the system:

Section 7.3 Design and Development

Justification: No responsibility for the design and development of the products, machined, grinded or finished to customer and industry specifications.


7.5.1.4 a, c, d and e Post Delivery Support

Justification: Western Grinding only performs investigations for parts returned from the customer after delivery.

2.2 Regulatory, Requirements and Other References

No regulatory requirements have been identified as applicable to Western Grinding's management system. The following international and industry standards have applied to Western Grinding's management system:

- ISO 9001:2008 Quality Management Systems-Requirements
- SAE AS9100 Rev C- Quality Management Systems – Requirements for Aviation, Space and Defense Organizations
- SAE AS9102 Rev B- First Article Inspection Form
- ITAR
- OSHA

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3. Definitions

Risk - An undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence.

Special requirements - Those requirements identified by the customer, or determined by the organization, which have high risks to being achieved, thus requiring their inclusion in the risk management process. Factors used in the determination of special requirements include product or process complexity, past experience and product or process maturity. Examples of special requirements include performance requirements imposed by the customer that are at the limit of the industry's capability, or requirements determined by the organization to be at the limit of its technical or process capabilities.

Critical items - Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on the product realization and use of the product; including safety, performance, form, fit, function, producibility, etc.; that require specific actions to ensure they are adequately managed. Examples of critical items include safety critical items, key characteristics, etc.

Key Characteristics - An attribute or feature whose variation has a significant effect on product fit, form, function, performance, service life or producibility, that requires specific actions for the purpose of controlling variation.

4. Quality Management System

The Quality Management System assures that policies, procedures and work activities support our stated quality goals and objectives.

4.1 General Requirements

Western Grinding, Inc. has established, documented, implemented and maintained a quality management system in a manner to continually improve its effectiveness. In order to achieve this, at Western Grinding, Inc. we have:

- a) Determined our applicable functional processes needed for the management system. Any exclusions and non-applications have been detailed in section 2 of this manual.
- b) Determined the sequence and interaction of these processes and describe them in Appendix A of this manual.
- c) Determined criteria and methods to ensure effective operation and control of these processes.
- d) Ensured that resource requirements, including information, have been adequately assessed and provided.
- e) Established monitoring and measuring activities for these processes, and apply analysis where the need is identified.
- f) Identified key measures to ensure effective implementation of the system and to provide opportunities for continual improvement.


The interaction of processes and key processes are documented in Appendix A. These processes are managed by Western Grinding, Inc. in accordance with the requirements of the standard.

4.1.1 Outsourcing

Western Grinding, Inc. has identified the following processes that are outsourced:

| Outsourced Process | Type & Extent of Control |
|---------------------------|---|
| Calibration Services | <ul style="list-style-type: none"> • Purchase requirements • Verification of calibration services |
| Internal Audit Services | <ul style="list-style-type: none"> • Signed Statement of Work • Verification of internal audit services |
| Heat Treat/ Coating | <ul style="list-style-type: none"> • Purchase requirements • Verification of outsourced product |

Western Grinding, Inc. has established controls for these identified processes. Control is achieved through one or more of the following:

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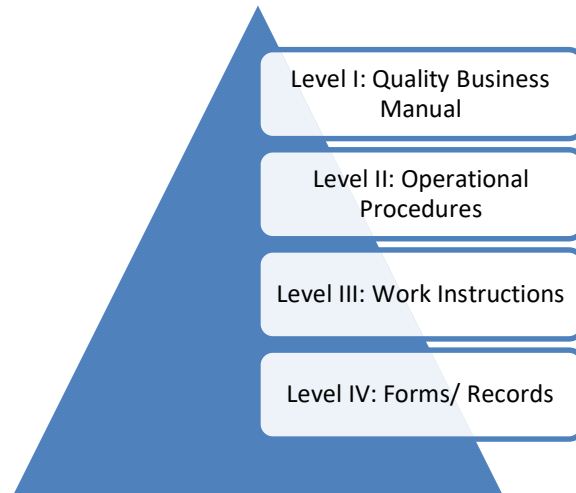
- Pre-existing criteria as defined in purchasing procedures
- Provision of detailed process documentation, work instructions, build specifications and/or in-process test information
- Demonstrated conformance to ISO 9001:2008 or comparable QMS model

Additional controls that are used in conjunction with process controls may include:

- Incoming inspection
- Certificates of analysis
- Review of records and reports

4.2 Documentation Requirements

The quality management system documentation is structured into four levels.




Each level of documentation has its review and approval authority associated with it. Details of the documentation are provided below. Appendix B provides a listing of the level II operational procedures and a cross-reference to the requirement applicable from ISO 9001:2008 & AS9100C.

4.2.1 General

The Western Grinding, Inc. quality management system documentation includes:

- a) Quality policy statement (refer to section 5.3)
- b) Quality objectives statement (refer to section 5.4.1)
- c) Quality manual (Quality Manual)
- d) Operational procedures (refer to Appendix B)
- e) Records (refer to 4.2.4)

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4.2.2 Quality Manual

This Quality Manual includes:

- a) the Scope of the quality management system including details of and justification for any exclusions: Section 2
- b) References to the documented operational procedures: Appendix B
- c) a Description of the interaction of processes: Appendix A

4.2.3 Control of Documents

Western Grinding, Inc. has an established control of documents procedure referenced in Appendix B.


Western Grinding, Inc. has determined the review and approval process, including responsibility and authority for document issuance, updates and revisions. Documents are clearly identified with the revision status. Changes made to documents are identified and communicated to relevant personnel. Applicable documents for the users are made available at the point of use. All documents are electronically generated and legible copies distributed, or direct access is available to the electronic version. Obsolete documents are promptly removed from use and may be archived. When archived, documents are clearly identified as obsolete.

Western Grinding, Inc. has also established controls for handling external documents and their distribution. A method has been instituted to ensure that relevant external documents, such as standards, are reviewed for updates. Customer supplied documentation control has also been defined.

4.2.4 Control of Records

Western Grinding, Inc. maintains and controls quality records generated demonstrating conformity to requirements and effective operation. The controls including, identification, storage, protection, retrieval, retention and disposition are defined by the operating procedure control of records listed in Appendix B.

Western Grinding Co., Inc.'s records are always electronic, thus ensuring that they remain legible, readily identifiable and retrievable.

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5. Management Responsibility

Management responsibility and commitment is the key to the successful implementation and continual improvement of Western Grinding, Inc. quality management system.

5.1 Management Commitment

Top management of Western Grinding, Inc. is commitment to the development, implementation and continual improving the effectiveness of the management system. Our top management:

- Communicates the importance of meeting customer and regulatory requirements to all personnel.
- Established a quality policy and quality objectives.
- Conducts scheduled management reviews.
- Ensures availability of resources.

5.2 Customer Focus

Western Grinding, Inc. has established processes for determining customer requirements and ensuring that these requirements have been met. These are further discussed in section 7.2.1 and 8.2.1 of the manual. Results of these processes are reviewed as part of the scheduled management review conducted by top management.


Product conformity and on time delivery performance are measured. Management ensures that action is taken if planned results are not achieved.

5.3 Quality Policy

Top management of Western Grinding, Inc. has developed the following quality policy:

“Western Grinding, Inc. intends to be the provider of choice for metal finishing. We are committed to providing quality products that meet customer expectations, including delivery expectations. At Western Grinding, we are committed to continually improving the effectiveness of our system.”

Our quality policy provides the framework for our established objectives listed under section 5.4.1. The quality policy is posted throughout the facility and communicated to all personnel. It is also reviewed on annual basis to ensure continued suitability at the management review.

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5.4 Planning

5.4.1 Quality Objectives

Our quality objectives are consistent with our quality policy. Our objectives are established at many levels for various functions and are measurable. Our objectives continue to be reviewed and assessed for need of changes through our regular management review process. Our stated quality objectives are identified in the management responsibility and communication procedure listed in Appendix B.

5.4.2 Quality Planning

In the process of the development of our quality management system, top management has applied significant efforts towards the planning of the system to ensure that requirements of the standard and the established objectives will be met.

In addition, top management assesses changes to the quality management system from small incremental change to drastic re-engineering through the management review process. Any change that could impact the system is reviewed and changes are planned to ensure that the system integrity is maintained throughout the implementation of the changes.

5.5 Responsibility, Authority and Communication

5.5.1 Responsibility and Authority


To ensure the successful implementation of the quality management system, top management has clearly defined the responsibilities and authorities for personnel within the organization.

Lines of authority are defined by our established organizational chart as detailed in the organizational chart listed in Appendix B. Responsibilities related to the quality management system are defined within each of the established operating procedures.

Authorities and responsibilities are communicated to personnel via new hire induction process, process training, and accessibility to the job descriptions and the organizational structure.

5.5.2 Management Representative

One of the key positions related to the quality management system is that of the management representative. Our top management has appointed the President as the management representative.

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The appointed management representative has sufficient authority to ensure that needed processes are established, implemented, and maintained throughout the organization, to report to top management on the performance and needed improvement, and to ensure the promotion of customer awareness throughout the organization.

The Management Representative has the organizational freedom and unrestricted access to top management to resolve quality management issues.

The role of the appointed management representative also includes internal communication, as well as external communication with customers, suppliers, and regulatory bodies on matters related to the quality management system.

The management representative may have other responsibilities within the organization.

5.5.3 Internal Communication

Top management has established appropriate communication processes within the organization at all levels in relation to communicating the effectiveness of the system. The established methods of communication include meetings, posting and distribution of information. Communication includes results of internal audits, management review outcomes, performance against the established objectives and outcomes related to the suggestions for improvement submitted by personnel.

5.6 Management Review


5.6.1 General

Top management reviews the quality management system at least semi-annually to ensure its continuing suitability, adequacy and effectiveness. At the review, the system, the stated quality objectives and policy are re-assessed to ensure that they are current to the status of the organization, or changes and improvements are needed. The management review is carried out as specified by the management responsibility and communication procedure listed in Appendix B. Records of the review are maintained.

5.6.2 Review Input

The input to management review includes information on:

- Results of audits (internal and external)
- Customer feedback (returns, complaints, surveys)
- Process performance (review of established process metrics)


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- Product conformity (supplier defects, in-process defects, warranty, scrap, rework)
- Status of preventive and corrective actions (open, past due, closed, resource required)
- Follow-up actions from previous management reviews (status)
- Changes that could affect the quality management system (regulations, re-organization, implementation of new software, introduction of new product lines)
- Recommendations for improvement (suggestions from personnel, customer feedback)

5.6.3 Review Output

The output from the review includes decisions and actions related to:

- Improvement of the system and its processes
- Improvement to product
- Resource needs

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6. Resource Management

6.1 Provision of Resources

Western Grinding, Inc. management regularly reviews, determines, and provides necessary resources to implement and maintain the quality management system, continually improve its effectiveness, and enhance customer satisfaction. Such resources include personnel, infrastructure, work environment, process equipment, materials, information, and financial resources.

Determination of resource needs for specific activities is integrated within the process of defining and initiating the activity. Depending on the type and nature of the activity resource requirements are defined in, one or more of the following:

- Quality manual and operating procedures
- Product and assembly drawings and specifications
- Training programs
- Minutes of management reviews

6.2 Human Resources


6.2.1 General

Western Grinding, Inc. recognizes that our employees are our greatest asset in meeting customer expectations. As such top management has defined the necessary competence, based on education, skills, experience and training in the applicable job descriptions and training plans.

6.2.2 Competence, Training and Awareness

Western Grinding, Inc. believes that ensuring the competency of personnel, including newly hired, part-time and temporary personnel, is essential for the achievement of the quality objectives. This pertains to all levels of personnel within the organization that perform activities affecting quality.

Ensuring competency includes specific training, essential for performing assigned tasks, and general training to build incentives and heighten quality awareness. Process for ensuring adequate competency and awareness of personnel is defined in the operating procedure Competence, Awareness and Training listed in Appendix B. The procedures defines the following:

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- Determining competency requirements
- Identifying training needs
- Providing training
- Evaluating the effectiveness of training
- Ensuring quality awareness, and
- Maintaining associated records

6.3 Infrastructure

Western Grinding, Inc. has determined, provides and maintains the facilities, utilities, equipment, material, and supporting infrastructure necessary to ensure our employees have a safe, professional and physical environment in which to achieve conformity to product requirements.

Maintenance of buildings and facilities is generally contracted out. This process is coordinated through the purchasing process.


Process equipment is maintained per the Maintenance procedure listed in Appendix B. Equipment needed is identified as part of planning for product realization.

Supporting services required include transportation, communication and information services. These services are coordinated by the purchasing process.

6.4 Work Environment

Western Grinding, Inc. supports and encourages a work environment in which employees can accomplish their assignments in a non-threatening manner. We recognize that this includes not only supplying the infrastructure required to produce the product, but the emotional and physiological environment required to encourage quality workmanship. Western Grinding, Inc. supports compliance with recognized local, state, and federal guidelines regarding harassment, prejudice, and bias towards and among its employees. We encourage an open, professional environment in which our employees can feel a part of our goal of customer support and company growth.

The operations and test work environment includes adequate lighting and safe environment. There are no identified environmental conditions that would adversely affect the product.

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7. Product Realization

7.1 Planning of Product Realization

Similar to planning for the quality management system, Western Grinding, Inc. has also planned for all the processes related to the realization of the product. This is initiated with the determination of the customer requirements and carried through all stages until delivery, and any returns.

In planning for product realization, Western Grinding, Inc., has determined:

- a) Quality objectives and requirements for the product
- b) The need to establish processes and documents specific to the product
- c) Required verification, validation, monitoring, measurement, inspection and test activities specific to the product and the criteria for acceptance
- d) Records needed to provide evidence of implementation
- e) Configuration management appropriate to the product
- f) Resources to support the use and maintenance of the product

The output of planning is the job order, related drawings, inspection requirements and any key characteristics identified by Western Grinding or the customer.

The processes carried out through product realization are described in this Section 7 of the quality manual.


7.1.1 Project Management

Management assigns responsibility for project management and ensuring that product realization is planned and managed in a controlled manner, meeting requirements at acceptable risk, within resource and schedule constraints.

7.1.2 Risk Management

Risk management is essential in meeting customer requirements. Managers, or their delegates, communicate with customers, obtaining information that may not be stated in contracts or purchase orders. The information obtained is used in risk management.

Management is responsible for risk management and taking action to mitigate risks. Factors such as labor, equipment, material, scheduling, and outside processing are identified throughout contract review, purchasing, planning, production, and inspection processes as

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defined by the risk management procedure listed in Appendix B. Documents are created or revised, and meetings are held as needed to address and communicate risks that have been identified. Internal preventive action is closely integrated into risk management. As risks are identified these actions may be used to mitigate/resolve risks.

Prior to acceptance of contract or purchase order, relevant risk criteria are assessed to identify risk and determine feasibility. Criteria may include but are not limited to:

- Engineering data (e.g., drawings, specifications, etc.) are made available,
- Customer supplied quality requirements and/or vendor manual,
- Configuration plan,
- Quantity and delivery schedule,
- Requirement for customer approved suppliers,
- Lead time and cost for raw material,
- Lead time and cost of outside processing (as required),
- Cost of any non-recurring changes, if any,
- Labor hours and skill,
- Equipment (e.g., tooling, fixtures, and resources),
- Inspection and test plans,
- Any special requirements and expectations not stated in request.

7.1.3 Configuration Management


Configuration management is defined in, configuration management plan. The plan defines the process for:

- Configuration management planning
- Configuration identification
- Change control
- Configuration status accounting
- Configuration audit

Contracts for new products and changes to existing products are processed in accordance with section 7.2. Part configuration is provided in the customer's blueprint or other specifications. Configuration is identified on the Job Order.

When the product requirements change, the Job Order is revised and appropriate personnel are informed of the change.

Configuration is controlled through verification during manufacturing. Evidence of verification is recorded on Job Orders and Quality inspection records.

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7.1.4 Work Transfers

When planning to temporarily transfer work Western Grinding defines the process to control and validate the quality of work per the customer requirements.

- The outsourced service provider must be an approved, evaluated supplier according to the requirements of section 7.4
- The supplier is required to notify Western Grinding of any process changes, any nonconformity, or other issues.
- The supplier will be subject to the corrective action system, as applicable.
- Work must be conducted on the article(s) according to any specifications listed on the purchase order.

7.2 Customer-Related Processes

7.2.1 Determination of Requirements Related to the Product

Western Grinding, Inc. determines customer requirements before acceptance of an order.

Customer requirements include those:

- Requested by the customer
- Required for delivery and post-delivery
- Not stated by the customer but necessary for specified use or known and intended use
- Statutory and regulatory requirements related to the product
- Additional requirements determined by Western Grinding


Customer requirements are determined according to Sales/Customer Service procedure.

7.2.2 Review of Requirements Related to the Product

Western Grinding has a process in place for the review of requirements related to the product.

The review is conducted before the order is accepted. The process ensures that:

- Product requirements are defined
- Contract or order requirements differing from those previously expressed are resolved
- Western Grinding has the ability to meet the defined requirements
- Records are maintained showing the results of the review and any actions arising from the review
- Where a customer does not provide a documented statement of requirement, the customer requirements are confirmed before acceptance
- Contractual requirements are reviewed and special product requirements are determined

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- When product requirements are changed, Western Grinding communicates changes to relevant personnel and amends relevant documents
- Risks (e.g., new technology, short delivery time scale) have been evaluated.

Record of review is demonstrated by the issuance of a Sales Acknowledgement to the customer and issuance of a Job Order as defined by the Sales/Customer Service procedure.

7.2.3 Customer Communication

Western Grinding, Inc. strives to maintain an open, professional, and proactive communication line with our customers regarding all aspects of their requirements. Product and contract information, inquiries, changes, complaints, feedback, and related communications are forwarded to affected personnel for disposition and action.

7.3 Design and Development

Requirement has been excluded. Refer to the Exclusions section for justification.

7.4 Purchasing

Purchasing is planned and carried out under controlled conditions. Planning and control include, but not limited to:


- Evaluation of suppliers
- Development of clear purchasing requirements
- Performance of suitable verification methods

7.4.1 Purchasing Process

An effective working relationship with our suppliers enables our successful business partnership. Western Grinding, Inc. has established methods for determining the capability of suppliers to provide products that meet specified requirements. The capabilities of suppliers are evaluated and this evaluation is dependent on the importance of the purchased product and its impact on the final product.

Criteria for selection, evaluation and re-evaluation, including risk, are defined in the Supplier Management and Purchasing procedure listed in Appendix B. Records of the results of such evaluations and any arising actions are maintained.

Western Grinding is responsible for the quality of all products purchased from suppliers, including customer-designated sources.

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7.4.2 Purchasing Information

To ensure the quality of the finished product, Western Grinding, Inc. purchasing data define the specified requirements to the supplier including technical product requirements, calibration or other services, special processes, inspection and test activities where appropriate.

The purchasing process and associated responsibilities are defined in the Supplier Management and Purchasing procedure listed in Appendix B.

7.4.3 Verification of Purchased Product

Western Grinding, Inc. has established methods for the verification of purchased products as described in the Supplier Management and Purchasing procedure listed in Appendix B. The procedure includes provisions for verifying that incoming items, materials, or services meet specified purchase requirements and are accompanied by the required supporting documentation. Appropriate actions are taken in the event of nonconformities. Analysis of past receiving inspection data, in-process defects, and customer complaints is used to determine the level of inspections required and whether a supplier should be re-assessed.


When contractually required, we may be involved with verification activities at the supplier's premises. Where this is the case, special clauses and statements are included as part of the purchasing documents with clear methods for product release.

7.5 Production and Service Provision

7.5.1 Control of Production and Service Provision

Western Grinding plans and carries out production and service provision under controlled conditions according to documented instructions SharePoint Order to Delivery User Instructions. Controlled conditions include, as applicable:

- The availability of information that describes the characteristics of the product includes customer drawings, parts lists, material, process specifications. etc.
- The availability of work instructions can include production documents, process flow charts, manufacturing plans, job jackets, routers, inspection documents, etc.
- The use of suitable equipment
- The availability and use of monitoring and measuring equipment
- The implementation of monitoring and measurement
- The implementation of release, delivery and post-delivery activities

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- Accountability for all product during manufacture (e.g., parts quantities, split orders, nonconforming product), part accountability to ensure bad parts have been destroyed
- Evidence that all production and inspection/verification operations have been completed as planned, or as otherwise documented and authorized,
- Provision for the prevention, detection, and removal of foreign objects,
- Monitoring and control of utilities and supplies such as water, compressed air, electricity and chemical products to the extent they affect product quality, and
- Criteria for workmanship, which shall be stipulated in the clearest practical manner (e.g., written standards, representative samples or illustrations).

Planning considers, as applicable:

- The establishment of process controls and development of control plans where key characteristics have been identified,
- The identification of in-process verification points when adequate verification of conformance cannot be performed at a later stage of realization,

7.5.1.1 Production Process Verification

Production processes are verified via a First Article Inspection using a representative item from the first production run of a new part or assembly to verify that the process and tooling are capable of producing conforming parts, upon request from customer.

Verification is repeated when changes occur that could invalidate the original results.

7.5.1.2 Control of Production Process Changes


Authorized people for approving changes to production processes or job orders are the Operations Manager and the President. Western Grinding applies appropriate controls and documents changes affecting processes, production equipment, and tools.

The results of changes to production processes are assessed to confirm that the desired effect has been achieved without adverse effects to product quality.

7.5.1.3 Control of Production Equipment, Tools and Software Programs

There are no production equipment, tools, and software programs used to automate and control/monitor product realization processes.

Storage requirements, including periodic preservation/condition checks have been established for production equipment or tooling in storage.

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7.5.1.4 Post-Delivery Support

- Actions to be taken, including investigation and reporting, are only performed for parts returned from the customer after delivery – Addressed as indicated in Section 8.3.

7.5.2 Validation of Processes

No special processes are performed internally, however these are outsourced and parts are inspected when returned to the facility as defined by the Supplier Management and Purchasing procedure.

7.5.3 Identification and Traceability

Product identification is achieved via several methods that may include marking or tagging, identification of orders.

Product status is identified throughout the product realization stages. Methods of identification vary from raw material, in-process, finished product to nonconforming material.

Product traceability is maintained, when specified as a requirement by the customer. The level of traceability maintained is dependent on the practicality and customer specified requirements. When traceability is maintained, the record of the unique identification number is maintained on test reports and/or traveler packet documentation.


Western Grinding maintains the identification of the configuration of the product in order to identify any differences between the actual configuration and the agreed configuration.

Electronic signatures are maintained by the SharePoint Administrator.

7.5.4 Customer Property

Customer property may be in the form of raw material, packaging material, sub-assemblies, process equipment, measuring equipment, or intellectual property.

Upon receipt of customer supplied product that is furnished for use in meeting the requirements of the contract, Western Grinding, Inc. identifies, stores and handles the product in a manner to ensure preservation and prevention of damage while the product is in our possession. Methods for verification, handling and reporting related to customer property is integrated into established operating procedure.

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7.5.5 Preservation of Product

Western Grinding, Inc., in relevant work instructions, has defined the means for product preservation to control handling, storage, packaging, preservation, and delivery of product, to prevent damage, deterioration or contamination. This applies to in-process materials and finished goods.

Western Grinding, Inc. provides suitable storage facilities taking into consideration environmental conditions, where applicable. Items in storage are checked periodically to detect possible deterioration. This includes review of any items that may have a shelf-life control.


During storage and transportation up to the point of use, the packaging of the product provides appropriate protection against damage, deterioration or contamination of the product.

Preservation of product also includes, where applicable in accordance with product specifications and/or applicable regulations, provisions for:

- Cleaning;
- Prevention, detection and removal of foreign objects;
- Special handling for sensitive products;
- Marking and labeling including safety warnings;
- Shelf life control and stock rotation;
- Special handling for hazardous materials.

7.6 Control of Monitoring and Measuring Equipment

The monitoring and measuring equipment used for inspection and test activities, in addition to critical equipment used for process control have been determined. Western Grinding, Inc. ensures that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements. Calibration and or verification of equipment along with the associated responsibilities, record requirements, and handling situations in which the equipment is found not to conform are defined in the operating procedure Calibration listed in Appendix B.

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8. Measurement, Analysis and Improvement

8.1 General

Western Grinding, Inc. has planned for monitoring and measurement of product and processes while planning for the realization processes. The continual improvement processes, internal audits, and analysis of data are activities that are included as part of the plan.

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

Meeting customer expectations is a key goal, as stated by our quality policy. It is essential that we close the important loop in our quality management system by determining the degree in which customer expectations have been fulfilled. Customer perception is taken into account.

The method for obtaining data and utilizing data is defined in the operating procedure Customer Satisfaction listed in Appendix B.

Customer satisfaction data is analyzed to produce significant information for top management and considered during the planned management reviews.


8.2.2 Internal Audit

Internal audits are planned and scheduled to encompass at least the elements of the quality management system that are covered by the ISO 9001:2008 & AS9100C standard. Audits are performed to determine the level of compliance and effective implementation of the system.

The responsibilities and requirements for planning and conducting audits, and for reporting results, taking action and maintaining records is defined in the operating procedure Internal Audit listed in Appendix B.

8.2.3 Monitoring and Measurement of Processes

Western Grinding, Inc. applies suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action are taken, as appropriate.

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8.2.4 Monitoring and Measurement of Product

Western Grinding, Inc. monitors and measures the characteristics of the product during appropriate stages of the product realization processes, as planned, to ensure that it conforms to specified requirements. Records of such activities are maintained, including personnel authorizing the final release of the product for delivery.

Planned activities must be satisfactorily completed prior to the final release, unless approved by a relevant authority or customer. The planned activities are defined in the job order packet documentation.

8.3 Control of Nonconforming Product

Western Grinding ensures that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming product are defined in the Control of Nonconforming Product procedure. This process includes:


- Appropriate action to eliminate the nonconformity
- Disposition of the nonconforming material
- Taking action to control the material, precluding its original use
- Taking appropriate action when nonconforming product is detected after delivery

Product dispositioned for scrap is conspicuously and permanently marked, or positively controlled, until physically rendered unusable.

In addition to any contract or statutory and regulatory authority reporting requirements, Western Grinding system provides for timely reporting of delivered nonconforming product that may affect reliability or safety. Notification includes a clear description of the nonconformity, which includes as necessary parts affected, customer and/or organization part numbers, quantity, and date(s) delivered.

Use-as-is disposition is only used with authorization by a representative of the design. The organization also does not use dispositions of use-as-is or repair, unless specifically authorized by the customer, if

- The product is produced to customer design, or
- The nonconformity results in a departure from the contract requirements.

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8.4 Analysis of Data

Much data is generated in the course of the implementation of the quality management system. Western Grinding, Inc.'s focus is on product-related data which may cover:

- Customer feedback
- Product performance on the market
- Trends from product monitoring and measurement activities
- Supplier performance

Data is analyzed and transformed into a usable form, using techniques such as performance indicators, Pareto diagrams and other statistical techniques, as needed. The analysis is presented at the management reviews.

8.5 Improvement

8.5.1 Continual Improvement


At Western Grinding, Inc. we are committed to continual improvement of the effectiveness of our quality management system. The improvement of processes and products may occur as a result of proper operation and fulfillment of our quality policy, quality objectives, audit results, analysis of data, corrective actions, and preventive actions and particularly as a consequence of management review outputs.

8.5.2 Corrective Action

Information on corrective and preventive actions is an integral part of our management review process to maintain and improve the effectiveness of our quality management system.

Corrective actions are carried out to a degree appropriate to the magnitude of the problem. The operating procedure Corrective Action listed in Appendix B defines the requirements for identifying and eliminating the causes of actual nonconformities in products, processes, and the quality management system and customer complaints. Records of actions taken are maintained.

Causes of detected nonconformities are promptly identified so that corrective action may be taken and recurrence prevented.

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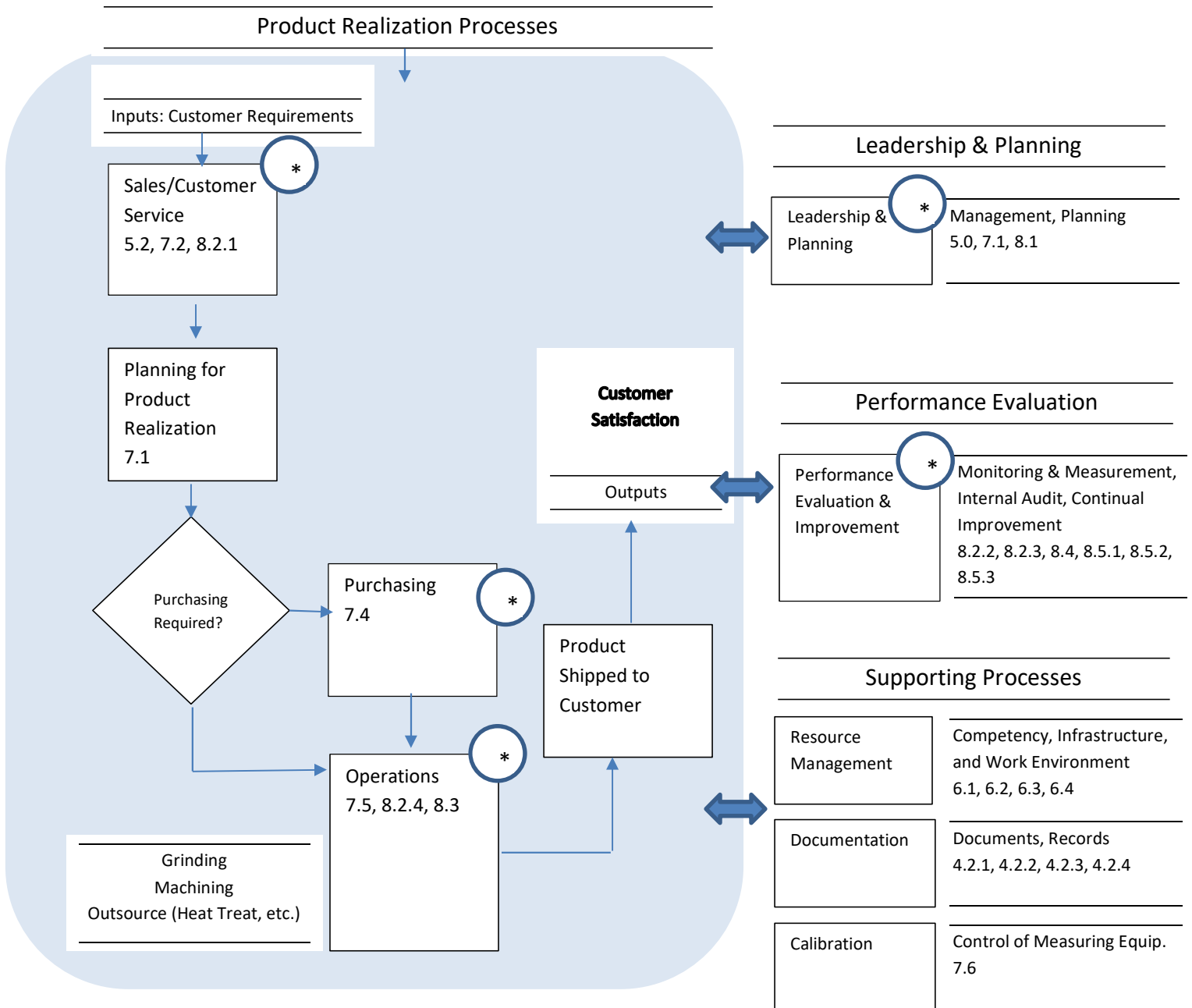
8.5.3 Preventive Action


Preventive action is taken when a potential nonconformity is identified as a result of the analysis of records and other sources of information. Records relating to the performance of the product are analyzed regularly to detect any trends and to identify areas of risk that may lead to potential nonconformities.

Preventive actions are carried out to a degree appropriate to the magnitude of the risk encountered. The operating procedure Preventive Action listed in Appendix B defines the requirements for identifying and eliminating the causes of potential nonconformities in products, processes, and the quality management system to prevent their occurrence. Records of actions taken are maintained.

Appendix A: Identification & Interaction of Processes

 Key Process




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|---------------------------------|--|---------------------|--|
| Process name: | Leadership & Planning | Start event: | Determination of relevant requirements |
| Critical success factor: | Establish, maintain & improve effectiveness of QMS | End event | Improvement action |

| Supplier for process/ Previous process | Process input | Resources/ material (with what?) | Process personnel (with whom?) | Process output | Customer of process/ Next process |
|---|--|---|--|--|-----------------------------------|
| Customer Regulatory agencies Performance evaluation & Improvement process | Customer & regulatory requirements Performance data Resource needs | Computer SharePoint | Management Quality Management Representative | Key QMS processes | Sales/Customer service |
| | | Process | | Quality policy | Purchasing |
| | | <ol style="list-style-type: none"> Determine relevant customer and regulatory requirements Define the scope of the quality management system (QMS) Determine, assess and mitigate risks Plan and establish QMS processes Commit to QMS Establish Quality Policy & Objectives Determine resources and assign responsibilities and authorities Review QMS effectiveness Plan for changes and improvement | Quality objectives Organizational chart Communication plan Risk assessment Management review minutes | Operations Performance evaluation & Improvement process | |
| | Process indicators (how many?) | | Process objectives/ Purpose | | |
| | On-Time Delivery Quality Customer satisfaction | | >95% OTD >98% Quality >4 Customer satisfaction | Improvement | |


| Risk identification | | Reference & support documents (how?) | |
|---------------------|--|--|---|
| Process risks | | Management responsibility & communication SharePoint management responsibility user instructions Risk management SharePoint risk management user instructions | Quality Manual Document control Control of records SharePoint Document control user instructions |

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| Process name: | Purchasing & Outsourcing | Start event: | Purchase/ outsource need |
| Critical success factor: | Maintain supplier OTD and quality | End event | Verified purchased/outsourced product |

| Supplier for process/ Previous process | Process input | Resources/ material (with what?) | Process personnel (with whom?) | Process output | Customer of process/ Next process |
|--|---|---|---|----------------|--|
| Sales/Customer Service Operations | Purchase requirements | Computer Telephone/Fax/Email SharePoint | Purchasing Agent Purchasing Manager QC Inspector | Purchase order | Operations Performance evaluation & improvement process |
| | Job order Company requests Qualified supplier | <p>Process</p> <ol style="list-style-type: none"> 1. Receive purchase/ outsourcing need and due date 2. Review any special/ traceability requirements 3. Select a qualified supplier 4. Issue a purchase order 5. Receive and inspect purchased/outsourced products 6. If nonconforming, issue NCR and/or SCAR <p>Process indicators (how many?)</p> <p>On-Time Delivery (OTD) Quality No. SCARS/Supplier \$ Spend/Month Top 5 Suppliers \$ Spent</p> | <p>Purchased products</p> <p>Packing list/delivery ticket</p> <p>Purchase order receipts</p> <p>Certifications</p> <p>NCR</p> <p>SCAR</p> | | |


| | |
|----------------------------|--|
| Risk identification | Reference & support documents (how?) |
| Supplier risk | Supplier Management & Purchasing Procedure SharePoint Order To Delivery User Instructions |

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|---------------------------------|--------------------------|---------------------|----------------------|
| Process name: | Operations | Start event: | Receipt of Job Order |
| Critical success factor: | Maintain OTD and quality | End event | Invoice |

| Supplier for process/ Previous process | Process input | Resources/ material (with what?) | Process personnel (with whom?) | Process output | Customer of process/ Next process |
|--|---|--|---|--|--|
| Sales/Customer Service Receiving | Job order | SharePoint Material Equipment, abrasives, fixtures Measuring equipment | Operations Leads, Grinders, Machinists Quality Control Shipping/ Receiving | Completed Job Order | Customer |
| | Planning Calendar Customer supplied material Purchased material | Process 1. Receive Job Order & processing material 2. Complete Job Order per instructions & perform in-process inspection 3. Perform Final QC inspection per specified AQL 4. Issue NCR, as applicable 5. Issue required certifications 6. Package & issue delivery ticket 7. Issue Invoice Process indicators (how many?) On-Time Delivery (OTD) Quality Job Hourly Rate Job Costing (Est. vs Actual) | | COC QC Inspection Reports First Article Inspection Delivery Ticket Invoices NCR | Performance evaluation & improvement process |


| Risk identification | | Reference & support documents (how?) |
|---------------------|---|--|
| Process risk | Competence, Awareness & Training Procedure Maintenance Procedure Calibration Procedure Inspection & Test Procedure | SharePoint Order To Delivery User Instructions SharePoint Human Resources User Instructions SharePoint Equipment & Gages User Instructions |

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|---------------------------------|--|---------------------|---------------------------|
| Process name: | Performance Evaluation & Improvement | Start event: | Data Collection |
| Critical success factor: | Maintain Quality Management System & Improve | End event | Improvement Action |


| Supplier for process/ Previous process | Process input | Resources/ material (with what?) | Process personnel (with whom?) | Process output | Customer of process/ Next process |
|--|--------------------------|--|---|---|-----------------------------------|
| Operations | Product & Process Data | SharePoint Computer | Management Team Quality Management Representative | Dashboard | |
| Customer | Customer Feedback | Process | | Corrective Action | |
| Purchasing | Supplier Data | <ol style="list-style-type: none"> 1. Collect data, analyze & perform internal audits 2. Evaluate performance & conduct management review 3. Determine actions for improvement 4. Take corrective and/or preventive actions 5. Make necessary changes to risk planning, control, & objectives | | Preventive Action | Leadership & Planning process |
| Sales/Customer Service | Risk Assessment | | | Revised Risk Assessment (as applicable) | |
| Leadership & Planning | ISO 9001:2008 AS9100C | | | Revised objectives & policy (as applicable) | |
| | | Process indicators (how many?) | Process objectives/ Purpose | | |
| | | As identified by the Dashboard (SharePoint) | Achieve quality objectives Improve performance by 5% by 2017 | | |

| Risk identification | | Reference & support documents (how?) | |
|---------------------|--|--|------------------------|
| Organizational risk | | Management Responsibility & Communication Internal Audit Customer Satisfaction Corrective Action Preventive Action | Dashboard (SharePoint) |


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Appendix B: Reference Documents/Procedures

| AS9100C | ISO 9001:2008 | Operation Procedure |
|---------|---------------|--|
| 4.1 | 4.1 | Quality Manual |
| 4.2.1 | 4.2.1 | Quality Manual |
| 4.2.2 | 4.2.2 | Quality Manual |
| 4.2.3 | 4.2.3 | Document Control |
| 4.2.4 | 4.2.4 | Control of Records |
| 5.1 | 5.1 | Management Responsibility & Communication |
| 5.2 | 5.2 | Management Responsibility & Communication |
| 5.3 | 5.3 | Management Responsibility & Communication |
| 5.4.1 | 5.4.1 | Management Responsibility & Communication |
| 5.4.2 | 5.4.2 | Management Responsibility & Communication |
| 5.5.1 | 5.5.1 | Organizational Chart |
| 5.5.2 | 5.5.2 | Quality Manual |
| 5.5.3 | 5.5.3 | Management Responsibility & Communication |
| 6.1 | 6.1 | Quality Manual |
| 6.2 | 6.2 | Competence, Training and Awareness |
| 6.3 | 6.3 | Maintenance, Quality Manual |
| 6.4 | 6.4 | Quality Manual |
| 7.1 | 7.1 | SharePoint Order to Delivery User Instructions |
| 7.1.1 | - | Quality Manual |
| 7.1.2 | - | Risk Management |
| 7.1.3 | - | Configuration Management Plan |
| 7.1.4 | - | SharePoint Order to Delivery User Instructions |
| 7.2 | 7.2 | Sales/ Customer Service Process |
| 7.3 | 7.3 | Excluded |
| 7.4 | 7.4 | Supplier Management & Purchasing |
| 7.5.1 | 7.5.1 | SharePoint Order to Delivery User Instructions |
| 7.5.2 | 7.5.2 | Not Applicable |
| 7.5.3 | 7.5.3 | SharePoint Order to Delivery User Instructions |
| 7.5.4 | 7.5.4 | SharePoint Order to Delivery User Instructions |
| 7.5.5 | 7.5.5 | SharePoint Order to Delivery User Instructions |
| 7.6 | 7.6 | Calibration |
| 8.1 | 8.1 | Quality Manual |
| 8.2.1 | 8.2.1 | Customer Satisfaction |
| 8.2.2 | 8.2.2 | Internal Audit |
| 8.2.3 | 8.2.3 | SharePoint Dashboard |
| 8.2.4 | 8.2.4 | Inspection and Test |

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| 8.3 | 8.3 | Control of Nonconforming Product |
| 8.4 | 8.4 | SharePoint Dashboard |
| 8.5.1 | 8.5.1 | Quality Manual |
| 8.5.2 | 8.5.2 | Corrective Action |
| 8.5.3 | 8.5.3 | Preventive Action |

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Revision History

| Revision No. | Date | Summary of Change | Reviewed By | Approved By |
|--------------|---------|--|---------------------------|-------------|
| A | 7/20/16 | Initial Release | Management Representative | President |
| B | 9/8/16 | Revised Sections: 2.0 Scope/ 2.1 Exclusions (Removed 7.5.2 & added 7.5.1.4 a, c, d, e)/ 2.2 Regulatory requirements (Added OSHA/ITAR)/ 7.5.2 addresses validation. | Management Representative | President |
| | | | | |