Stahl Specialty Co.

111 East Pacific
Kingsville, MO 64061

1301 Stahl Drive
Warrensburg, MO 64093

ISO9001:2015
IATF16949
AS9100D

Quality System Manual

Revision Level: 016

May 2019

This Quality System Manual's contents have been reviewed and approved by the Management Team of Stahl Specialty Co. This approval signifies our commitment to the documented system.

_____	_____
President	Date
_____	_____
Director of Quality	Date

INDEX

QUALITY POLICY

Stahl Specialty Company will be a leader in the aluminum casting industry by improving our know-how for outstanding quality and developing innovative partnerships with our customers. This customer-focused commitment will be achieved by following a documented quality system, using teamwork, and embracing the philosophy of continuous improvement.

Our quality objectives will be met with these policies:

- It is a condition of employment to follow authorized written procedures.
- All employees are responsible for knowing the authorized written procedures for their job.
- We will implement and follow a documented quality and production system, which complies with customer requirements and all current applicable standards including ISO 9001:2015, AS9100, IATF16949, and ISO 14001
- We will audit the quality and production system.
- We will continuously improve processes.
- We will have a formal employee training program.
- Quality Clinic will be used as a key component in training, implementation, and continuous improvement of the customer-focused commitment.
- **ALL** employees are responsible for the quality of their work.
- **ALL** employees are responsible for ensuring they knowingly do not pass defective materials on to the next operation or final customer.

The Stahl Specialty Company Quality Policy and objectives will be monitored through metrics: On-time Delivery, PPM, Corrective Actions, Scrap, Purchasing Metrics, and Sales Metrics.
In addition to these metrics, review of productivity, customer scorecards, and other means of monitoring the health of the QMS system will be used as deemed necessary, including internal/ external risk and opportunities.

INTRODUCTION AND SCOPE

COMPANY PROFILE

Stahl Specialty Company was founded in 1946 and was known as Stahl Specialty Company. Since that time, Stahl has been owned by the additional companies: 2000 – 2006 ThyssenKrupp Budd, 2006 – 2011 Stahl Acquisitions LLC, and 2011 to current Ligon Industries. Stahl Specialty Company is a permanent mold aluminum casting facility with locations in Kingsville and Warrensburg, Missouri.

The Company's primary operation is the manufacturing of aluminum castings and assemblies. Products manufactured at Stahl are supplied to several industries including: automotive, marine, truck, agriculture and construction. Stahl Specialty Company manufactures over 300 different parts ranging in weight from less than .5 pounds to 500 pounds.

1.0 SCOPE

Section 1.1: Scope

The scope of the Stahl Quality Management System includes aluminum castings and assemblies provided by Stahl Specialty Company whether manufactured or purchased.

ISO 9001:2015, IATF 16949:2016, First Edition, Oct 1, 2016, AS9100 Rev. D, revised September 2016, and this document defines Stahl Specialty Company fundamental quality system requirements for the organization in regard to Quality Management System and customer specific parts manufactured or assembled.

Stahl Specialty Company takes permissible exclusion to the ISO/IATF 16949 standard, Product Design (Section 8.3), Post Delivery Activities (Section 8.5.5 b, c and 8.5.5.1 and 8.5.5.2); and to the AS9100D standard, Design and Development of Products and Services (Section 8.3) and Post Delivery Activities (Section 8.5.5 b, c, f, g, h, i); as Stahl Specialty Company is not product design responsible and manufactures to customer design and specifications and has no contractual obligation to provide service.

At this current time, Stahl Specialty Company is not a service facility. In the event that Stahl Specialty Company should become a service facility in the future, it will be incorporated into the Quality Management System.

Stahl Specialty Company will provide products according to established written procedures complying with ISO9001:2015, IATF 16949, and AS9100 Rev. D requirements, as well as government statutory, regulatory and Registration Body authorities, where applicable; and/or to specific customer contract requirements. Where conflicts exist, customer contract requirements will prevail.

Stahl Specialty Kingsville operations will provide support functions to the Warrensburg plant in the form of the following:

Contract Review
Corporate Quality
Human Resources
Information Technologies
Purchasing
Calibration
Calibration
Sales
Maintenance
Supplier Control
Technical Support

This Quality Manual is Stahl Specialty Co.'s top-level document within the Quality Management System, as well as applicable customer standards.

Section 1.2: Control Statement

The Quality System manual informs management, employees, suppliers, subcontractors, and in particular, customers about Stahl Specialty Company's Quality Management System. The quality, validity and reliability of this manual hinges on the actual implementation and compliance, which is designed to ensure that all requirements are recognized and are fully complied with.

The Director of Quality has been designated as the Management Representative and shall be responsible for maintaining and controlling the Quality Manual.

The Management Team, consisting of the individuals below, shall be responsible for reviewing the Quality Manual and the Risk Management Process at least annually to ensure the Quality Policy, Quality Objectives and the other contents are adequate in defining the Quality Management System.

Top Management Team
President
Controller
Human Resources Manager
Plant Manager(s)
Marketing & Sales Manager
Director of Quality
Director of Engineering

This manual remains the property of Stahl Specialty Company and is a CONTROLLED document.

The Quality Manager may authorize the issue of UNCONTROLLED copies of the Quality Management System Manual to customers, auditors, or visitors when required for information only.

2.0 Normative References

Note: Unless otherwise noted, all references listed throughout these Stahl Specialty Requirements refer to the latest edition.

Any questions about the applicability of a specific reference should be addressed to the organization's Quality Management Team.

3.0 Terms and Definitions

Note: Where inconsistent terminology exists between governing bodies and this document, this document shall take precedence.

Section 3.1: Terms and Definitions

Company	Stahl Specialty Company
Executive Management	The highest management in the Company is the President. A team of Managers and Directors reporting directly to the president make up the Executive Management team.
Quality Systems Manual	A document which provides an outline of the Quality Management System.
System Procedure	A document defining the scope of a Quality-related activity and defines how it is to be carried out.
Advanced Product Quality Planning (APQP)	Product Quality Planning Process that supports the development of processes in regard to the ppap and operational manufacturing/ assembly of a customer product to meet customer specifications.
Controlled Document	A document that is maintained and updated. Controlled documents are formally approved and their distribution is traceable. Revision histories will be kept on controlled documents.
Counterfeit Part	Unauthorized copy, imitation, substitute, or modified part which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer.
Critical Items	Those items having significant effect on the provision and use of the products, including safety, performance, fit, form, function, produce-ability, etc. that require specific actions to ensure adequate management.

Document Controller	Individual authorized to control and administer the issue of copies of a particular document and its revisions.
Error Proofing	Manufacturing process development to prevent the manufacture of non-conforming product.
Key Characteristics	An attribute or feature whose variation has a significant effect on product fit, form, function, performance, or productivity, that requires specific actions for the purpose of controlling variation.
Laboratory	Area or facility for inspection, test, or calibration that may include, but is not limited to chemical, metallurgical, dimensional, physical, scans, or reliability testing.
Manufacturing	Process of making or assembling aluminum castings to customer specifications, inclusive of processes such as heat-treating.
Outsourced Process	Portion of Stahl Specialty's process that is performed by an external organization
PFMEA	A documented process that takes into account risk associated with product/ process characteristics as documented through APQP.
Preventive Maintenance	Timed activities at regular intervals to reduce causes of equipment failure and unscheduled interruptions to production.
Process Control Plan	Documented description of the systems and processes required for controlling the manufacturing of customer products.
Process Flow Diagram	A schematic document showing the sequence of production activities of a specific product.
Product Safety	Standards or procedures/ processes related to the manufacturing of customer product to to ensure no harm or hazard to the customer.
PFMEA	A document that takes into account the risk associated with product/ process

	characteristics as defined in the process flow and APQP process.
Production Quality Plan	A collection of documents which define the requirements for quality of a specific product and shall contain prints, process flow diagram, process control plan, and work instructions.
QMS	Quality Management System
Special Requirements	Those requirements identified by the customer or determined by Stahl Specialty which have high risks of not being met, that require inclusion in the operational risk management process. Factors used to make determinations may include, but are not limited to, customer requirements, complexity of a product or process, past experience (lessons learned), or product/ process maturity.
Uncontrolled Document	A document that is either on an obsolete revision or that has not gone through the proper document control process to be made controlled. These documents shall not be used for instructional reasons.

4.0 Quality Management System

Section 4.1: Understanding the organization and its context

Stahl Specialty Company shall establish and maintain an effective documented Quality System to ensure that its customer requirements are met and the system is in compliance with ISO/IATF16949 and AS9100D.

Stahl Specialty Company has determined external and internal issues that are relevant to its purpose and its strategic direction and that affects its ability to achieve the intended result(s) of it's Quality Management System.

Stahl Specialty Company Quality Management System shall also address customer and applicable statutory and regulatory requirements.

Stahl Specialty Company shall:

a) Determined the processes needed for the Quality Management System and their application throughout the organization.

b) Defined the sequence and interaction of these processes.

c) Determined the methods, controls, resources and information necessary for these processes.

Note- The methods, controls, resources and information will be used to support process operation and monitor, measure and analyze the process performance so necessary actions can be implemented to ensure these processes achieve their planned goals and to continually improve their performance.

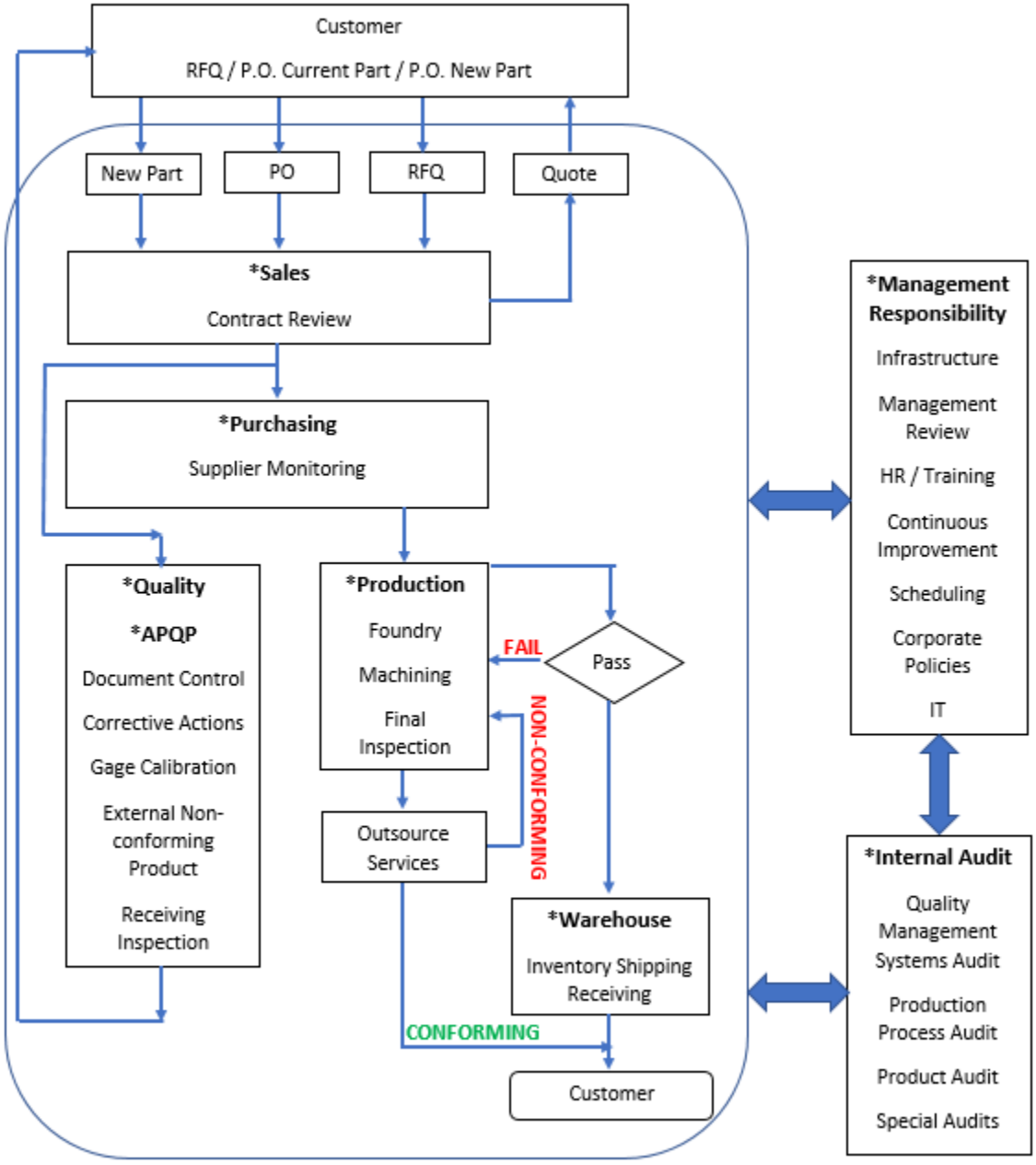
d) Understand issues can be positive or negative factors or conditions for consideration

e) Understands the external context can be facilitated by considering issues arising from legal, technological, competitive, market, cultural, and social and economic environments.

f) Understand that internal context can be facilitated by considering issues related to values, culture, knowledge, training, and performance of the organization.

Stahl Specialty Company ensures control over outsourced processes (i.e. calibration, detail/sort, rework, production, etc.) through purchasing, procedures and policies. The outsourcing of processes does not absolve Stahl Specialty Company from responsibility of conformity to customer requirements.

Stahl Process Map



Stahl identified processes are shown with bold lettering and have an asterisk in the front.
Other information / items listed are support or part of that process.

Revised 05/11/19

Section 4.2: Understanding the needs and expectations of interested parties

Stahl Specialty Company Management realizes that interested parties can have an effect or potential effect on the organization's ability to consistently provide products and services that meet our customer and applicable statutory and regulatory requirements.

Stahl Specialty Company Management shall **determine**:

a) The interested parties that are relevant to the Quality Management System.

b) The requirements of these interested parties that relevant to the Quality Management System.

Stahl Specialty Company will monitor and review information about these interested parties and their relevant requirements.

Interested Party	Relevant Requirements
Customers	Purchase Order requirements, compliance for cost, schedule and delivery, quality and any applicable statutory / regulatory requirements
Statutory / Regulatory Authorities	Applicable statutory / regulatory requirements
Suppliers	Adequate Purchase Order flow down requirements, company viability
Employees	Company viability, job growth, safe working environment
Owners	Customer Purchase Orders, Costs, Quality, Applicable statutory, regulatory requirements
Leadership	Customer Purchase Orders, Costs, Quality, Applicable statutory, regulatory requirements, Production, On-time Delivery, Employees, Suppliers capability
Neighborhood	Applicable statutory / regulatory requirements, Company viability and growth, loss of community revenue, local business shutdown, taxes, community jobs
Certification bodies	3rd party audits, certification, quality management system requirements

Section 4.3: Determining the Scope of the Quality Management System

The Scope of the Quality Management System is referenced in 1.0 of the Quality Manual.

Stahl Specialty Company shall determine the scope taking into consideration:

a) The external and internal issues referred to in 4.1
b) The interested parties referred to in 4.2
c) Consideration of the customer products manufactured/ assembled by Stahl
d) Requirements of ISO 9001:2015, Fifth edition, 09/15/158, IATF 16949:2016, First Edition, Oct 1, 2016, and AS9100 Rev. D, revised September 2016 that are applicable within the scope of the QMS System.

e) Customer specific requirements shall be evaluated and included in the scope of the Quality Management System.

Stahl Specialty Company shall ensure that personnel have access to, and are aware of, relevant quality management system documentation and changes.

Conformity to ISO 9001:2015, IATF 16949:2016, First Edition, and AS9100 Rev. D, standards may only be claimed if the requirements determined as not being applicable do not affect Stahl Specialty Company's ability or responsibility to ensure the conformity of customer products and satisfaction.

Exceptions:

a) ISO/IATF 16949 standard, Product Design (Section 8.3), Post Delivery Activities (Section 8.5.5 b, c and 8.5.5.1 and 8.5.5.2)
b) ISO/AS9100D standard, Design and Development of Products and Services (Section 8.3) and Post Delivery Activities (Section 8.5.5 - b,c,f,g,h,i)
c) Stahl Specialty Company is not product design responsible and manufactures to customer design and specifications and has no contractual obligation to provide service.
d) Stahl takes exclusion to 8.7.1.5 as it does not do repair work and does not have a documented process. Only cosmetic rework is allowed.

Section 4.4: QMS System and its Processes

4.4.1 Stahl Specialty Company Quality System Documentation implemented, and maintains a quality management system, that addresses customer and applicable statutory and regulatory QMS requirements.

Stahl Specialty Company shall determine the processes needed for the quality management system and the applications throughout the organization and shall:

a) Determine the inputs required and the outputs expected for these processes.
b) Determine the sequence of the interactions of these processes.
c) Determine and apply the criteria and methods (inclusive of monitoring, measurement, and performance indicators) needed to insure the effective operation and control of these processes.
d) Determine the necessary written processes to insure Customer Requirements are being met.
e) Determine the resources needed for these processes and availability.
f) Assign responsibility and authorities for these processes.
g) Address risks and opportunities in application of these processes.
h) Evaluation of processes and implementation of changes needed to ensure that the processes achieve the intended results.
i) Continuous Improvement of the processes and Quality Management System.
j) Ensure conformance of all products and processes to all applicable customer, statutory, and regulatory requirements.
k) Determine the documented process relating to product safety.

4.4.2 Stahl Specialty Company shall to the extent necessary:

a) Maintain documented information to support the operation of its processes.

b) Retain documented information to have confidence that the processes are being carried out as planned and customer requirements are being met.

Quality System Manual:

a) This Quality System Manual describes the scope of the Stahl Specialty Company Quality Management System, including the company quality policy and objectives, documented processes and a description of the interaction between customer oriented processes.

Stahl Inputs and Outputs

a) Documented inputs and outputs for the different processes.

System Procedures

a) Documented procedures describe how the Company quality policies and objectives are implemented.

b) The range and detail of the procedures will be dependent on the complexity of the work, methods used, skills available, and training provided.

c) Procedures shall be revised and re-issued when there are changes to the customer requirements, the company quality policies and objectives, and or the applicable standards.

Document Control

Stahl Specialty Company shall establish and maintain a process to ensure all relevant documents and data be maintained/ retained accordingly.

Control of Quality Records

Company quality records, and applicable subcontractor records, are established, stored and maintained in accordance with both Customer, Statutory and Regulatory requirements to provide evidence of compliance with specified requirements and to demonstrate the effectiveness of the Quality System.

These records shall be filed and stored in secured locations to prevent loss and damage as defined in the Control of Records Procedure.

When requested by the customer or the customer's representative, the quality records shall be made available for evaluation.

Written processes for customer product to include, but not limited to:

a) Production Control Plan

b) Product Flow

c) PFMEA

d) Process Instructions

5.0 Leadership

Section 5.1: Leadership and Commitment

Stahl Specialty Company top management shall demonstrate leadership and commitment to the development, implementation and continual improvement of the Quality Management System by taking accountability for and managing the effectiveness of the Quality Management System.

a) **Stahl Specialty Company** top management will demonstrate leadership by ensuring that the quality policy and quality objectives are established for the quality management system and are compatible with the context and strategic direction of the organization, inclusive of the business plan and processes.

b) **Stahl Specialty Company** top management will demonstrate leadership by promoting a process approach and risk-based thinking though-out the organization.

c) **Stahl Specialty Company** top management will demonstrate leadership by reviewing and addressing whether the resources needed are available for the quality management system to be successful.

d) **Stahl Specialty Company** top management will demonstrate leadership by communicating the importance of effective quality management and of conforming to the quality management system requirements and ensuring that the system is achieving its intended results through established metrics.

e) **Stahl Specialty Company** top management will demonstrate leadership by engaging, directing and supporting persons contributing to the effectiveness of the system, and encouraging and promoting continuous improvement.

f) **Stahl Specialty Company** top management will be demonstrating leadership by supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

g) **Stahl Specialty Company** top management will demonstrate leadership by defining and implementing corporate responsibility policies that address at a minimum, employee anti-bribery, ethical, and code of conduct issues.

h) **Stahl Specialty Company** top management will be demonstrating leadership by reviewing the product realization processes and support process (through established metrics) to evaluate and improve effectiveness and efficiency. The results of the process review shall be included as input to the management review.

i) **Stahl Specialty Company** top management will demonstrating leadership by identifying process owners who are responsible for managing the organization's processes and outputs. These persons shall understand their roles and be competent in their role.

5.1.2 Customer Focus:

Stahl Specialty Company top management shall demonstrate leadership and commitment with respect to customer focus by ensuring that:

a) Customer and applicable statutory and regulatory requirements are understood and consistently met.
b) The risks and opportunities that can affect conformity of products and the ability to enhance customer satisfaction is addressed.
c) Methods will be maintained for determining customer satisfaction in a valid and objective way.
d) Product conformity and on-time delivery are measured, reviewed, and appropriate action taken if planned results are not, or will not, be achieved.

Section 5.2: Quality Policy

5.2.1 Establish the Quality Policy

Stahl Specialty Company top management shall establish, implement, and maintain a quality policy that is appropriate to the purpose and context of the organization and supports its strategic direction. The primary goal is to establish a framework of quality objectives that ensure customer satisfaction and adherence to applicable statutory and regulatory requirements.

Stahl Specialty Company will define and document the company's Quality Policy and review no less than annually for continuing suitability. Quality Goals and Objectives will be developed and reviewed in conjunction with the business planning process to insure consistency throughout the organization.

To this end, top management will commit resources and efforts to the training and development of all employees to collectively address all elements of:

Quality, Cost, Safety, Efficiency, and Responsiveness (On-time Delivery)

The Quality Policy will be communicated, understood, and applied within the organization with expectations that all employees will be involved in its implementation and continual improvement. In addition the Quality Policy will be made available to relevant interested parties, as appropriate.

5.2.2 Communication throughout the Organization

The Quality Policy will be communicated, understood, and applied within the organization with expectations that all employees will be involved in its implementation and continual improvement. New employees will receive an introduction to the quality policy as part of orientation. The company quality policy will be displayed in appropriate areas throughout the company and be made available to relevant interested parties, as appropriate.

Section 5.3: Roles, Responsibilities, and Authority

Stahl Specialty Company top management shall ensure that the responsibilities and authorities for relevant roles are assigned, communicated, and understood within the organization.

5.3.1 Established roles will include responsibility and authority for:

a) Ensuring the quality management system conforms to customer and regulatory requirements.
b) Ensuring that the Quality Management Systems conforms to relevant external quality standards.
c) Ensuring that reporting of performance and opportunities for improvement are assigned, documented, and reviewed.
d) Ensuring that processes are delivering intended outputs and remain customer focused.
e) Ensuring the integrity of the quality management system is maintained, including changes/actions being planned and implemented.
f) Ensuring that risk management is an integral part of the planning and implementation process in regard to customer product and the QMS system.

Top management shall appoint a specific member of the organizations management team to be identified as the **management representative**, who shall have the responsibility and authority for oversight with the above requirements.

a) The management representative shall have the organizational freedom and unrestricted access to top management to resolve any quality management issues.

Top management shall ensure that there are personnel assigned with the responsibility and authority to ensure that customer requirements are met, including, but not limited to special characteristics, quality objectives and related training, capa, capacity analysis, logistics, customer scorecards, and portals.

5.3.2 Stahl Specialty Company Top management shall ensure that responsibility and authority for product requirements and corrective actions is addressed in the following manner:

a) Personnel responsible for product conformity have the authority to stop shipment and production to correct quality problems.
b) Personnel with responsibility for corrective actions are promptly informed of products or processes that do not conform to requirements to ensure that non-conforming product is not shipped to the customer and is properly contained.
c) Production operations across all shifts are staffed with personnel in charge of, or delegated responsibility for, ensuring conformity to customer requirements.

STAHL ROLES AND RESPONSIBILITIES

President (Executive Management)

a) Define Company Quality Policy and Objectives
b) Ensure that the policy is understood, implemented and maintained throughout the Company
c) Identify and provide adequate resources, including trained personnel necessary to maintain the Quality system, based on input from the Department Managers

Top Management

a) Ensure requirements in the Quality System are achieved in reference to the Quality System Manual and their specific responsibility within the System Procedures
b) Ensure product is produced that meets customer requirements
c) Ensure that risk management and risk mitigation is integral to the Stahl processes
d) Ensure that issues affecting the QMS system are addressed and established solutions are implemented and effective (review of metrics)
e) Represent the needs of the customer in internal functions while addressing ISO/IATF 16949:2015 AND AS9100D requirements
f) Ensure that resource requirements are identified, defined, and addressed to be able to properly manage and verify company activities
g) Monitor corrective actions to prevent the re-occurrence of any non-nonconformity relating to product and/or process.

Director of Quality (Management Representative)

The Director of Quality is authorized as the Company Management Representative who, irrespective of other responsibilities, shall:

a) Ensure the Quality System is established, implemented and maintained in accordance with ISO/IATF 16949:2015 AND AS9100D requirements.
b) Report on the performance of the Quality System to Top Management for review.
c) Liaison with external agencies and customers on quality related matters.
d) Verify the implementation and effectiveness of the quality management system regarding product-related customer relations.
e) Identify internal audit resource requirements and communicate these to Top Management
f) Address Risk in Management Review
g) Act as the ITAR management representative

Quality Manager(s) and Area Production Manager(s)

The Quality Managers and Area Production Managers are authorized as the Company Customer Representatives who, irrespective of other responsibilities, shall ensure:

a) Customer requirements are addressed, which includes the selection and monitoring of special characteristics.
b) Implementation of quality objectives and related training
c) Corrective/preventive actions and Continuous Improvement
d) Ability and Authority to stop production or shipment when dealing with non-conformity.

Employees

All employees are responsible for the effective implementation of the Company Quality System, through the use of quality documents appropriate to their activities within the Company. All employees are responsible that all work instructions are followed, and only conforming product is passed to the next process step (either internal or external customer). Any employee at Stahl Specialty Co. has the authority to stop production to correct a problem with non-conformity to product requirements.

Organizational Interface

Stahl Specialty Company will use a multi-disciplinary (Cross Functional Team) approach to such activities as APQP, PPAP, Continual Improvement, Problem Solving, and Facilities Planning.

Stahl Specialty Company will ensure that Management is aware of the status of APQP activity by having a member of top management as a member of all APQP teams.

In all correspondence with customers, Stahl Specialty Co. will ensure that data is provided in the customer's prescribed format whether in hard copy or electronic media format.

Company Organization Chart

Company Organizational charts are documented and maintained. All charts are reviewed by Top Management of Stahl Specialty Co. prior to being issued and are available upon request.

Internal Communication

Stahl Specialty Company ensures that appropriate communication processes are established and that communication takes place regarding the effectiveness of the quality management system.

6.0: PLANNING

Section 6.1: Actions to Address Risks and Opportunities

6.1.1 Stahl Specialty Company, when planning for the Quality Management System, shall consider the issues referred to in 4.1 and the requirements referred to in 4.2 regarding interested parties, and determine the risks and opportunities that need to be addressed to:

a) Give assurance that the quality management system can achieve its intended result(s);
b) Enhance desirable effects;
c) Prevent, or reduce, undesired effects;
d) Achieve improvement.

6.1.2. Stahl Specialty's top management shall review risks and opportunities, both external and internal, when assessing the Quality Management System and the needs of both the company and the customer. Risk analysis shall be documented with actions/lessons learned. Stahl Specialty Company shall plan actions to address risks and opportunities, including how to:

a) Integrate and implement the actions into its quality management systems processes
b) Evaluate the effectiveness of these actions
c) Actions taken to address risks and opportunities shall be proportionate to the potential impact on the conformity of products, including, but not limited to: taking risks to pursue opportunity, retaining risk through informed decisions, opportunities in launching new product, adding new customers, and/or adding new technology to enhance current customer requirements.

6.1.2.2 Stahl Specialty Co.'s top management shall determine and implement actions to eliminate the causes of potential non-conformities in order to prevent or reduce their occurrence. Preventive actions shall be appropriate to the severity of the potential issue to mitigate risk.

a) Determine potential nonconformity, evaluate the need for potential actions, implement actions if needed, and document information on actions taken.

6.1.2.3 Stahl Specialty Company shall identify and evaluate internal and external risks to all manufacturing processes and infrastructure to ensure that customer requirements are met:

a) Define and prepare contingency plans according to risk and impact to the customer.
b) Include in that contingency plan, a notification process to the customer and all other interested parties that may be affected.
c) Periodically test contingency plans for effectiveness
d) Conduct and document contingency plan reviews no less than annually.
e) Document the contingency plans and retain documented information.
f) Ensure that the contingency plan has provision to validate that the manufactured product continues to meet customer specifications after the re-start following an emergency shut-down.

Section 6.2: Quality Objectives and Planning for Achievement

6.2.1 Stahl Specialty Company shall establish quality objectives at relevant functions, levels, and processes for the quality management system. The quality objectives shall:

a) Be consistent with the quality policy
b) Be measureable
c) Take into account applicable requirements
d) Be relevant to product conformity for customer satisfaction
e) Be monitored
f) Be communicated
g) Be updated

h) Maintain documentation on the objectives

Section 6.3: Planning of Changes

6.3.1 Stahl Specialty Company's top management shall ensure that planning of the quality management system meets its requirements and integrity is maintained when changes are planned and implemented. The following considerations will be addressed:

a) The purpose of the changes and potential consequences.
b) Integrity of the Quality Management System.
c) Availability of Resources.
d) Allocation or reallocation of responsibilities and authorities.
e) Risks and opportunities, both external and internal, considering the needs of both the company and the customer.
f) Risks shall be documented with actions.

7.0 Support

Section 7.1: Resources

7.1.1 Stahl Specialty Company shall determine and provide the resources needed for establishment, implementation, maintenance, and continual improvement of the quality management system. Consideration will be given to:

a) The capabilities of, and constraints on, existing internal resources.
b) What needs to be obtained from external providers.

7.1.2 People

Stahl Specialty Company shall determine and provide the persons necessary for effective operation and control of its processes.

a) Stahl Specialty Company shall determine the necessary competence for personnel performing work affecting conformity to product requirements.
b) Personnel performing work affecting product conformity requirements shall be competent based on education, training, skills and experience.
c) Employee training needs, planning, implementation and review of training effectiveness shall be conducted.
d) Stahl Specialty Company shall ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives through training.

7.1.3 Infrastructure

Stahl Specialty Company shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirements. Infrastructure can include, as applicable:

a) Buildings, workspace, and associated utilities
b) Process equipment (both hardware and software)
c) Supporting services, such as transportation
d) Information and communications technology

7.1.3.1 Plant, Facility and Equipment Planning

Stahl Specialty Company shall utilize multi-disciplinary approach including risk identification and risk mitigation methods for developing and improving plant, facility, and equipment plans.

a) The organization shall identify, define, and maintain appropriate measures, including periodic re-evaluation based upon risk, to monitor the effectiveness of existing operations, facilities and equipment.

b) The plant layout will attempt to optimize material handling and travel, facilitate synchronous material flow, and to optimize value-added use of floor space.

c) Overall work plan, appropriate automation, ergonomics and human factors, storage and buffer inventory levels, plant layouts, and optimization of material flow (handling and traveling) are all subjected to effectiveness evaluation.

Stahl Specialty Company shall utilize a multi-disciplinary team through the Advanced Product Quality Planning Process to evaluate manufacturing feasibility for new product or processes, or proposed changes to existing processes. This evaluation shall include:

a) Feasibility of proposed product manufacturing
b) Capacity planning
c) Resources planning
d) Risk assessment
e) Application of lean manufacturing

7.1.4 Environment for Operation of Processes

Stahl Specialty Company shall determine, provide, and maintain the work environment necessary to achieve product conformity to requirements.
The suitable environment can be a combination of human and physical factors:

a) Social (e.g.: non-discriminatory, non-confrontational)
b) Psychological (e.g.: burnout prevention, stress-reducing)
c) Physical (e.g.: temperature, heat, humidity, light, airflow, etc.)

7.1.4.1 Stahl Specialty Company shall maintain the premise in an orderly, clean, and repaired status consistent with the needs of the customer product and manufacturing process.

7.1.5 Monitoring and measuring resources

Stahl Specialty Company shall determine and provide the resources needed to ensure valid and reliable results when monitoring or measuring is used to verify the conformity of products and services to requirements. Stahl shall ensure that resources provided:

a) Are suitable for the specific type of monitoring and measurement activities.
b) Are maintained to ensure their continuing fitness for their purpose.
c) Retain appropriate documented information as evidence of fitness for purpose of monitoring and measurement resources.

d) Statistical Studies shall be conducted to analyze the variation present in the results of each type of inspection, measurement, and test equipment system identified in the control plan. (IATF 7.1.5.1.1)

1. The methods and acceptance criteria used shall conform to those in reference manuals on measurement systems analysis.

2. Statistical studies may be directed to a family of gages performing the same function.

3. Focus of MSA studies should be on critical or special product/process characteristics.

7.1.5.2 Measurement Traceability

When measurement traceability is a requirement, or considered by Stahl Specialty to be an essential part of providing confidence in the validity of measurement results, measuring equipment shall be:

a) Calibrated or verified, or both, at specific intervals or prior to use, against measurement standards traceable to international or national measurement standards. When no such standards exist, the basis used for calibration or verification shall be retained as documented information;
b) Identified, in order to determine status;
c) Safe-guarded from adjustments, damage, or deterioration that would invalidate the calibration status and subsequent measurement results.

7.1.5.2.1 Calibration/ Verification Records

a) Stahl shall maintain a process for the recall of monitoring and measuring equipment requiring calibration or verification. (GageTrak)

b) Stahl shall Maintain a register of monitoring and measuring equipment which shall include equipment type, identification, calibration or verification method, frequency, and acceptance criteria.

d) This shall include records of the calibration/ verification activity for all gauges and measuring/ test equipment (including employee owned equipment, customer-owned equipment, or on-site supplier owned equipment) needed to provide evidence of conformity to internal requirements, customer-defined requirements, and regulatory requirements;

e) Calibration or verification of monitoring and measuring equipment shall be carried out under suitable environmental conditions.

Calibration/verification activities and records shall include:

a) Revisions following engineering changes that impact measurement systems;
b) Any out-of-specification readings as received for calibration/verification;
c) An assessment of the risk of the intended use of the product caused by the out-of-specification condition;
d) When a gage is found out of calibration or defective during its planned calibration/verification or during use, records on the validity of previous measurement results obtained with this piece of inspection and test equipment shall be retained, including the associated standard's last calibration date and the next due date on the calibration report;
e) Notification to the customer if suspect product or material has been shipped;
f) Statements of conformity to specification after calibration/verification;
g) Verification that the software version used for product/process control is as specified;
h) Records of the calibration and maintenance activities for all gauing.
i) Production-related software verification used for product and process control.

Stahl Specialty shall have a documented process for managing calibration/verification records. This shall include records of the calibration/ verification activity for all gauges and measuring/ test equipment (including employee owned equipment, customer-owned equipment, or on-site supplier owned equipment) needed to provide evidence of conformity to internal requirements, customer-defined requirements, and regulatory requirements. Stahl Specialty shall determine the validity of previous measurement results when measuring equipment is found to be unfit for its intended use and shall take appropriate action as necessary.

Calibration or verification of monitoring and measuring equipment shall be carried out under suitable environmental conditions.

7.1.5.3 Laboratory Requirements

Stahl Specialty Company shall have a defined scope, included in the QMS documentation that includes its capability to perform the required inspection, test, or calibration services. The laboratory scope shall specify and implement at a minimum:

a) Adequacy of the laboratory technical procedures;
b) Competency of laboratory personnel;
c) Testing of product;
d) Capability of performance and Traceability to the relevant process Standard. When no national or international standard is available, the organization shall define and implement a methodology to verify measurement system capability;
e) Customer requirements, if applicable;
f) Review of related records

Inspection, measuring and test equipment, including test software, used for demonstrating the conformance of products to the specified requirements *and for maintaining production tools* shall be controlled, calibrated and maintained. The equipment shall be:

a) Verified and/or calibrated against standards traceable to a nationally recognized standard or approved basis;
b) Be safeguarded from adjustments that would invalidate the measurement result;
c) Identified by appropriate means to show the calibration status;
d) Properly maintained to ensure the fitness for use.

Calibration and checking shall be carried out at prescribed intervals and records of calibration and checking shall be maintained. Processes for internal and external calibration shall be defined. Records will be made available to the customer when required.

7.1.5.3.2 External laboratory facilities used for inspection, test, or calibration services by Stahl Specialty Company shall have a defined laboratory scope that includes the capability to perform required processes and either:

a) The laboratory shall be accredited to ISO/IEC 17025 or national equivalent and include relevant inspection, test, or calibration services in the scope of the accreditation. The certificate of calibration or test report shall include the mark of the accreditation body; or
b) Shall be evidence that the external laboratory is acceptable to the customer.

Calibration services may be performed by the equipment manufacturer when a qualified laboratory is not available for a given piece of equipment. In such cases, Stahl shall ensure that the requirements listed in section 7.1.5.3.1 have been met.

Use of calibration services, other than by qualified (or customer accepted) laboratories, may be subject to government regulatory confirmation, if required.

7.1.6 Organizational Knowledge

Stahl Specialty Company shall determine the knowledge necessary for the operation of its processes to achieve product conformity.

Stahl Specialty Company shall consider current knowledge when addressing changing needs and trends; and determine how to acquire or access additional knowledge or updates to make informed decisions. Risk analysis shall play an important part of any changes made to the quality management system.

Organizational knowledge specific to Stahl Specialty Company is that knowledge gained by experience and used to achieve objectives. This is based on:

a) Internal sources: lessons learned, capturing and sharing documented knowledge and experience,

as well as the results of testing and improvements in processes and customer product.

b) External sources: (e.g. Standards, conferences, knowledge gathering from customers and external providers

Section 7.2: Competence

Stahl Specialty Company shall determine the necessary competence of persons doing the work under its control that affects the performance and effectiveness of the quality management system.

a) Ensuring competency on the basis of appropriate education, training and experience

b) Taking actions to acquire the necessary competence and evaluating the effectiveness of actions taken. Actions can include, but are not limited to training, mentoring, reassignment, or hiring/ contracting.

c) Retaining documentation as evidence of competence

7.2.1.1 Stahl Specialty shall establish and maintain a documented process for identifying training needs including awareness (7.3.1) and achieving competence of all personnel performing activities affecting conformity to product and process requirements. Personnel performing specific assigned tasks shall be qualified to maintain the necessary level of satisfaction of customer requirements.

7.2.2 Stahl Specialty is committed to providing personnel with necessary on-the-job training in regard to conformity to quality, customer, and regulatory requirements. This includes contract personnel that through the process of their job scope can affect the product health and/or the quality management system. The level of detail required in training shall be commensurate with the level of education and the complexity of the job to be performed. Persons whose work can affect quality shall be informed about the consequences of nonconformity to customer requirements

7.2.3 Stahl Specialty shall have a documented process to verify that internal auditors are competent, taking into account any customer-specific requirements. Stahl shall maintain a list of qualified internal auditors.

Quality management systems auditors, manufacturing process auditors, and product auditors shall all be able to demonstrate the following minimum competencies:

a) Understanding of the automotive process approach for auditing, including risk-based thinking;
b) Understanding of applicable customer-specific requirements;
c) Understanding of applicable ISO 9001, IATF 16949, and AS9100D requirements related to the scope of the audit;
d) Understanding of applicable core tool requirements related to the scope of the audit;
e) Understanding how to plan, conduct, report, and close out audit findings. Additionally, manufacturing process auditors shall demonstrate technical understanding of the relevant manufacturing process(es) to be audited, including process risk analysis (such as PFMEA) and control plan. Product

auditors shall demonstrate competence in understanding product requirements and use of relevant measuring and test equipment to verify product conformity.

Where training is provided to achieve competency, documented information shall be retained to demonstrate the trainer's competency with the above requirements.

Maintenance of and improvement in internal auditor competence shall be demonstrated through:

a) Executing a minimum number of audits per year, as defined by the organization; and
b) Maintaining knowledge of relevant requirements based on internal changes (e.g., process technology, product technology) and external canges (e.g., ISO 9001, IATF 16949, core tools, and customer specific requirements).

7.2.4 **Stahl Specialty** shall demonstrate the competence of the auditors undertaking the second-party audits. Second-party auditors shall meet customer specific requirements for auditor qualification and demonstrate the minimum following core competencies, including understanding of:

a) The automotive process approach to auditing, including risk based thinking;
b) Applicable customer and organization specific requirements;
c) Applicable ISO 9001 and IATF 16949 requirements related to the scope of the audit;
d) Applicable manufacturing process(es) to be audited, including PFMEA and control plan;
e) Applicable core tool requirements related to the scope of the audit;
f) How to plan, conduct, prepare audit reports, and close out audit findings.

Section 7.3: Awareness

Stahl Specialty Company shall ensure that persons doing the work under our control are aware of:

a) the Quality Policy;
b) Relevant Quality Objectives such as scrap control and on time delivery;
c) Their contribution to the effectiveness of the quality management system;
d) The implications of not conforming with QMS requirements;
e) Relevant changes to the QMS system, processes, and policy that affect the work being accomplished in regard to product health and safety;
f) Their contribution to both product conformity and product safety;
g) The importance of ethical behavior.

7.3.1 **Stahl Specialty** shall maintain documented information that demonstrates that all employees are aware of their impact on product quality and the importance of their

activities in achieving, maintaining, and improving quality, including customer requirements and the risks involved for the customer with non-conforming product.

7.3.2 **Stahl specialty** shall maintain a documented process(es) to motivate employees to achieve quality objectives, to make continual improvements, and to create an environment that promotes innovation. The process shall include the promotion of quality and technological awareness throughout the whole organization.

Section 7.4: Communication

Stahl Specialty Company shall determine the internal and external communications needed regarding the Quality Management System, including what, when, and how to communicate; who should be responsible for the communication and who needs the communication.

Section 7.5: Documentation

Stahl Specialty Company Quality System Documentation shall include documented statements of a quality policy and objectives, a quality manual, and documented procedures, needed to ensure the effective planning, operation and control of the overall quality management system. Additional documentation such as process instructions and APQP will be available to ensure specific processes, including those specific to customer product, are available.

All documents will be available within the computer system on a common drive to which company computers have access.
*Note: The computer version of the document is the master document.

a) **Quality System Manual**
This Quality System Manual describes the scope of the Stahl Specialty Company Quality Management System, including the company quality policy and objectives, overview of the quality management system as it applies to Stahl Specialty Company processes and procedures and customer and regulatory requirements.

b) **System Procedure**
Documented procedures describe how the Company quality policies and objectives are implemented. The range and detail of the procedures will be dependent on the complexity of the work, methods used, skills available, and training provided. Procedures shall be revised and re-issued when there are changes to the customer requirements, the Company quality policies and objectives, and or the applicable standards.

7.5.2 Creating and Updating

A process shall be established and maintained to ensure all documents and data, including internal Quality Systems Documentation and external documents shall be handled in a controlled and orderly manner.

a) This shall include but not be limited to:
   1. Customer Drawings, Specifications and Math Data
   2. AIAG Reference Documents
   3. Customer Reference Guides and Manuals
   4. Standards and Specifications
   5. Policies, Procedures, Work, and Inspection Instructions

7.5.2.1 When creating or updating documented information, Stahl Specialty shall ensure appropriate:

a) Identification and description (e.g., a title, date, author, etc.)
b) Format
c) Review and approval for suitability and adequacy

7.5.3 Control of Documented Information

7.5.3.1 Documented information required by the quality management system, customer requirement, and regulatory bodies shall be controlled to ensure:

a) Documents are available and suitable for use, when and where intended;
b) Documents are adequately protected.

7.5.3.2 Control of documented information shall be addressed with the following activities, as applicable:

a) Distribution, access, retrieval, and use;
b) Storage and preservation;
c) Control of changes;
d) All obsolete documents are promptly removed to preclude unintended use. Retained obsolete documents for legal and/or reference purpose are clearly identified;
e) Prevention of the unintended use of obsolete documented information by removal or by application of suitable identification or controls if kept for any purpose.

7.5.3.2.1 Stahl Specialty has implemented a record retention policy within the quality management system. The control of records shall satisfy statuary, regulatory, organizational, and customer requirements.

Stahl shall retain production part approvals, tooling records, process design records, purchase orders, or contracts and amendments for the length of the time that the product is active for production and service requirements, plus one calendar year, unless otherwise specified by the customer or regulatory agency.

Documented information of external origin determined by the organization to be necessary for the planning and operation of the quality management system shall be identified as appropriate, and be controlled.

Documented information retained as evidence of conformity shall be protected from the unintended alterations.

When requested by the customer or the customer's representative, quality records shall be made available for evaluation.

Superseded part records will be stored with the new part files when the records are required for new part qualification.
When documented information is managed electronically, data protection processes shall be defined.

Engineering Specifications: Customer engineering specifications/standards and changes will be reviewed, distributed and implemented in a timely fashion. All documents affected by the standard/specification changes will be updated as appropriate. The date of implementation will be recorded and maintained.

8.0 OPERATION

Section 8.1: Operational Planning and Control

Stahl Specialty Company shall plan, implement and control the processes needed to meet the requirement for the provision of product and services, and to implement the actions determined in clause 6, by:

a) Determining the requirements for products

Determination of requirements related to product should include consideration of:

a) Requirements specified by the customer, including delivery.
b) Requirements not stated by the customer
c) Statutory and regulatory requirements
d) Additional requirements determined by Stahl Specialty Company
e) Personal and product safety
f) Produceability and inspectability
g) Reliability, availability, and maintainability
h) Product obsolescence
i) Prevention, detection, and removal of foreign objects
j) Handling, packaging, and prevention

b) Establishing Criteria for:
1) The processes: Process shall be planned, implemented, and controlled to insure the above;
2) The acceptance of products.

c) Determining the resources needed to achieve conformity to the product requirements and to meet on-time delivery of product;
d) Implementing control of the processes in accordance with the criteria;
e) Determining, maintaining, and retaining documented information to the extent necessary;
    1. To have confidence that the processes have been carried out as planned;
    2. To demonstrate the conformity of product to requirements;

f) Determining he processes and controls needed to manage critical items, including production process controls when key characteristics have been identified;
g) Engaging the representatives of affected organization functions for operational planning and control;
h) Determining the process and resources to support the use and maintenance of product;
i) Determining the products to be obtained from external providers;
j) Establishing the controls needed to prevent the delivery of nonconforming product to the customer.

As appropriate to the organization, customer requirements, and products, **Stahl Specialty** shall plan and manage product provision in a structured and controlled manner including scheduled events performed in a planned sequence to meet requirements at acceptable risk, within resource and scheduled constraints.

The output of this planning shall be suitable to **Stahl Specialty Company** operations and quality management system.

Stahl Specialty shall control planned outputs and changes to those outputs, reviewing consequences of unintended changes and taking action to mitigate adverse effects as necessary.

Stahl Specialty shall establish, implement, and maintain a process to plan and control the temporary or permanent transfer of work, to ensure continuing conformity of requirements. The process shall insure that risk is determined and managed.

Customer Communication: Stahl Specialty Company has implemented effective arrangements for communicating with customers in relation to product information, inquiry's/contracts/order handling, and customer feedback/complaints. Stahl Specialty Company also has the ability to communicate in a customer-specified language and format.

Process Development: Stahl Specialty Company uses a multidisciplinary approach in the development of processes:

a) Interfaces between different groups to ensure effective communication and planning outputs are updated as progress is made.
b) Realization for special characteristic development/finalization/monitoring, and development/review of PFMEAs and control plans.
c) Process Input Requirements:
    1. Product design and output data
    2. Targets for productivity, process capability and cost
    3. Customer requirements
    4. Previous experience
d) Process Output Requirements: Maintain records that enable verification of inputs.

1. Manufacturing process flow/layouts
2. Process FMEA
3. Control Plans
4. Process/ Work Instructions
5. Process approval acceptance criteria
6. Error proofing and results
7. Rapid detection of non-conformity

Systematic process design reviews shall be performed to evaluate ability of results to meet requirements and to identify any problems and propose action. Records shall be maintained for process design reviews and they shall include participants who shall be representatives of functions concerned with stage being reviewed.

Monitoring: Measurements at different stages of process design and development such as quality risks, costs, lead times, critical paths and others as appropriate to be defined and analyzed and summary results to be reported as input to Management review.

Process validation shall be performed to ensure resulting product is capable of meeting requirements for specified application. Where practical, validation shall be completed prior to delivery or implementation.

Product Approval Process: Stahl Specialty Company will fully comply with the requirements of the most current revision of the AIAG Production Part Approval Process (PPAP) manual including change validation. Stahl Specialty Company will also utilize a part approval process with their subcontractors as deemed applicable.

When planning for product realization, topics shall include:

a) Customer product requirements and technical specifications;
b) Logistics requirements;
c) Manufacturing feasibility;
d) Project planning;
e) Acceptance criteria

8.1.1 Operational Risk Management

Stahl Specialty Company shall plan, implement, and control a process for managing operational risks to the achievement of applicable requirements, which includes as appropriate to Stahl and the product and services:

a) Assignment of responsibilities for operational risk management;

b) Definition of risk assessment criteria (e.g., likelihood, consequences, risk acceptance);

c) Identification, assessment, and communication of risks throughout operations

d) Identification, implementation, and management of actions to mitigate risks that exceed the defined risk acceptance criteria;

e) Acceptance of risks remaining after implementation of mitigating actions.

8.1.2 Configuration Management

Stahl Specialty shall plan, implement, and control a process for configuration management as appropriate to the organization and its product in order to ensure the identification and control of physical and functional attributes throughout the product lifecycle. This process shall:

a) Control product identity and traceability to requirements, including the implementation of identified changes;
b) Ensure that the documented information (e.g requirements, verification, validation, acceptance documentation) is consistent with the actual attributes of the product.

8.1.3 Product Safety

Stahl Specialty Company shall plan, implement and control the processes needed to assure product safety during the entire product life cycle as appropriate to the organization and the product.

Examples of these include:

a) Assessment of hazards and management of associated risks
b) Management of safety critical items;
c) Analysis and reporting of occurred events affecting safety;
d) Communication of these events and training of persons.

8.1.4 Prevention of Counterfeit Parts

Stahl Specialty Company shall plan, implement, and control the processes, appropriate to the organization and customer product for the prevention of counterfeit or suspected part use and their inclusion in products delivered to the customer. Prevention processes should consider:

a) Training in awareness and prevention of counterfeit parts
b) Part obsolescence monitoring
c) Controls for acquiring externally provided product for original or authorized manufacturers, distributors, or approved sources
d) Traceability of parts and components as needed
e) Verification and test methods to detect counterfeit parts
f) Monitoring, quarantine, and reporting of suspect or detected counterfeit parts.

Section 8.2 Requirements of Product and Services

8.2.1 Customer Communication shall include information related to products; handling enquiries, contracts or orders, including changes; obtaining customer

feedback including complaints, handling or control of customer property, and contingency actions when relevant.

Stahl Specialty Company has implemented effective arrangements for communicating with customers in relation to product information, inquiry's/contracts/order handling, and customer feedback/complaints. Stahl Specialty Company also has the ability to communicate in a customer-specified language and format.

8.2.2 **Stahl Specialty** shall ensure that the requirements for products and services to the customer are defined taking into consideration applicable statutory and regulatory requirement and requirements necessary to the health of the organization. In addition, review of risks associated with meeting the claims for products and services offered, including operational risks and review of special requirements of product based on Customer requirements.

8.2.2.1 These requirements shall include recycling, environmental impact, and characteristics identified as a result of the organization's knowledge of the product and manufacturing processes.

8.2.3 Review of Requirements of Products and Services

8.2.3.1 Stahl Specialty shall ensure that it has the ability to meet the requirements for products and services to be offered to customer. **Stahl Specialty** shall conduct a review before committing to supply products to the customer, to include:

a) Each inquiry / bid requirements are clearly stated and understood
b) Resources applied by the company are capable of meeting the contractual requirements;
c) Requirements stated by the organization;
d) Requirements not stated by the organization;
e) Any order/contract requirements differing from the inquiry/bid stage are identified, addressed and mutually agreed with the customer;
f) All verbal orders given by the customer are confirmed to verify that their requirements are well understood;
g) Actions required as a result of review findings are taken by responsible personnel;
h) Requirements stated by the customer, including the requirements for delivery and post-delivery activities.

This review shall be coordinated with the applicable functions of **Stahl Specialty**.

Records of contract reviews will be maintained.

If upon review the organization determines that some customer requirements cannot be met or can only partially met, the organization shall negotiate a mutually acceptable requirement with the customer. Customer requirements shall be confirmed by Stahl Specialty before acceptance, when the customer does not provide a documented statement of their requirements.

Amendments to contracts will be reviewed and distributed to effected departments using the same contract review procedures as for new contracts. The distribution of contract amendments will be conducted in a matter of days, not weeks.

Stahl Specialty Company shall investigate, confirm and document the manufacturing feasibility of the proposed products in the contract review process, including risk analysis.

Stahl Specialty shall retain documented evidence of a customer-authorized waiver for the requirements stated in section 8.2.3.1

Stahl Specialty shall conform to customer requirements for designation, approval documentation, and control of special characteristics.

8.2.4 Changes to Requirements for Products and Services

Stahl Specialty Company shall ensure that relevant documented information is amended, and that relevant persons are made aware of the changed requirements, when the requirements for products and services are changed.

8.3 Design and Development of Products and services (Exclusion)

Stahl Specialty Company does not take exception to design of the manufacturing process and shows competency and appropriate capability through flow, control plans, fmea, job instructions, work instructions and specifications.

8.4 Control of Externally Provided Processes, Products, and Services

8.4.1 General

Purchasing Process: Purchasing shall be controlled to ensure that purchased products conform to all requirements as specified by Stahl Specialty Company or the Customer. Stahl Specialty Company shall evaluate, select and re-evaluate suppliers based on criteria and records shall be maintained.

Statutory and Regulatory Conformity: Stahl Specialty Company shall ensure all purchased products conform to statutory and regulatory requirements.

Supplier Quality Management System Development: Stahl Specialty Company will utilize subcontractor performance data to plan and execute subcontractor development. Such development may include, self surveys based upon ISO/IATF 16949:2015 AND AS9100D requirements, on site visits to solve problems or promote cooperation between the subcontractor and Stahl Specialty Company, corrective action initiatives and/or joint training programs.

Customer-Approved Sources: Where approved subcontractors are defined and required by the customer, Stahl Specialty Company will use the designated subcontractors. Responsibility for ensuring quality of purchased product bought from a customer approved source lies with Stahl Specialty Company.

Stahl Specialty Company shall ensure that externally provided processes, products, and services conform to requirement.

Stahl Specialty Company shall be responsible for the conformity of all externally provided processes, products, and services, including from sources defined by the customer.

Stahl Specialty Company shall ensure when required, that customer-designated or approved external providers, including process sources are used.

Stahl Specialty Company shall identify and manage the risks associated with the external provision of the processes, products, and services, as well as the selection and use of external providers.

Stahl Specialty Company shall require that external providers apply appropriate controls to their direct and sub-tier external providers, to ensure that requirements are met.

Stahl Specialty Company shall determine the controls to be applied to externally provided processes, products, and services when;

a) Products and services from external providers are intended for incorporation into our own products and services;
b) Products and services are provided directly to the customer(s) by external providers on behalf of the Stahl;
c) A process, or part of a process, is provided by an external provider as a result of a decision by Stahl.

Stahl Specialty Company shall determine and apply criteria for the evaluation, selection, monitoring of performances and reevaluation of external providers, based on their ability to provide processes or products and services in accordance with requirements. Stahl shall retain documented information of these activities and any necessary actions arising from the evaluation.

8.4.1.1 Stahl Specialty Company shall;

a) Define process, responsibility, and authority for the approval status decision, changes to the approval status, and condition for a controlled use of external providers depending on their approval status
b) Maintain a register of external providers that includes approval status, (e.g., approved, conditional, disapproved) and the scope of the approval (e.g., product type, process family);
c) Periodically review external provider performance including process, product and service conformity, and on-time delivery performance;
d) Define the necessary actions to take when dealing with external providers that do not meet requirements;
e) Define the requirements for controlling documented information created by and/or retained by external providers.

Stahl Specialty Company shall all include product that affects customer requirements such as sub-assembly, sequencing, sorting, rework, and calibration services in the scope of their definition of externally provided product.

8.4.1.2 Stahl Specialty Company shall have a documented supplier selection process. The selection process shall include:

a) An assessment of the selected supplier's risk to product conformity and uninterrupted supply of the Stahl Specialty's product to their customer;
b) Relevant quality and delivery performance;
c) An evaluation of the supplier's quality management system; and
d) Multidisciplinary decision making;

8.4.1.3 When specified by the customer, **Stahl Specialty** shall purchase products, materials, or services from customer-directed sources.

8.4.2 Type and Extent of Control

Stahl Specialty Company shall ensure that externally provided processes, products, and services do not adversely affect our ability to consistently deliver conforming products and services to our customers. We shall:

a) Ensure that externally provided processes remain within the control of its quality management system;
b) Define both the controls that it intends to apply to an external provider and those we intend to apply to the resulting output;
c) Take into consideration:
    1. The potential impact of the externally provided processes, products, and services on our ability to consistently meet customer and applicable statutory and regulatory requirements;
    2. The effectiveness of the controls applied by the external provider;
    3. The results of periodic review of external provider performance.
    4. Determine the verification, or other activities, necessary to ensure that the externally provided products, processes, or services meet requirements.

Verification activities of externally provided processes, products, and services shall be performed according to the risks identified by Stahl Specialty Company. These shall include inspection or periodic testing, as applicable, when there is a high risk of nonconformities including counterfeit parts.

When externally provided 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 it is subsequently found that the product does not meet requirements

When **Stahl Specialty Company** delegates verification activities to the external provider, the scope and the requirements for delegation shall be defined and a register of delegations shall be maintained. We shall periodically monitor the external provider's delegated verification activities.

When external provider test reports are utilized to verify externally provided products, **Stahl Specialty Company** shall implement a process to evaluate the data in the test reports to confirm that the product meets requirements. When a customer or

organization has identified raw material as a significant operational risk (e.g., critical items), **Stahl Specialty** shall implement a process to validate the accuracy of test reports.

Stahl Specialty shall have a documented process to identify outsourced processes and to select the types and extent of controls used to verify conformity of externally provided products, processes, and services to internal (organizational) and external customer requirements.

The process will include the criteria and actions to escalate or reduce the types and extent of control and development activities based on supplier performance and assessment of product, material, or service risks.

8.4.3 Information for External Providers

Stahl Specialty Company shall ensure the adequacy of requirements prior to their communication to the external provider. We shall do so by communicating to external providers its requirements for:

a) The process, products, and services to be provided including the identification of relevant technical data (e.g., specifications, drawings, process requirements, work instructions);
b) The approval of:
    1. Products and services;
    2. Methods, processes, and equipment;
    3. The release of products and services;
c) Competence, including any required qualification of persons;
d) The external providers' interaction with the organization;
e) Control and monitoring of the external providers' performance to be reviewed and applied by **Stahl Specialty Company**;
f) Verification activities that the organization, or its customer, intends to perform at the external providers' premises;
g) Special requirements, critical items, or key characteristics;
h) Test, inspection, and verification (including production process verification);
i) The use of statistical techniques for product acceptance and related instructions for acceptance by the organization;
j) The need to:

- Implement a quality management system;
- Use customer-designated or approved external providers, including process sources (e.., special processes);
- Notify Stahl of changes to processes, products, or services, including changes of their external providers or location of manufacture, and obtain the organization's approval;
- Flow down to external providers applicable requirements including customer requirements;
- Provide test specimens for design approval, inspection/verification, investigation, or auditing;
- Retain documented information, including retention periods and disposition requirements.

k) The right of access by Stahl Specialty, our customer, and regulatory authorities to the applicable areas facilities and to applicable documented information, at any level of the supply chain;

l) Ensuring that persons are aware of:

- Their contribution to product or service conformity;
- Their contribution to product safety;
- The importance of ethical behavior.

Stahl Specialty will pass down all applicable statutory and regulatory requirements and special process characteristics to our suppliers and require the suppliers to cascade all applicable requirements down the supply chain to the point of manufacture.

8.5 Production and Service Provision

8.5.1 Control of Production and Service Provision

Stahl Specialty Company shall implement production under controlled conditions. Controlled conditions shall include, as applicable;

a) The availability of documented information that defines;

1. The characteristics of the product to be produced or the activities to be performed;
2. The results to be achieved, (e.g., drawings, materials, process specifications, process flow charts, control plans, production documents and verification documents).

b) The availability and use of suitable monitoring and measuring resources;

c) The implementation of monitoring and measuring activities at appropriate stages to verify control of processes or outputs and acceptance criteria for products and services, have been met;

A. Ensuring the documented information for monitoring and measurement activity for product acceptance includes:

- Criteria for acceptance and rejection;
- Where in the sequence verification operations are to be performed;
- Measurement results to be retained (at a minimum an indication of acceptance or rejection)
- Any specific monitoring and measurement equipment required and instructions associate with their use;

B. Ensuring that when sampling is used as a means of product acceptance, the sampling plan is justified on the basis of recognized statistical principles and appropriate for use.

d) The use of suitable infrastructure and environment for the operation of processes; (infrastructure can include product specific tools such as jigs, fixtures, molds and software programs.)

e) The appointment of competent persons, including any required qualification;
f) The validation, and periodic revalidation, of the ability to achieve planned results of the processes for production and service provision, where the resulting output cannot be verified by subsequent monitoring or measurement.
g) The implementation of actions to prevent human error.
h) The implementation of releases, delivery, and post-delivery activities;
i) The establishment of criteria for workmanship (e.g., written standards, representative sample, illustrations);
j) The accountability for all products during production (e.g., parts quantities, split orders, nonconforming product);
k) The control and monitoring of identified critical items, including key characteristics, in accordance with established processes;
l) The determination of methods to measure variable data(e.g., tooling, on-machine probing, inspection equipment);
m) The identification of in-process inspection/verification points when adequate verification of conformity cannot be performed at later stages;
n) The availability of evidence that all production and inspection/verification operations have been completed as planned or as otherwise documented and authorized;
o) The provision for the prevention, detection, and removal of foreign objects;
p) The control and monitoring of utilities and supplies (e.g., water, compressed air, electricity, chemical products) to the extent they affect conformity to product requirement (see 7.1.3)
q) The identification and recording of products released for subsequent production use pending completion of all required measuring and monitoring activities, to allow recall and replacement if it is later to be found that the product does not meet requirements.

Stahl Specialty will develop control plans at the system, subsystem, component, and/or material level for the relevant manufacturing site and all product supplied, including those for processes producing bulk materials as well as parts. Family control plans are acceptable for bulk material and similar parts using a common manufacturing process.

Stahl Specialty will have a control plan for pre-launch and production that shows linkage and incorporates information from the design risk analysis (if provided by the customer), process flow diagram, and manufacturing process risk analysis outputs (such as FMEA).

Stahl Specialty will ensure that standardized work instructions are:

a) Communicated to and understood by all employees who are responsible for performing the work;
b) Legible;
c) Presented in the language(s) understood by the personnel responsible to follow them;
d) Accessible for use at the designated work area(s)

Any applicable rules for operator safety will be included.

Stahl Specialty shall:

a) Verify job set-ups when performed, such as an initial run of a job, material changeover, or job change that requires a new set-up
b) Maintain documented information for set-up personnel;
c) Use statistical methods of verification, where applicable;
d) Perform first-off/last-off part validation, as applicable;
e) Retain records of process and product approval following set-up and first-off/last-off part validations.

Stahl Specialty shall define and implement the necessary actions to ensure product compliance with requirements after a planned or unplanned production shutdown period.

8.5.1.1 Control of Equipment, Tools, and Software Programs

Equipment tools, and software programs used to automate, control, monitor, or measure production processes shall be validated prior to final release of production and shall be maintained.

Storage requirements shall be defined for production equipment or tooling in storage including any necessary periodic preservation or condition checks.

Stahl Specialty will develop, implement, and maintain a documented total productive maintenance system.

The system will include:

a) Identification of process equipment necessary to produce conforming product at the required volume;
b) Availability of replacement parts for the equipment identified in item a);
c) Provision of resource for machine, equipment, tooling, and gauging
d) Packaging and preservation of equipment, tooling, and gauging;
e) Applicable customer-specific requirements;
f) Documented maintenance objectives;
g) Regular review of maintenance plan and objectives and a documented action plan to address corrective actions when objectives are not achieved;
h) Use of preventive maintenance methods;
i) Use of predictive maintenance methods, as applicable;
j) Periodic overhaul.

Stahl Specialty will establish and implement a system for production tooling management, whether owner by Stahl Specialty or the customer, including:

a) Maintenance and repair facilities and personnel;
b) Storage and recovery;
c) Set-up
d) Tool-change programs for perishable tools;

e) Tool design modification documentation, including engineering change level of the product;
f) Tool modification and revision to documentation;
g) Tool identification, such as serial or asset number; the status, such as production, repair or disposal; ownership; and location.

Stahl Specialty will verify that customer-owned tools, manufacturing equipment, and test/inspection equipment are permanently marked in a visible location so that the ownership and application of each item can be determined.

If any work is ever outsourced, Stahl Specialty will implement a system to monitor these activities.

8.5.1.2 Validation and Control of Special Processes

For processes where the resulting output cannot be verified by subsequent monitoring or measurement, **Stahl Specialty Company** shall establish arrangements for these processes including, as applicable;

a) Definition of criteria for the review and approval of the processes;
b) Determination of conditions to maintain the approval;
c) Approval of facilities and equipment;
d) Qualification of persons;
e) Use of specific methods and procedures for implementation and monitoring the processes;
f) Requirements for documented information to be retained.

Stahl Specialty will ensure that production is scheduled in order to meet customer orders/demands such as Just-In-Time (JIT) and is supported by an information system that permits access to production information at key stages of the process and is order driven.

Stahl Specialty will include relevant planning information during production scheduling (e.g., customer orders, supplier on-time delivery performance, capacity, shared loading (multi-part station), lead time, inventory level, preventive maintenance, and calibration)

8.5.1.3 Product Process Verification

Stahl Specialty Company shall implement production process verification activities to ensure the production process is able to produce products that meet requirements. These activities can include risk assessments, capacity studies, and control plans.

Stahl Specialty Company shall use a representative item from the first production of a new part or assembly to verify that the production processes, production documentation, and tooling are able to produce parts and assemblies that meet requirements. This activity shall be repeated when changes occur that invalidate the original results (e.g., engineering changes, production process changes, tooling changes. This can be referred to as a FAI).

Stahl Specialty Company shall retain documented information on the results of production process verification.

8.5.2 Identification and Traceability

Stahl Specialty Company shall use suitable means to identify outputs when it is necessary to ensure the conformity of products and services.

Stahl Specialty Company shall maintain the identification and the configuration of the products and services in order to identify any differences between the actual configuration and the required configuration.

Stahl Specialty Company shall identify the status of outputs with respect to monitoring and measurement requirements throughout the production and service provision.

When acceptance authority media are used (e.g., stamps, electronic signatures, passwords), **Stahl Specialty Company** shall establish controls for the media.

Stahl Specialty Company shall control the unique identification of outputs when traceability is a requirement, and shall retain the documented information necessary to enable traceability. This can include the identification to be maintained throughout the product life, the ability to trace all products manufactured from the same batch of raw material, or from the same manufacturing batch, to the destination, for assembly, the ability to trace its components to assembly and then to the next higher assembly, for a product, sequential record of production to be retrievable.)

Stahl Specialty will conduct an analysis of internal, customer, and regulatory traceability requirements for all automotive products, including developing and documenting traceability plans, based on the levels of risk or failure severity for employees, customers, and consumers. These plans will define the appropriate traceability systems, processes, and methods by product, process, and manufacturing location that:

a) Enable Stahl Specialty to identify nonconforming and/or suspect product;
b) Enable Stahl Specialty to segregate nonconforming and/or suspect product;
c) Ensure the ability to meet customer and/or regulatory response time requirements;
d) Ensure documented information is retained in the format that enables Stahl Specialty to meet the response time requirements;
e) Ensure serialized identification of individual products, if specified by the customer or regulatory standards;
f) Ensure the identification and traceability requirements are extended to externally provided products with safety/regulatory characteristics.

8.5.3 Property Belonging to Customers or External Providers.

Stahl Specialty Company shall exercise care with the property belonging to customers or external providers while it is under our control or being used by the organization.

Stahl Specialty Company shall identify, verify, protect and safeguard customers or external provider's property for use or incorporation into the products and services.

When the property of a customer or external provider is lost, damaged, or otherwise found to be unsuitable for use, we shall report this to the customer or external provider and retain documented information on what has occurred. This may include such things as materials, components, tools and equipment, premises, intellectual property, and personal data.

8.5.4 Preservation

Stahl Specialty Company shall preserve the outputs during production and service provision, to the extent necessary to ensure conformity to requirements. Preservation can include things such as identification, handling, contamination control, packaging, storage, transmission or transportation, and protection.

Preservation of outputs shall also include, when applicable in accordance with specifications and applicable statutory and regulatory requirements, provisions for;

a) Cleaning;
b) Identification;
c) Prevention, detection, and removal of foreign objects;
d) Special handling and storage of sensitive products;
e) Marking and labeling, including safety warnings and cautions;
f) Shelf life control and stock rotation;
g) Special handling and storage;
h) Contamination control;
i) Packaging;
j) Transmission or transportation;
k) Protection.

Preservation will apply to materials and components from external and/or internal providers from receipt through processing, including shipment and until delivery to/acceptance by customer.

Stahl Specialty will use an inventory management system to optimize inventory turns over time and ensure stock rotation, such as "first-in-first-out" (FIFO)

Stahl Specialty will ensure that obsolete product is controlled in a manner similar to that of nonconforming product.

Stahl Specialty will comply with preservation, packaging, shipping, and labeling requirements as provided by the customer.

8.5.5 Post-Delivery Activities

Stahl Specialty Company shall meet requirements for post-delivery activities associated with the products and services except where exclusion is taken for sections b, c, f, g, h, i.

In determining the extent of post-delivery activities that are required, the organization shall consider a limited scope:

a) Statutory and regulatory requirements;
b) **(Exclusion) –** Stahl has no control over product past its dock. Responsibility lies only in making a product to customer specification.
c) **(Exclusion) –** Stahl has no design authority, produces to customer specifications and has no role in life expectancy.
d) Customer requirements;
e) Customer feedback;
f) **(Exclusion) –** Stahl does not control testing of final product at customer
g) (**Exclusion) –** Stahl has no control over product past its dock.
h) **(Exclusion) –** Stahl is not a service organization
i) **(Exclusion) –** Product/customer support (e.g., queries, training, warranties, maintenance, replacement parts, resources, obsolescence);

When problems are detected after delivery, the organization shall take appropriate action including investigation and reporting on the product made to customer specification.

8.5.6 Control of Changes

Stahl Specialty shall have a documented process to control and react to changes that impact product realization. The effect of any change, including those changes caused by Stahl Specialty, the customer, or any supplier, shall be assessed.

Stahl Specialty will:

a) Define verification and validation activities to ensure compliance with customer requirements;
b) Validate changes before implementation;
c) Document the evidence of related risk analysis;
d) Retain records of verification and validation.

When required by customer, Stahl Specialty shall:

e) Notify the customer of any planned product realization changes after the most recent product approval;
f) Obtain documented approval, prior to implementation of the change;
g) Complete additional verification or identification requirements, such as production trial run and new product validation.

Stahl Specialty Company shall review and control changes for production provision, to the extent necessary to ensure continuing conformity with requirements. Persons

authorized to approve production or service changes shall be identified. Production changes can include the changes affecting processes, production, equipment, tools, or software programs.

Stahl Specialty Company shall retain documented information describing the results of the review of changes, the person(s) authorizing the change, and any necessary actions arising from the review.

Stahl Specialty shall obtain approval from customer before shipping product that was inspected or tested using an alternate method. Stahl Specialty will maintain and periodically review a list of approved alternate process control methods that are referenced in the Control Plan.

Stahl Specialty shall implement traceability of all product produced while any alternate process control devices or processes are being used, if applicable.

8.6 Release of Products and Services

Stahl Specialty Company shall implement planned arrangements, at appropriate stages, to verify that the product and service requirements have been met.

Stahl Specialty will ensure that the planned arrangements to verify that product requirements have been met encompass the control plan and are documented as specified in the control plan.

Stahl Specialty will ensure that the planned arrangements for initial release of product encompass product approval.

The release of products and services to the customer shall not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, as applicable, by the customer.

Stahl Specialty Company shall retain documented information on the release of product. The documented information shall include;

a) Evidence of conformity with the acceptance criteria;
b) Traceability to the person(s) authorizing the release;
c) layout/functional verification to applicable customer engineering material and performance standards as specified in the control plans.

When required to demonstrate product qualification, **Stahl Specialty Company** shall ensure that the retained documented information provides evidence that the products and services meet the defined requirements.

Stahl Specialty Company shall ensure that all documented information required to accompany the product and services are present at delivery.

8.6.1 **Appearance items**

For manufacturing parts designated by the customer as “appearance items”, **Stahl Specialty”** will provide:

A. Appropriate resources, including lighting, for evaluation;
B. Masters for colour, grain, gloss, metallic brilliance, texture, distinctness of image, and haptic technology, as appropriate;
C. Maintenance and control of appearance masters and evaluation equipment;
D. Verification that personnel making appearance evaluations are competent and qualified to do so.

8.6.2 **Verification and acceptance of conformity of externally provided products and services.**

Stahl Specialty will have a process to ensure the quality of externally provided processes, products, and services utilizing one or more of the following methods:

a) Receipt and evaluation of statistical data provided by the supplier to Stahl Specialty;
b) Receiving inspection and/or testing, such as sampling based on performance;
c) Second-party or third-party assessments or audits of supplier sites when coupled with records of acceptable delivered product conformance to requirements;
d) Part evaluation by a designated laboratory;
e) Another method agreed with the customer.

8.6.3 **Statutory and regulatory conformity**

Prior to release of externally provided products into its production flow, **Stahl Specialty** will confirm and be able to provided evidence that externally provided processes, products, and services conform to the latest applicable statutory, regulatory, and other requirements in the countries where they are manufactured and in the customer-identified countries or destination, if provided.

8.6.4 **Acceptance criteria**

Stahl Specialty will define acceptance criteria and, where appropriate or required, approved by the customer.

8.7 Control of Nonconforming Outputs

8.7.1 Stahl Specialty Company shall ensure that outputs that do not conform to their requirements are identified and controlled to prevent their unintended use or delivery. The term “nonconforming outputs” includes nonconforming product generated internally, received from an external provider, or identified by a customer.

Stahl Specialty Company shall take appropriate action based on the nature of the nonconformity and its effect on the conformity of customer products.

Stahl Specialty shall immediately notify the customer(s) in the vent that nonconforming product has been shipped. Initial communication shall be followed with detailed documentation of the event.

Stahl Specialty Company's nonconformity control process shall be maintained as documented information that includes;

a) Defining the responsibility and authority for the review and disposition of nonconforming outputs and the process for approving persons making these decisions;
b) Taking actions necessary to contain the effect of nonconformity on other processes, products, or services;
c) Timely reporting of nonconformities affecting delivered products and services to the customer and to relevant interested parties;
d) Defining corrective actions for nonconforming products and services detected after delivery, as appropriate to their impacts (see 10.2)
e) Disposition of nonconforming product not subject to rework.

Stahl Specialty Company shall deal with nonconforming outputs in one or more of the following ways;

a) Correction;
b) Segregation, containment, return, or suspension of provision of products and services;
c) Informing the customer;
d) Obtaining authorization for acceptance under concession by a relevant authority and, when applicable, by the customer.

Product dispositioned for scrap shall be conspicuously and permanently marked, or positively controlled, until physically rendered unusable prior to disposal.

Counterfeit, or suspect counterfeit, parts shall be controlled to prevent reentry into the supply chain.

Conformity to the requirements shall be verified when nonconforming outputs are correct.

Stahl Specialty will comply with customer-specified controls for nonconforming product, if applicable.

Stahl Specialty will ensure that product with unidentified or suspect status are classified and controlled as nonconforming product. Appropriate manufacturing personnel will receive training for containment of suspect and nonconforming product.

8.7.1.1 Customer authorization for concession

Stahl Specialty will obtain a customer concession or deviation permit prior to further processing whenever the product or manufacturing process is difference from that which is currently approved.

Stahl Specialty will obtain customer authorization prior to further processing for “use as is” and rework dispositions of nonconforming product. If sub-components are reused in the manufacturing process, that sub-component reuse shall be clearly communicated to the customer in the concession or deviation permit.
Stahl Specialty will maintain a record of the expieration date or quantity authorized under concession. **Stahl Specialty** will also ensure compliance with the original or superseding specifications and requirement when the authorization expires. **Stahl Specialty** will ensure that material shipped under concession will be properly identified on each container. **Stahl Specialty** will approve any request from supplier before submission to the customer.

8.7.1.2 **Control of rerked product**

Stahl Specialty will utilize risk analysis (such as FMEA) methodology to assess risks in the rework process prior to a decision to rework the product. If required by the customer, **Stahl Specialty** will obtain approval from the customer prior to commencing rework of the product.

Stahl Specialty has a documented process for rework confirmation in accordance with the control plan or other relevant documented information to verify compliance to original specifications.

Stahl Specialty shall implement re-inspection and traceability requirements when performing rework.

Stahl Specialty shall retain documented information on the disposition of reworked product including quantity, disposition, disposition date, and applicable traceability information.

8.7.1.5 Control of Repaired Product

Stahl Specialty does not do repair processes in plant.

8.7.2 Stahl Specialty Company shall retain documented information that;

a) Describes the nonconformity;
b) Describes the actions taken;
c) Describes the concessions obtained;
d) Identifies the authority deciding the action in respect of the nonconformity.

9. PERFORMANCE EVALUATION

9.1 Monitoring, Measurement, Analysis, and Evaluation

9.1.1 General

Stahl Specialty Company shall determine;

a) What needs to be monitored and measured;
b) The methods for monitoring, measuring, analysis, and evaluation needed to ensure valid results;
c) When the monitoring and measuring shall be performed;
d) When the results from monitoring and measurement shall be analyzed and evaluated;

Stahl Specialty Company shall evaluate the performance and the effectiveness of the quality management system and retain appropriate documented information as evidence of the results.

Stahl Specialty will perform process studies on all new manufacturing (including assembly or sequencing) processes to verify process capability and to provide additional input for process control, including those for special characteristics.

Stahl Specialty will maintain manufacturing process capability or performance results as specified by the customer's part approval process requirements. **Stahl Specialty** will verify that the process follow diagram, PFMEA, and control plan are implemented, including adherence to the following:

a) Measurement techniques;
b) Sampling plans;
c) Acceptance criteria;
d) Records of actual measurement values and/or test results for variable data;
e) Reaction plans and escalation process when acceptance criteria are not met.

Significant process events, such as tool change or machine repair, shall be recorded and retained as documented information.

Stahl Specialty will initiate a reaction plan indicated on the control plan and evaluated for impact on compliance to specifications for characteristics that are either not statistically capable or are unstable. Reaction plans shall include containment of product and 100 percent inspection, as appropriate. A corrective action plan shall be developed and implemented by Stahl Specialty indicating specific actions, timing, and assigned responsibilities to ensure that the process becomes stable and statistically capable.

Stahl Specialty will maintain records of effective dates of process changes.

9.1.1.2 identification of statistical tools

Stahl Specialty will determine the appropriate use of statistical tools. **Stahl Specialty** will verify that appropriate statistical tools are included as part of the advance product quality planning process, the process risk analysis (such as FMEA), and the control plan.

9.1.1.3 **Application of statistical concepts**

Statistical concepts, such as variation, control (stability), process capability, and the consequences of over-adjustment, will be understood and used by employees in the collection, analysis, and management of statistical data.

9.1.2 Customer Satisfaction

Stahl Specialty Company shall monitor customer satisfaction of the degree to which their needs and expectations have been fulfilled as well as the methods for obtaining, monitoring, and reviewing this information.

Examples of monitoring customer perceptions can but not limited to include customer surveys, internal and external performance indicators, customer feedback on delivered products and services, meetings with customers, market-share analysis, compliments, warranty claims, and dealer reports.

Information to be monitored and used for the evaluation of customer satisfaction shall include, but not limited to, delivered part quality conformance, on-time delivery performance, field returns, customer complaints/disruptions, corrective actions requests, and customer notifications related to quality or delivery issues, including special status. **Stahl Specialty Company** shall develop and implement plans for customer satisfaction improvements that address deficiencies identified by these evaluations, and assess the effectiveness of the results.

Stahl Specialty will monitor the performance of manufacturing processes to demonstrate compliance with customer requirements for product quality and process efficiency. The monitoring shall include the review of customer performance data including online customer portals and customer scorecards, when provided.

9.1.3 Analysis and Evaluation

Stahl Specialty Company shall analyze and evaluate appropriate data and information arising from monitoring and measurement. (This can include information on product and service problems reported by external sources (e.g., government/industry alerts, advisors).

The results of analysis shall be used to evaluate;

a) Conformity of products and services;
b) The degree of customer satisfaction;
c) The performance and effectiveness of the quality managements system;
d) If planning has been implemented effectively;
e) The effectiveness of actions taken to address risks and opportunities;
f) The performance of external providers;
g) The need for improvements to the quality management system; (Methods to analyze data can include statistical techniques).

Trends in quality and operational performance shall be compared with progress toward objectives and lead to support prioritization of actions for improving customer satisfaction.

9.2 Internal Audit

Stahl Specialty will have a documented internal audit process. The process will include the development and implementation of an internal audit programme that covers the entire quality management system including quality management system audits, manufacturing process audits, and product audits.

9.2.1 Stahl Specialty Company shall conduct internal audits at planned intervals to provide information on whether the quality management system;

a) Conforms to **Stahl Specialty Company** own requirements for its quality management system;
b) The requirements of applicable international standards such as ISO 9001, IATF16949, or AS9100;
c) Is effectively implemented and maintained;
e) Conforms to applicable customer requirements;
f) Conforms to applicable statutory or regulatory requirements;

Audits will take into consideration performance indicators to determine if the quality management system is effectively implemented and maintained.

9.2.2 **Stahl Specialty Company** shall;

a) Plan, establish, implement, and maintain an audit program(s) including the frequency, methods, responsibilities, planning requirements, and reporting which shall take into consideration the importance of the processes concerned, changes affecting the organization, and the results of previous audits
b) Define the audit criteria and scope for each audit;
c) Select auditors and conduct audits to ensure objectivity and impartiality of the audit process;
d) Ensure that the results of the audits are reported to relevant management;
e) Take appropriate correction and corrective actions without undue delay;
f) Retain documented information as evidence of implementation of the audit program and the audit results

The audit programme shall be prioritized based upon risk, internal and external performance trends, and criticality of the process(es).

The frequency of audits will be reviewed and, where appropriate, adjusted based on occurrence of process changes, internal and external nonconformities, and/or customer complaints. The effectiveness of the audit programme shall be reviewed as part of management review.

9.2.2.3 Quality Management System Audit

Stahl Specialty has a dedicated internal audit with responsibility of auditing each quality management system process at a minimum, over each three-year calendar period. Customer-specific quality management system requires will be sampled for effective implementation.

9.2.2.4 **Manufacturing Process Audit**

The **Stahl Specialty** Internal Auditor will audit all manufacturing processes over each three-year calendar period to determine their effectiveness and efficiency using customer-specific required approaches for process audits. Where not defined by the customer, **Stahl Specialty** will sample customer-specific quality management system requirements for effective implementation.

9.2.2.5 **Product audit**

The **Stahl Specialty** internal auditor will audit products using customer-specific required approaches at appropriate stages of production and delivery to verify conformity to specified requirements. Where not defined by the customer, **Stahl Specialty** will define the approach to be used.

9.3 Management Review

9.3.1 General

Top management of Stahl Specialty Company shall review our quality management system, at planned intervals, to ensure its continuing suitability, adequacy, effectiveness, and alignment with the strategic direction of the organization. This review will take place at a minimum of annually, however, the frequency shall be increased based on risk to compliance with customer requirements resulting from internal or external changes impacting the quality management system.

9.3.2 Management Review Inputs

The management review shall be planned and carried out taking into consideration;

a) The status of actions from previous management reviews;
b) Changes in external and internal issues that are relevant to the quality management system;
c) Information on the performance, effectiveness, and efficiency of the quality management system, including trends in:
    1) Customer satisfaction and feedback from relevant interested parties;
    2) The extent to which quality objectives have been met;
    3) Process performance and conformity of products and services;
    4) Nonconformities and corrective actions;
    5) Monitoring and measurement results;
    6) Audit results;
    7) The performance of external providers;
    8) On-Time delivery performance;

d) The adequacy of resources
e) The effectiveness of actions taken to address risks and opportunities
f) Opportunities for improvement.
g) Cost of poor quality (cost of internal and external nonconformance);
h) Product conformance;

i) Assessments of manufacturing feasibility made for changes to existing operations and for new facilities or new product;
k) Customer satisfaction;
l) Review of performance against maintenance objectives;
m) Review of customer scorecards (where applicable);
n) Identification of potential field failures identified through risk analysis (such as FMEA);
o) Actual field failures and their impact on safety or the environment.

9.3.3 Management Review Outputs

The outputs of management review shall include decisions and actions related to:

a) Opportunities for improvement;
b) Any need for changes to the quality management system;
c) Resources needs;
d) Risks identified.
e) Customer performance targets that are not met.

Stahl Specialty Company shall retain documented information as evidence of the results of the management reviews.

10. IMPROVEMENT

10.1 General

Stahl Specialty Company shall determine and select opportunities for improvement and implement any necessary actions to meet customer requirements and enhance customer satisfaction.

These shall include:

a) Improving products and services to meet requirements as well as to address future needs and expectations;
b) Correcting, preventing, or reducing undesired effects;
c) Improving the performance and effectiveness of the quality management system;

NOTE: Improvements can include correction, corrective action, continual improvement, breakthrough change, innovation, and re-organization.

10.2 Nonconformity and Corrective Action

10.2.1 When nonconformity occurs, including any arising from complaints**, Stahl Specialty** shall:

a) React to the nonconformity and as acceptable:
   1) Take action to control and correct it:
   2) Deal with the consequences;

b) Evaluate the need for action to eliminate the cause(s) of the nonconformity, in order that it does not recur or occur elsewhere by:
   1) Reviewing and analyzing the nonconformity;

2) Determining the causes of the nonconformity, including, as applicable, those related to human factors;
3) Determining if similar nonconformities exist, or could potentially occur;

c) Implement any action needed;
d) Review the effectiveness of any corrective action taken;
e) Update risks and opportunities determined during the planning, if necessary;
f) Make changes to the quality management system, if necessary;
g) Flow down corrective action requirements to an external provider when it is determined that the external provider is responsible for the nonconformity.
h) Take specific actions when timely and effective corrective actions are not achieved.

Corrective actions shall be appropriate to the effects of the nonconformities encountered.

Stahl Specialty will maintain documented information that defines the nonconformity and corrective action management processes.

10.2.2 **Stahl Specialty** will retain documented information as evidence of:

a) The nature of the nonconformities and any subsequent actions taken;
b) The results of any corrective action.

10.2.3 **Problem Solving**

Stahl Specialty will have a documented process for problem solving including:

a) Defined approaches for various types and scale of problems;
b) Containment, interim actions, and related activities necessary for control of nonconforming outputs;
c) Root cause analysis, methodology used, analysis, and results;
d) Implementation of systemic corrective actions, including consideration of the impact on similar processes and products;
e) Verification of the effectiveness of implemented corrective actions;
f) Reviewing and, where necessary, updating the appropriate documented information.

Where the customer has specific prescribed processes, tools, or systems for problem solving, **Stahl Specialty** will use those processes, tools, or systems unless otherwise approved by the customer.

10.2.4 **Error-proofing**

Stahl Specialty will have a documented process to determine the use of appropriate error-proofing methodologies. Details of the method used shall be

documented in the process risk analysis (Such as PFMEA) and test frequencies shall be documented in the control plan.

The process shall include the testing of error-proofing devices for failure or simulated failure. Records shall be maintained. Challenge parts, when used, will be identified, controlled, verified, and calibrated when feasible. Error-proofing device failures will have a reaction plan.

10.2.5 Customer complaints and field failure test analysis

Stahl Specialty will perform analysis on customer complaints and field failures, including any returned parts, and shall initiate problem solving and corrective action to prevent recurrence.

Stahl Specialty will communicate the results of testing/analysis as well as any applicable corrective action to the customer and also within our own organization.

10.3 Continual Improvement

Stahl Specialty will have a documented process for continual improvement. This process will include:

a) Identification of the methodology used, objectives, measurement, effectiveness, and documented information;
b) A manufacturing process improvement action plan with emphasis on the reduction of process variation and waste
c) Risk analysis (such as FMEA)

Stahl Specialty will continually improve the suitability, adequacy, and effectiveness of the quality management system.

Stahl Specialty will consider the results of analysis and evaluation, and the outputs from management review, to determine if there are needs or opportunities that shall be addressed as part of continual improvement.

Stahl Specialty will monitor the implementation of improvement activities and evaluate the effectiveness of the results.