



Business Operation System

ISO/TS 16949:2009(E) ISO 9001:2008

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Held by: TS Management Representative

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TABLE OF CONTENTS

0	Table of Contents	Page 2 of 55
1	Introduction	Page 6 of 55
2	Scope and application	Page 6 of 55
3	References, terms and definitions	
	Vision, Core Values, Mission Statement, Stakeholders needs and expectations.	Page 7 of 55
4	Quality management system	Page 11 of 55
4.1	General requirements	Page 11 of 55
4.1.1	General requirements - Supplemental	Page 11 of 55
	Figure – 1 Relationship Among Types of ISO/TS 16949:2009(E) Key Process Table (Figure 2) Processes	Page 13 of 55
	Figure. 2 - Process Flow Diagram Relationship among types of ISO/TS 16949:2009E Processes	Page 14 of 55
	Table. 1 - Verification of Hope Global sub processes versus ISO/TS 16949:2009 requirements	Page 15 of 55
	Process Maps (Refer Hope Global Intranet site)	
4.2	Documentation requirements	Page 17 of 55
4.2.1	General	Page 17 of 55
4.2.2	Quality manual	Page 17 of 55
4.2.3	Control of documents and engineering specifications	Page 18 of 55
4.2.3.1	Control of documents and engineering specifications	Page 18 of 55
4.2.4	Control and retention of records	Page 18 of 55
4.2.4.1	Control and retention of records	Page 18 of 55
5	Management responsibility	Page 18 of 55
5.1	Management commitment - process efficiency	Page 18 of 55
5.1.1	Management commitment - process efficiency	Page 18 of 55
5.2	Customer focus	Page 19 of 55
5.3	Quality policy	Page 20 of 55
5.4	Planning	Page 21 of 55
5.4.1	Quality objectives	Page 21 of 55
5.4.1.1	Quality objectives	Page 21 of 55
5.4.2	Quality management system planning	Page 21 of 55
5.4.2.1	Management Review	Page 21 of 55
5.4.2.2	Executive Project Committee Meetings	Page 22 of 55
5.4.2.3	Monthly and Weekly executive meetings	Page 22 of 55
5.5	Responsibility, authority and communication	Page 22 of 55
5.5.1	Responsibility and authority	Page 22 of 55
	Organizational Chart – Hope Global	Page 23 of 55
5.5.1.1	Responsibility for quality	Page 24 of 55
5.5.2	TS Management Representative	Page 25 of 55
5.5.2.1	Customer representative	Page 25 of 55
5.5.3	Internal communication	Page 26 of 55

5.6	Management review	Page 26 of 55
5.6.1	General - quality management system performance	Page 26 of 55
5.6.1.1	General - quality management system performance	Page 26 of 55
5.6.2	Review input	Page 26 of 55
5.6.2.1	Review input	Page 26 of 55
5.6.3	Review output	Page 27 of 55
6	Resource management	Page 28 of 55
6.1	Provision of resources	Page 28 of 55
6.2	Human resources	Page 28 of 55
6.2.1	General	Page 28 of 55
6.2.2	Competence, awareness and training	Page 28 of 55
6.2.2.1	Product design skills	Page 28 of 55
6.2.2.2	Training	Page 28 of 55
6.2.2.3	Training on the job	Page 29 of 55
6.2.2.4	Employee motivation and empowerment	Page 29 of 55
6.3	Infrastructure	Page 29 of 55
6.3.1	Operations , facility and equipment planning	Page 29 of 55
6.3.2	Contingency plans	Page 30 of 55
6.4	Work environment	Page 30 of 55
6.4.1	Personnel safety to achieve product quality	Page 30 of 55
6.4.2	Cleanliness of premises	Page 30 of 55
7	Product realization	Page 30 of 55
7.1	Planning of product realization	Page 30 of 55
7.1.1	Planning of product realization	Page 31 of 55
7.1.2	Acceptance criteria	Page 31 of 55
7.1.3	Confidentiality	Page 31 of 55
7.1.4	Change control	Page 31 of 55
7.2	Customer-related processes	Page 31 of 55
7.2.1	Determination of requirements related to the product and service	Page 31 of 55
7.2.1.1	Customer-designated special characteristics	Page 32 of 55
7.2.2	Review of requirements related to the product, manufacturing feasibility	Page 32 of 55
7.2.2.1	Review of requirements related to the product, manufacturing feasibility	Page 32 of 55
7.2.2.2	Review of requirements related to the product, manufacturing feasibility	Page 32 of 55
7.2.3	Customer communication	Page 32 of 55
7.2.3.1	Customer communication	Page 32 of 55
7.3	Design and development	Page 33 of 55
7.3.1	Design and development planning	Page 33 of 55
7.3.1.1	Multidisciplinary approach	Page 33 of 55
7.3.2	Design and development input	Page 33 of 55
7.3.2.1	Product design input	Page 33 of 55
7.3.2.2	Manufacturing Process Design input	Page 33 of 55
7.3.2.3	Special characteristics	Page 34 of 55
7.3.3	Design and development output	Page 34 of 55

7.3.3.1	Product design output	Page 34 of 55
7.3.3.2	Manufacturing Process Design output	Page 34 of 55
7.3.4	Design and development review	Page 34 of 55
7.3.4.1	Design and development review, monitoring	Page 34 of 55
7.3.5	Design and development verification	Page 35 of 55
7.3.6	Design and development validation	Page 35 of 55
7.3.6.1	Design and development validation	Page 35 of 55
7.3.6.2	Prototype program	Page 35 of 55
7.3.6.3	Product approval process	Page 35 of 55
7.3.7	Control of design and development changes	Page 35 of 55
7.4	Purchasing	Page 36 of 55
7.4.1	Purchasing process	Page 36 of 55
7.4.1.1	Regulatory conformity	Page 36 of 55
7.4.1.2	Supplier quality management system development	Page 36 of 55
7.4.1.3	Customer-approved sources	Page 36 of 55
7.4.2	Purchasing information	Page 37 of 55
7.4.3	Verification of purchased product and incoming product	Page 37 of 55
7.4.3.1	Verification of purchased product and incoming product	Page 37 of 55
7.4.5	Supplier monitoring	Page 37 of 55
7.5	Product and service provision	Page 38 of 55
7.5.1	Control of production and service provision	Page 38 of 55
7.5.1.2	Control plan	Page 38 of 55
7.5.1.3	Work instructions	Page 38 of 55
7.5.1.4	Verification of job set-ups	Page 39 of 55
7.5.1.5	Preventive and predictive maintenance	Page 39 of 55
7.5.1.6	Management of production tooling	Page 39 of 55
7.5.1.7	Production scheduling	Page 40 of 55
7.5.1.8	Feedback of information from service	Page 40 of 55
7.5.1.9	Service agreement with customer	Page 40 of 55
7.5.2	Validation of processes for production and service provision	Page 40 of 55
7.5.2.1	Validation of processes for production and service provision	Page 40 of 55
7.5.3	Identification and traceability	Page 40 of 55
7.5.3.1	Identification and traceability	Page 40 of 55
7.5.4	Customer property	Page 41 of 55
7.5.4.1	Customer-owned production tooling	Page 41 of 55
7.5.5	Preservation of product	Page 41 of 55
7.5.5.1	Storage and inventory	Page 41 of 55
7.6	Control of monitoring and measurement devices	Page 41 of 55
7.6.1	Measurement system analysis	Page 42 of 55
7.6.2	Calibration and verification records	Page 42 of 55
7.6.4	Laboratory requirements	Page 43 of 55
7.6.4.1	Internal laboratory	Page 43 of 55
7.6.4.2	External laboratory	Page 43 of 55

8	Measurement, analysis and improvement	Page 44 of 55
8.1	General	Page 44 of 55
8.1.1	Identification of statistical tools	Page 44 of 55
8.1.2	Knowledge of basic statistical concepts	Page 44 of 55
8.2	Monitoring and measurement	Page 44 of 55
8.2.1	Customer satisfaction	Page 44 of 55
8.2.1.1	Customer satisfaction	Page 44 of 55
8.2.2	Internal audit of the quality management system	Page 44 of 55
8.2.2.1	Internal audit of the quality management system	Page 44 of 55
8.2.2.2	Manufacturing process audit	Page 45 of 55
8.2.2.3	Product audit	Page 45 of 55
8.2.2.4	Internal audit plans	Page 45 of 55
8.2.2.5	Internal auditor qualification	Page 45 of 55
8.2.3	Monitoring and measurement of processes	Page 46 of 55
8.2.3.1	Monitoring and measurement of manufacturing processes	Page 46 of 55
8.2.4	Monitoring and measurement of product	Page 46 of 55
8.2.4.1	Layout inspection and functional testing	Page 47 of 55
8.2.4.2	Appearance items	Page 47 of 55
8.3	Control of nonconforming product and reworked product	Page 47 of 55
8.3.1	Control of nonconforming product and reworked product	Page 47 of 55
8.3.2	Control of nonconforming product and reworked product	Page 47 of 55
8.3.3	Control of nonconforming product and reworked product	Page 47 of 55
8.3.4	Customer waiver	Page 48 of 55
8.4	Analysis and use of data	Page 49 of 55
8.4.1	Analysis and use of data	Page 49 of 55
8.5	Improvement	Page 49 of 55
8.5.1	Continual improvement	Page 50 of 55
8.5.1.1	Continual improvement	Page 50 of 55
8.5.1.2	Manufacturing process improvement	Page 50 of 55
8.5.2	Corrective action	Page 50 of 55
8.5.2.1	Problem solving	Page 51 of 55
8.5.2.2	Error-proving	Page 51 of 55
8.5.2.3	Corrective action impact	Page 51 of 55
8.5.2.4	Rejected product test/analysis	Page 51 of 55
8.5.3	Preventive action	Page 51 of 55
9	Amendment Record	Page 53 of 55
10	Quality Manual Distribution List	Page 54 of 55
11	List of Quality System Procedures	Page 55 of 55

1. Introduction

The President or CEO is ultimately responsible for establishing, implementing and maintaining the quality system. Specific responsibilities comprise: formulating quality policy; defining the organizational structure; assigning authorities and responsibilities; appointing the TS management representative; periodically reviewing the quality system; and making available the resources and personnel necessary to maintain the system. The President or CEO also establishes and maintains a business plan, analyzes company-level performance data, measures customer satisfaction and co-approves the Quality Manual.

This quality manual describes the quality management system of Hope Global. Its purpose is:

- **for internal use**, to communicate to employees, the company's quality policy and quality objectives, to make them familiar with the method of compliance with **ISO/TS 16949:2009(E) and ISO 9001:2008** requirements, to facilitate the implementation and maintenance of the quality management system and to ensure its continuity and required updates during changing circumstances, to provide effective communication and control of quality related activities and a documented base for quality system audits.
- **for external use**, to inform Hope Global's customers and other interested external partners about Hope Global's quality policy, its implemented quality management system and measures of compliance with the requirements of **ISO/TS 16949:2009(E) and ISO 9001:2008**.

2. Scope and application

This quality management system described hereafter complies with all the requirements of ISO/TS 16949:2009(E) and ISO 9001:2008, is focused on the enhancement of customer satisfaction through continual improvement of processes and products, and demonstrates compliance with customer and regulatory requirements.

Exclusions: Hope Global excludes the Design from the scope, for Automotive Products. Hope Global does not perform design for Automotive Customers.

The scopes of the quality management system are:

For ISO/TS 16949: 2009(E)

The engineering and manufacture of woven, knitted and braided textiles and assemblies for automotive applications.

For ISO9001:2008

The design and manufacture of woven, knitted and braided textiles and assemblies for industrial applications.

VISION

Our Vision is to supply superior woven, knitted and braided textiles, trim components and assemblies worldwide. Become the best company to our customers, shareholders, employees and community. Living and modeling our core values will guide the company in accomplishing its goals.

CORE VALUES

Customer

Creating a product that meets their needs and expectations.

Integrity

Being open, honest and trustworthy when working with our shareholder, customers, employees and community.

Excellence

The never ending pursue of excellence
through continual improvement

Innovation

Staying technological advanced to provide our customer the best product

Reliability

To deliver product to our customer on time every time

Accountability

Company personnel are accountable for their behavior, actions and outcomes

Profitability

We earn sustainable financial results that enable profitable growth and superior shareholder value

MISSION STATEMENT

Hope Global will develop, market and manufacture engineered textile components for high potential commercial and industrial customers. We will grow by leveraging our capability to provide value added solutions and outstanding customer service through utilization of our broad range of textile technologies and capacities.

Quality Objectives

- 1. Sustain Profit to Shareholders**
- 2. New Business and Customer Diversity**
- 3. Grow Capabilities and Infrastructure**
- 4. Effective Operations Management**
- 5. Relentless Continual Improvement**

Stakeholder	Needs and Expectations	Metrics
Customer	<ul style="list-style-type: none"> • On-Time Delivery • Quality Product • Value 	<ul style="list-style-type: none"> • Performance to External Schedule • PPM • Continual Improvement • Employees
Company Owners	<ul style="list-style-type: none"> • Sustain Profits • Company growth 	<ul style="list-style-type: none"> • Performance to Profit Plan • Quotation Turnover • New Business/Customer Diversity
Employees	<ul style="list-style-type: none"> • Safe and clean work conditions • Training • Recognition 	<ul style="list-style-type: none"> • # of Injuries, 5S • Competency & Cross Training • Employee of the Month
Suppliers	<ul style="list-style-type: none"> • Good drawings and clear specifications • Reasonable lead time • Loyalty 	<ul style="list-style-type: none"> • PPM • On-Time Delivery • Sustain Business
Community	<ul style="list-style-type: none"> • Stimulate the economy in the community • Supplier Diversity 	<ul style="list-style-type: none"> • Employee Count • % of Diversity Supplier

Alignment Chart:

Stakeholder, Policy, Quality Objectives, Measurables, Goal and Responsibility

Stakeholder	Policy	Quality Objectives	Measurable	Responsibility for Action	Data Collection
Owners Customer Employees Community	Financial	1. Sustain profit to our shareholders 2. New Business and Customer Diversity 3. Grow Capabilities And Infrastructure	1. Performance to Profit Plan 2. Quotation Turnover 3. New Business and Customer Diversity	President VP of Sales/NBD VP of Sales/NBD	Controller VP of Sales/NBD VP of Sales/NBD
Owners Customer Employees Suppliers	Customer Satisfaction	Effective Operations Management	1. Performance to external schedule 2. Performance to Internal production schedule 3. Customer Complaints 4. Preventive Action 5. Production Efficiencies (variances) 6. Inventory turns 7. Cost of Quality % of Sales 8. External by customer PPM 9. Internal PPM 10. Supplier Performance 11. Supplier Quality-PPM	Plant Mgr Mat'l Mgr. Quality Mgr Quality Mgr Plant Mgr Mat'l Control Quality Mgr Quality Mgr Quality Mgr Quality Mgr Quality Mgr	Plant Mgr Mat'l Mgr. Quality Mgr Quality Mgr Quality Mgr Plant Mgr Mat'l Control Quality Mgr Quality Mgr Quality Mgr Quality Mgr Quality Mgr
Customer Employee	Continual Improvement	5. Relentless Continual Improvements	1. Continual Improvement Projects- Internal 2. Continual Improvement Projects- External 3. Internal Audit Finding: System / Process Audits 4. Training / Competency	Engineering Mgr. Mat'l Mgr. Quality Mgr HR Mgr	Engineering Mgr. Mat'l Mgr. Quality Mgr HR Mgr
Customer Supplier Community	Supplier Involvement	6. Supplier Diversity	1. Diversity Spending	Mat'l Mgr.	Mat'l Mgr.

Deleted:

4 References, terms and definitions

The content and application of this quality manual makes reference to the following publications and documents:

- **ISO/TS 16949:2009(E)**, quality management systems – particular requirements for the application of ISO 9001:2008 for automotive production and relevant service part organizations
- **ISO 9000: 2000**, quality management systems – fundamentals and vocabulary
- **ISO 9001: 2008**, quality management systems – requirements
- **ISO 9004: 2000**, quality management systems – guidelines for performance improvement

For this quality manual, the terms and definitions for the automotive industry specified in clause 3.1 of ISO/TS 16949:2009(E) are applied.

4 Quality management system

Referenced procedures: Document Control (QSP 4.2.3) and Quality Record Maintenance (QSP 4.2.4).

4.1 – 4.1.1 General requirements

It is the responsibility of the TS Management Representative

- to ensure that the quality management system of Hope Global is established, documented as required, implemented, managed and maintained according to the requirements of ISO/TS 16949:2009(E)
- to continual improvement the effectiveness of the quality management system

b) Operational and administrative activities affecting quality of the Engineering, Operations, Quality, Purchasing, Human Resources, Accounting, Finance, Sales & Customer Service and Quality Management System are in compliance with ISO/TS 16949:2009(E). It is the responsibility of the TS Management Representative and the department heads to ensure that the activities/processes included in the scope of this quality management system are identified and are performed in compliance with ISO/TS 16949:2009(E).

c) It is the responsibility of the TS Management Representative and department heads to ensure that the sequence and interaction of processes or activities of this quality management system are determined in a suitable manner, such as quality plans, flow charts, operating procedures, etc.

d) It is the responsibility of the TS Management Representative and department heads to apply the necessary techniques and criteria in order to verify that established processes/activities and their implemented controls are effective.

e) It is the responsibility of the Operational Managers, TS Management Representative and the department heads to ensure that the necessary human and material resources as well as the necessary information are available to ensure the effective operation and control of the processes of the quality management system.

f) It is the responsibility of the TS Management Representative and department heads to ensure that the processes/activities that are part of the quality management system are monitored, measured and analyzed regarding their achievement of planned results.

g) As required, the TS Management Representative and department heads ensure that action is taken to obtain expected results of processes/activities, as well as the continual improvement of these processes/activities.

In the event that processes that do affect product conformity are outsourced, Quality Assurance establishes and implements the necessary controls for approval processes to ensure conformance to specified requirements. Control of such outsourced processes shall be identified within the QMS (Quality Management System). These implemented controls however do not absolve Hope Global from the responsibility of supplying products and service that meet customer requirements.

The Quality Manual defines the Scope, Process Maps, and Key Processes. Customer Needs and Expectation, Mission, Vision, Values, Quality Policy, Quality Objectives, Alignment Chart, Control Plans are included for effective communication and implementation.

A Process Approach has been adopted in structuring and describing the QMS. Processes and their interaction are detailed in the Key Process Table. Process Flowcharts and Procedures needed to ensure the operation and control are described whenever applicable. The Alignment Chart shows the relationship between customer needs and expectations, objectives, processes and process measurements.

Responsibilities are assigned along with adequate resources. These are shown in the Process Maps (Flowcharts) and Organizational charts.

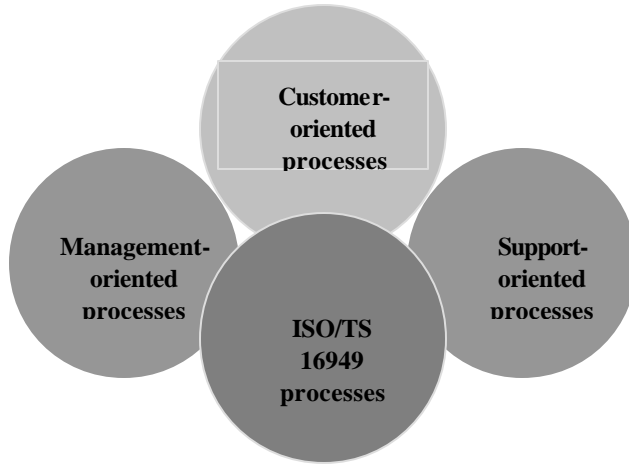
Process Quantifiers are identified for each of the processes to monitor measure and analyze effectiveness and suitability of the processes. Targets are established for all the measurables. Appropriate actions are taken to achieve desired results. Progress is reviewed in the Management Review Meeting.

Hope Global has evaluated four types of processes for inclusion in the corporate process map:

- Customer –oriented processes (COPs)
- Management-oriented processes (MOPs)
- Support-oriented processes (SOPs)
- ISO/TS 16949 processes

COPs receive input from the customer with output going back to the customer. The product realization process has four COPs: product and process verification/validation, production, delivery, and post-delivery service processes. MOPs are management-related, such as business planning, objectives deployment, and continual improvement. SOPs aid the overall organization and include operations such as training, purchasing, and document control.

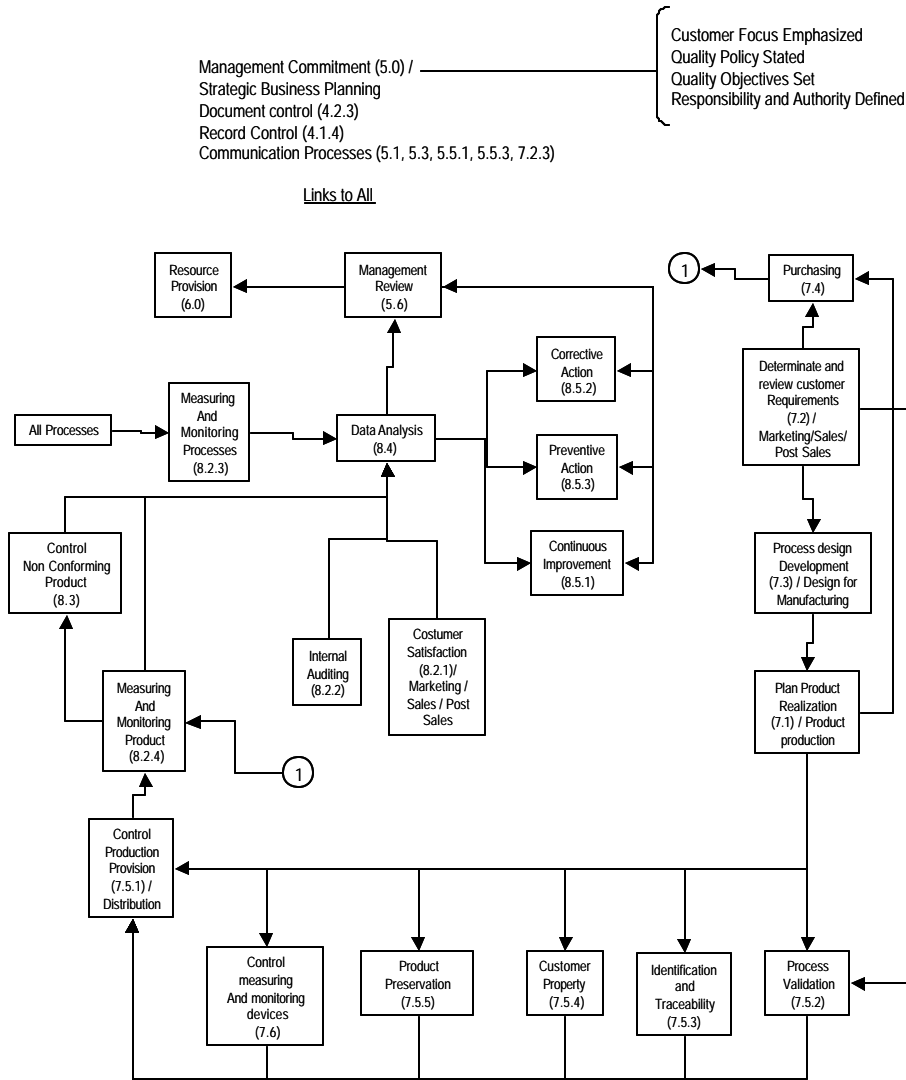
Figure. 1 – Relationship Among Types of ISO/TS 16949:2009(E) Processes



The processes at Hope Global have been limited to high-level processes that meet customer needs for continual satisfaction.

Figure. 2 – Process Flow Diagram

ISO/TS 16949 Processes Interlinks
 Without Product Design



Each process in the process map (Figure. 2), in turn, involves sub processes, which demonstrate implementation and effectiveness of the QMS. Table 1 verifies the completeness of Hope Global sub processes.

Table. 1 – Verification of Hope Global sub processes versus ISO/TS 16949:2009 requirements

Sub processes	4.1	4.2	5.1	5.2	5.3	5.4	5.5	5.6	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	7.5	7.6	8.1	8.2	8.3	8.4	8.5
Management Oriented Process (MOP)																							
Strategic Business Planning		x	x			x														x		x	
Management Review	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Continual Improvement Support Oriented Process (SOP)																							
Purchasing		x	x													x				x			
Training, Awareness, Motivation and Competency		x	x				x		x	x		x								x		x	x
Corrective / Preventive Action and PPM's		x	x	x		x		x						x					x	x	x	x	x
Control of Documents	x	x	x		x			x	x				x							x			
Change Control/ECO		x	x	x		x		x						x					x	x	x	x	x
Internal Audit		x								x										x			
Control of Quality Records		x	x	x		x		x						x						x	x	x	x
Customer Oriented Process (COP)																							
Marketing/Sales/Post Sales		x	x	x		x	x	x					x	x					x	x			x
Design/Prototyping (Cumberland only)	x	x												x	x					x			
Design for Manufacturing	x	x	x	x					x				x	x		x				x			
Product Production		x	x			x			x	x	x	x	x	x		x				x	x		x
Product and Process Verification and Validation	x	x		x									x	x		x			x	x	x	x	x
Distribution		x	x	x				x					x	x					x	x			x
Control of Nonconforming Product		x	x	x		x		x						x					x	x	x	x	x

Sub processes are managed at Hope Global by:

- a) Identification of the sub process,
- b) Sequencing and interaction of each sub process,
- c) Determination of criteria and methods needed to ensure that both the operation and control of each sub process is effective,
- d) Making resources and information available,
- e) Monitoring, analyzing and measuring sub processes,
- f) Implementing actions necessary to achieve planned results and continual improvement of sub processes.

4.2 Documentation requirements

4.2.1 General

As a minimum, the documentation of Hope Global's quality management system includes:

- a quality policy and objectives
- this quality manual
- required documented procedures for clauses: 4.2.3 Control of Documents; 4.2.4 Control of Records; 6.2.1 Training, 8.2.2 Internal Audit; 8.3.1 Control of Nonconforming Product; 8.5.2 Corrective Action and 8.5.3 Preventive Action
- other documents which are necessary for the effective planning, operation and control of processes of the quality management system
- records required by ISO/TS 16949:2009(E) and by Hope Global to ensure appropriate control and evidence of compliance with requirements.

The document structure of Hope Global's quality management system consists of two levels:

- 1) The Quality Manual, describing the quality management system of Hope Global and its compliance with ISO/TS 16949:2009(E).
- 2) Operating procedures, work instructions, forms, master lists, operating instructions, quality plans, control plans and other necessary documents for the effective and efficient operation of the quality management system.

In addition, records are created as required by ISO/TS 16949:2009(E), as well as records necessary to meet other internal and external requirements.

It is the responsibility of the TS Management Representative to ensure the availability of corporate documents of the quality management system and documents required by ISO/TS 16949:2009(E).

It is the responsibility of the department heads to ensure the development and availability of documented procedures, work instructions, operating instructions and any other documents related to their departments, and which are necessary to ensure the effective implementation, control and functioning of the quality management system and its processes.

4.2.2 Quality manual

The quality manual includes the scope of the quality management system and applicable permissible exclusions from the requirements of ISO/TS 16949:2009(E) and their justification, makes reference to applicable operating procedures and other pertinent documents. Following is a description of the interaction of processes of the quality management system.

4.2.3 – 4.2.3.1 Control of documents and engineering specifications

Documents required by the quality management system are controlled documents.

It is the responsibility of the TS Management Representative to implement and maintain the documented procedure Document Control (QSP 4.2.3), which defines the responsibilities for the development of controlled documents, their approval for adequacy, changes and re-approval, revision status, document formats, identification codes and distribution.

Following the documented procedure, Engineering Department is responsible for the identification, control and distribution of technical engineering documents, including documents and data of external origin such as standards and customer drawings. Engineering documents developed by Engineering or engineering documents from the customer, including the distribution of these documents, are recorded. Incoming customer engineering standards and specifications, including changes, are reviewed as soon as possible by Engineering, and are then distributed and implemented as required. Records of implementation dates in production are maintained. Timely review should be as soon as possible, and shall not exceed two working weeks.

It is the responsibility of the applicable department head to ensure that current revisions of controlled documents are legible, readily available where needed, that obsolete copies are replaced and destroyed or invalidated, and that obsolete documents retained for any purpose are clearly identified.

As required, it is the responsibility of the Office Manager to establish a schedule for the assignment of employees for producing back-ups of defined computer data. These back-ups on tape or CD-ROM are kept in a secure place outside of the company's premises.

4.2.4 – 4.2.4.1 Control and retention of records

Records are maintained to provide evidence of activities and their results, of conformance to requirements and of the effective operation of the quality management system. Department heads are responsible for the proper identification, storage, retrieval, protection, retention time and disposition of records according to the established documented procedure, Quality Record Maintenance (QSP 4.2.4).

The control of records shall satisfy regulatory and customer requirements.

5 Management responsibility

Referenced procedures: Training Awareness Competence (QSP 6.2.1); and, Product Quality Planning (WI 7.1.1.1).

5.1 – 5.1.1 Management commitment – process efficiency

The management of Hope Global is committed to the development, implementation and well functioning of the quality management system and the continual improvement of its effectiveness. In order to provide this evidence, the Operations Managers ensure that:

- a corporate quality policy is established
- quality objectives are established by selected departments
- the importance of meeting customer requirements and statutory and regulatory requirements is part of the training of each employee
- resources for the implementation and maintenance of the quality management system and its processes are provided in a timely manner
- At a minimum, yearly management reviews are conducted to verify the effectiveness, efficiency and proper functioning of the quality management system, including product realization processes and support processes.

5.2 Customer focus

The Directors/ Managers ensure that procedures for determining and meeting customer requirements are established and implemented by the responsible departments. The effectiveness of these procedures is measured through customer satisfaction surveys that are part of Management Reviews.; and meeting the Corporate Vision, mission and core values. Vision, Core Values, Mission as well as Stakeholders, Needs and Expectations, and performance metrics are identified and evaluated.

5.3 Quality policy

The management of Hope Global has developed a corporate quality policy, which meets the needs of Hope Global and its customers.

Corporate Quality Policy

Hope Global will provide innovative products at a level of quality that meets the expectations of our customers. We will provide these products on time and at a value that will position us as the industry leader in customer satisfaction. We will continuously improve our processes and reset our targets while maintaining a safe, environmentally conscious, and stimulating workplace.

Cheryl Merchant

Cheryl Merchant
President/CEO
Hope Global

Jim Hanahan

Plant Manager
Hope Global
Cumberland

Robert Louis-Ferdinand

Plant Manager
Hope Global
Detroit

Fernando Garcia

Plant Manager
Hope Global
Mexico

It is the responsibility of Hope Global management to implement and maintain this quality policy. The quality policy includes Hope Global's commitment for continual improvement, for meeting internal requirements and customer requirements, and provides a basis for the establishment and review of quality objectives. The quality policy is made known within the organization and understood and adhered to by employees. During management reviews, the quality policy is reviewed for its continuing suitability.

5.4 Planning

5.4.1 – Quality objectives

General

Each year, management defines specific company quality objectives and measurements, which are included in the business plan and Management Review.

Established quality objectives are consistent with the quality policy, include – as appropriate – objectives to meet product requirements (see 7.1.a), and are defined in such a way that their degree of achievement and results can be measured.

The completion and achievement of yearly quality objectives included in the business plan are reviewed during management review as key measurables.

Based on internal and external audit results and customer satisfaction metrics issued by the TS Management Representative, these corporate-wide quality objectives are reviewed during management reviews regarding their continuing suitability to the overall manufacturing processes, as outlined below:

5.4.1.1 Departmental quality objectives (subset of Management by Objective, MBO, system)

At least once a year, the department heads of Engineering, Operations, Quality, Human Resources, Accounting, Finance and Sales & Customer Service, establish objectives, which include quality, for his/her department using the Management by Objective (MBO) system. These quality objectives are in accordance with the corporate quality policy and are focused on the improvement of departmental processes/activities. The departmental quality objectives for the coming year are submitted to the President/CEO for review and approval. A summary of the achievement of the department's quality objectives of the past year is documented by the applicable department head and submitted to the President or CEO.

5.4.2 Quality management system planning/meetings

5.4.2.1 Management Review

At least once a year, the TS Management Representative calls for a Management Review meeting of the department heads with the purpose to review, coordinate and plan the efficiency and effectiveness of the quality management system and the realization of established quality objectives of the departments, as well the coordination of improvement opportunities. The *General Requirements* of clause 4.1 of ISO/TS 16949:2009 (E) are included in this planning process.

The output of these planning activities includes the identification of required resources. As appropriate, results from audits of the quality management system as well as permissible exclusions according to ISO/TS 16949:2009 (E) are considered. Planning activities are documented and are consistent with other requirements of the quality management system.

5.4.2.2 Executive Project Committee Meetings

In addition bi-monthly executive project committee meetings occur where the purpose is to discuss and present the status of company wide continuous improvement projects. These projects are defined using the Management by Objective (MBO) System and approved by the President. These projects are based on continuous improvement and to positively affect our long-term profit.

5.4.2.3 Monthly meetings and Weekly executive meetings

Tactical monthly meetings and weekly executive meetings occur to discuss the prior and coming principal activities, including key quality issues and their resolution.

It is the responsibility of the TS Management Representative to ensure that resulting organizational changes and their consequences are identified and defined, that changes resulting from planning activities are coordinated and implemented in a controlled manner, that changes to the quality management system are documented, implemented and approved, and that the quality management system is properly maintained during these changes.

Note: Quality planning for operating processes is performed by the Quality Planning Team under the responsibility of the Engineering department.

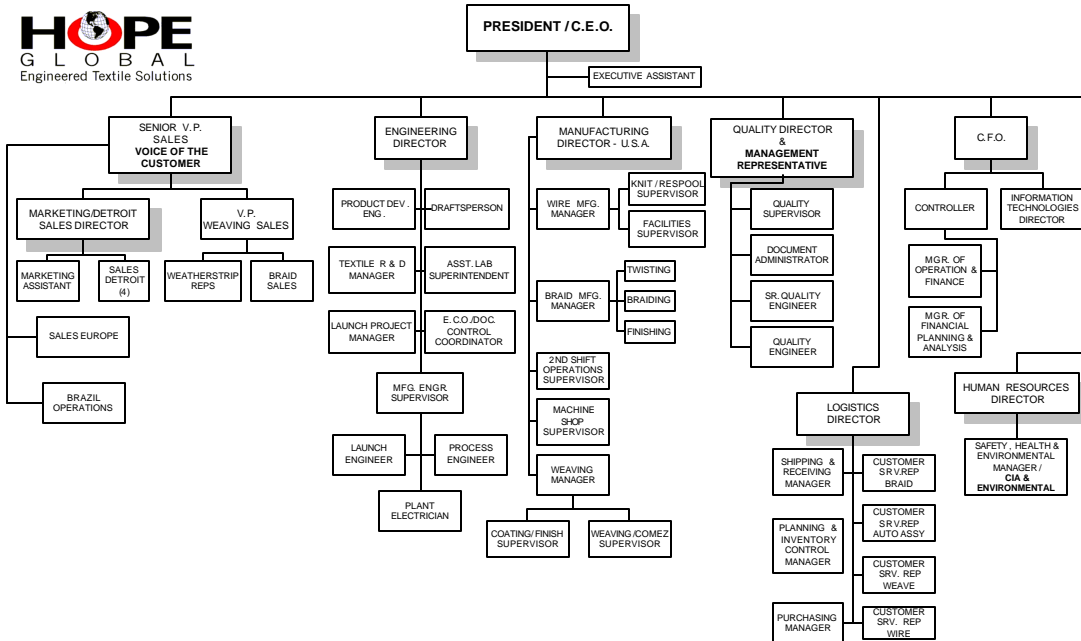
Each department head develops and maintains a quality plan for his/her department, showing the workflow of the department as well as evidence of compliance with the requirements of the quality system.

5.5 Responsibility, authority and communication

5.5.1 Responsibility and authority

The management structure of Hope Global consists of the President and CEO and various operational functions. It is the responsibility of the TS Management Representative to develop and maintain an organization chart of Hope Global. Updated charts are distributed, and, are available to employees for information.

HG Cumberland (Corporate) Organizational Chart



04/05

5.5.1.1 Responsibility for quality

It is the responsibility of employees in every department to inform the responsible department head of any nonconformity of products or processes. Corrective action is taken as appropriate, including action for the review and improvement of processes. Documents are updated as required.

If necessary, the department head can transfer the nonconformity to the quality department for review and action.

In the event of nonconformity in operations, employees responsible for product quality have the authority to stop production in order to correct any quality problems. It is ensured that an employee responsible for quality is available during production.

Departmental responsibility for quality

The responsibility for quality in each department rests with the department head (or designee) . The department head is responsible for the development and approval of the department's procedures and work instructions. The department heads ensure that the department staff understands and follows the applicable policies and guidelines outlined in the quality manual, that the department's personnel adheres to all applicable procedures and work instructions and participates, as appropriate, in the quality improvement process.

In addition, employees are made aware of the importance to meet customer requirements and expectations. It is the responsibility of the department heads to ensure that customer requirements and customer expectations that relate to activities under the department's responsibility are identified, defined, documented and met.

Department heads ensure that the responsibility of employees or functions whose activities affect quality, are defined in procedures and job descriptions. In yearly performance reviews, or when required, these responsibilities for quality, together with other responsibilities of the function, are reviewed and discussed between the department head and the employee, and are assessed and re-defined as necessary.

Individual responsibility

All employees follow the policies and guidelines outlined in the quality manual and in established procedures. It is the duty of each employee to inform the department head or the TS Management Representative when performed activities do not match the established procedures, or when established procedures and work instructions are unclear or ambiguous. The department head is notified of any identified nonconformity or deficiency where the correction or prevention of such nonconformity or deficiency is out of the employee's scope of responsibility.

5.5.2 TS Management Representative

The management of Hope Global appoints a TS Management Representative who, irrespective of other duties and responsibilities, has the defined authority and responsibility for

- ensuring that a quality management system is established, implemented and maintained in accordance with the requirements of the international standard ISO/TS 16949:2009 (E)
- reporting on the performance of the quality management system to management for review and corrective action, including needs for improvements
- the proper coordination – where required – of quality related issues and activities within the company, with external customers and suppliers and other external partners and authorities
- promoting the awareness of customer requirements and expectations throughout the company

The TS Management Representative is responsible for the overall coordination, implementation and administration of the quality management system.

5.5.2.1 Customer representative

The management of Hope Global has assigned the inter-departmental coordination of customer requirements to the manager of the sales and marketing (or designee) , as well as the direct responsibility of addressing customer requirements to the department heads of Engineering and Operations.

Responsibilities related to customer requirements include:

President/CEO and/or Sales and Customer Service:

- coordination and approval of issues related to customer requirements
- recommendations for corporate quality objectives, including quality objectives for other departments
- approval of quality objectives
- approval of temporary deviations
- analysis of feedback from customers and service regarding nonconformities
- follow-up on corrective actions

Engineering:

- quality planning activities
- product design and development
- communication with customers on technical issues
- customer prototype support

Operations:

- special training requirements for production and stockroom
- production planning
- issues related to customer supplied products (in coordination with Purchasing)
- delivery requirements – shipping inspection

The Sales department is informed of corrective actions taken by the responsible department head regarding the compliance with customer requirements.

5.5.3 Internal communication

Effective internal communication is essential for the proper functioning of the quality management system. The TS Management Representative, with the assistance of the department heads, ensures that required communication and information between departments and functions is defined in documented procedures, memos, forms and/or documents.

Any communication problems regarding the quality management system is reported to the TS Management Representative for corrective action.

5.6 Management review

5.6.1 5.6.1.1 General – quality management system performance

At least once per year, management and the TS Management Representative have a formal meeting to discuss and review the continuing effectiveness and adequacy of the quality management system. The review includes the evaluation of the need for changes to the quality management system, the quality policy and quality objectives, as well as the assessment of improvement opportunities based on the review and analysis of performance trends, achievement of quality objectives and customer satisfaction, and the cost of poor quality according to clauses 8.4.1 and 8.5.1.

This review covers all clauses of the quality management system. As required, department heads and employees are invited to attend the meeting when issues of his/her area of responsibility are discussed.

The TS Management Representative, with the input from management, prepares the agenda of upcoming meetings, ensures that the required data and documents are available for management review, writes the minutes of the meeting, informs results to the department heads and individuals concerned and follows-up on required actions resulting from these meetings. Management is kept informed on the status of follow-up activities. Records of management reviews are maintained.

5.6.2 – 5.6.2.1 Review input

As a minimum, the following input is included in the meeting agenda:

- performance of production and service processes, and product and service conformity, including performance trends
- status and effectiveness of corrective and preventive actions
- follow-up actions from previous management reviews
- planned changes that could affect the quality management system
- assessment of improvement opportunities and recommendations for improvements

- employees' knowledge, understanding and adherence to quality policies, directives and procedures, and their involvement in the quality improvement process
- availability and effectiveness of internal and external information within the company, at all levels
- human resources, training and staffing requirements
- suitability of working environment
- availability of material resources
- effectiveness of quality planning (quality system, design/development of products and processes)
- achievement of corporate quality objectives, including those specified in the business plan
- achievement of departmental quality objectives
- effectiveness of continual improvement activities of products, processes, service and quality management system
- results of internal and external audits of the quality system, incl. Audits of manufacturing processes
- statistical results of operational performance, based on the analysis of collected data, which includes:
 - quality system audits conducted by the Registrar
 - internal quality audits
 - customer satisfaction surveys and other customer feedback regarding customer satisfaction
 - customer complaints
 - suppliers performance
 - product and service quality and nonconformities
- direct and indirect costs and benefits of the quality system (relation cost – benefit)
- cost of poor quality – scrap, rework, returns, warranty repairs, excessive freight charges, etc.
- analysis of field-failures (returns, warranty repairs), their impact on quality, safety, environment
- the impact or potential impact of changes that could affect the quality management system
- opportunities for improvement resulting from additions or changes

5.6.3 Review output

Results of the assessment and conclusions of management reviews include the following output:

- effectiveness of corrective and or preventive actions
- the suitability and effectiveness of the quality management system
- improvement of the effectiveness of the quality management system and its processes
- improvement of product with focus on customer requirements
- availability of human and material resources
- suitability of the corporate quality policy
- frequency of Management Reviews
- required corrective and or preventive actions regarding items reviewed

6 Resource Management

6.1 Provision of resources

Management ensures that approved material and human resources, which have been identified by the department heads during budget planning and quality planning, are available in a timely manner. This refers to resources required for the implementation, maintenance and continual improvement of the processes of the quality management system, for meeting customer requirements and achieving customer satisfaction. Also included are resource requirements for new projects and other quality related activities. Related expenses are included in the company's financial budget.

6.2 Human resources

6.2.1 General

It is the responsibility of the department heads to identify qualification requirements of functions or personnel assigned to defined activities that affect quality of product or service. Qualification requirements include education, training, skills and experience as appropriate. In the department's budget are provisions for the employment and assignment of qualified and trained personnel.

6.2.2 Competence, awareness and training

Department heads ensure that the qualification requirements (such as education, skills, training, experience) for each job are identified, determined and documented in job descriptions. Training is provided to employees or other actions are taken in order to meet defined qualification requirements. The effectiveness of provided training or of related actions is evaluated.

Employees are made aware of the importance and the impact of their work in relation to product quality, to the achievement of quality objectives and customer satisfaction

Records of employees' education, experience and other qualifications are maintained.

6.2.2.1 Product design skills

It is the responsibility of Engineering to ensure that employees with responsibility of product design are qualified for the job and have the necessary skills and experience as specified in the applicable job description.

6.2.2.2 Training

The Director of Human resources, the human resources Manager and the TS Management Representative establishes and maintains the documented procedure Training Awareness & Competence (QSP 6.2.1) Training for identifying training needs and for providing required training to employees who are performing activities affecting product quality. The procedure includes training for the fulfillment of specific customer requirements. Training for safety and the handling of hazardous materials is provided by the EMS Coordinator.

6.2.2.3 Training on the job

Department heads ensure that employees assigned to new or modified responsibilities affecting product quality are trained on-the job. This applies also to contracted employees. Employees performing activities that can affect quality are informed of potential consequences to the customer in the event that defined requirements will not be met.

6.2.2.4 Employee motivation and empowerment

To promote innovation, to motivate employees in accomplishing quality objectives and to participate in the continual improvement process, the TS Management Representative publishes quarterly at least one article in the company's bulletin regarding the importance, advantages, challenges and past achievements of these activities. Promoting the awareness for quality and technology to all employees is part of this process. An alternative would be to post these articles on the company's bulletin boards.

Performance reviews conducted by the department heads include and document the degree of employee's awareness regarding the importance of their work and their contribution in achieving quality objectives.

6.3 Infrastructure

The required infrastructure and resources for Operations is identified during quality planning. As applicable, this includes building facilities, necessary workspace and utilities as well as needed equipment and services such as maintenance, warehousing and transportation.

Management ensures the timely availability of identified and approved resources.

6.3.1 Operations, facility and equipment planning

Operations, facility and equipment planning of the effectiveness of existing equipment and facilities is the responsibility of Operations and involves departments and functions concerned. The productivity and effectiveness of existing operations is reviewed, monitored and evaluated considering

- human factors
- operator and line balance
- availability of supplies
- use of automation
- work plans

Plant layouts shall optimize material travel, handling and value-added use of floor space and shall facilitate synchronous material flow.

Records of planning activities are maintained as per applicable master list of records in Quality Record Maintenance (QSP 4.2.4).

6.3.2 Contingency plans

The Director of Human Resources and TS Management Representative, with participation from Operations, Engineering and EMS Coordinator, develops contingency plans to meet customer requirements in the event of a production halt or labor shortage. Contingency plans are reviewed in the first quarter of each year regarding their validity. New plans are developed as required.

6.4 Work environment

The quality planning team defines special conditions of the work environment that are necessary for the processes to meet defined requirements of product and service quality. These special conditions are included in the quality plan, manufacturing plan, process sheet or other documents. It is the responsibility of the department head to implement these requirements.

6.4.1 Employee safety to achieve product quality

It is the responsibility of the department heads to ensure the safety of employees and to minimize risk of injuries when performing their duties. Accidents at the workplace are recorded with copy to the EMS Coordinator who keeps a master list of accidents for corrective or preventive actions.

The EMS Coordinator forms the Health and Safety Committee, which includes representatives of all departments. Any issues or concerns regarding health and safety of processes are reported to the departmental representative.

Product safety is addressed during the design and development process under the responsibility of Engineering.

6.4.2 Cleanliness of premises

It is the responsibility of Operations to ensure that the premises of Hope Global are kept clean and in a state of order. It is the responsibility of Operations and Stockroom to ensure that production facilities and the stockroom are kept clean and in good order. As required, housekeeping procedures are developed and implemented by individual department heads.

7 Product realization

7.1 Planning of product realization

The Engineering department is responsible for the quality planning of the production processes of new products and for changes of existing products, as well as service activities. Planning activities are consistent with other requirements of the quality management system. Prior and during the planning process, quality objectives and quality requirements for product and/or service related to the planning project are established by the quality planning team.

As appropriate, the planning process covers provision of resources, necessary manufacturing processes and documents, required verification, validation, monitoring, inspection and test activities, and criteria for product acceptance.

Records for providing evidence that manufacturing processes, and manufactured product meet requirements are defined and specified.

7.1.1 Planning of product realization – Supplemental

Customer requirements and references to technical specifications are included in the quality plan.

7.1.2 Acceptance criteria

Acceptance criteria are defined in the planning process and, as required, approved by the customer. Acceptance for attribute data sampling is zero defects.

7.1.3 Confidentiality

Confidentiality of information and data about customer-contracted products/projects is ensured.

7.1.4 Change control

Changes to production processes and service activities, including changes to products/materials from suppliers, are assessed, validated and approved by Engineering prior to use and implementation. For proprietary designs, the impact of changes is reviewed with the customer. If requested by the customer, additional verification/identification requirements are met.

7.2 Customer-related processes

7.2.1 Determination of requirements related to product and service

It is the responsibility of the Sales department to ensure that customer requirements related to product and service are identified and defined. This includes the requirement for delivery, and post delivery activities.

It is the responsibility of Engineering, represented by the Quality Planning Team, to identify and determine requirements not specified by the customer but necessary for the proper and intended use of the product or service, as well as other requirements identified during product development and quality planning, including regulatory and statutory requirements. Once these requirements are determined, they are used as input for product or service development and quality planning, and other functions concerned are informed as appropriate.

In addition to customer requirements included in design and development and quality planning, department heads ensure that other requirements specified by customers, as well as customer needs and expectations are

identified, determined and documented by the responsible department, and that these requirements are met as appropriate. The Sales department or responsible department head also ensures that during set-up and maintenance of new customer files, order taking and processing, customer returns and shipping of products, customer requirements are identified and documented, and understood by all functions concerned.

Based on sales forecast and/or other special requirements documented by the Sales department, Operations prepares production schedules and material requirement reports to ensure availability of product for the fulfillment of customer orders.

7.2.1.1 Customer-designated special characteristics

It is the responsibility of Engineering, the quality planning team and Operations to apply, document and control special characteristics designated by the customer, with focus on processes affecting safety, compliance with regulatory requirements, the fit or function of a product, or any other requirement of importance. Symbols to be used for these special characteristics are those designated by the customer or other commonly used symbols used in the industry.

7.2.2 – 7.2.2.1 – 7.2.2.2 Review of requirements related to product, manufacturing feasibility

The Sales department is responsible for the review of product specifications and customer requirements. Prior to the submission of a quotation to the customer, or the acceptance or confirmation of an order from a customer, the order or quotation is reviewed to ensure that

- the product and customer requirements are clearly defined and documented
- Hope Global has the capability to meet the requirements of the quotation or order
- requirements of verbal orders are recorded and confirmed prior to acceptance
- any differences between the customer's order and Hope Global's quotation are clarified and resolved.

Waiving the requirement for a formal review requires customer approval. Manufacturing feasibility is analyzed, and a risk analysis is performed, confirmed and documented. The results of reviews and required actions are documented.

In the event of changes to product requirements, or other changes to a quotation or order, it is ensured that relevant documents and data are updated and that other functions concerned are notified. Records of contract reviews are maintained.

7.2.3 – 7.2.3.1 Customer communication

In order to meet customer requirements and to ensure the proper and effective communication between the various departments within Hope Global and the customer, Sales establishes a list with some main contacts within Hope Global regarding customer inquiries; product information; contracts or order handling, including amendments; and, customer feedback, including customer complaints. This list is updated as required, is distributed to functions concerned and is attached to the main directory available at the reception.

Internal and external communication related to the planning of products and processes is defined by Engineering and/or Sales and/or the quality planning team, as applicable.

It is the responsibility of engineering to install and use electronic communication and design systems (such as CAD), which are compatible with the customers' systems, in order to effectively communicate and interchange information with the customers.

It is the responsibility of Operations to develop, implement and maintain a computerized system (such as EDI) for the receipt of planning information of customer orders, shipping schedules and shipping information.

7.3 Design and development

General

The Engineering Department is responsible to implement the design process if a customer requests it.

7.3.1 Design and development planning

The planning and control of design and development of product is the responsibility of Engineering. During the planning process, the project team determines the stages of the design and development project, defines the review, verification and validation of each design and development stage as appropriate, and assigns responsibilities of required tasks and actions.

As the planning process develops, planning output is updated as appropriate.

7.3.1.1 Multidisciplinary approach

Organizational and technical interfaces, including customer communication, are defined in the Project Plan and Schedule and are reviewed during each meeting of the team. As required, other functions are consulted within their areas of expertise. A multidisciplinary approach is also used for the development and monitoring of special characteristics, and the development and review of FMEAs and control plans.

7.3.2-7.3.2.1-7.3.2.2 Design and development input

The originator of the Design / Development Project Request identifies and documents the input requirements, which are reviewed by Engineering. Input for product design and development includes functional and performance requirements, statutory and regulatory requirements, customer requirements, product quality and performance objectives, and any other identified requirements. Input for the development of manufacturing processes include product design output data, targets for productivity, capability, cost, and customer requirements, as applicable. Any past experience or information from similar projects is applied as appropriate. Ambiguous, missing or conflicting information is clarified and resolved with the originator of the request before proceeding with the project. Records of design input are maintained.

7.3.2.3 Special characteristics

Special characteristics for product and processes, and which are specified by the customer or by Hope Global, Inc., are identified and included in control plans, FMEAs and applicable documents in order to ensure proper identification of special requirements of product and processes. As required, such inclusions will (always) comply with customer-specific definitions and symbols.

7.3.3 - 7.3.3.1 - 7.3.3.2 Design and development output

Engineering produces design output which is documented, is expressed in terms that can be verified and validated against design input requirements, meets design input requirements, contains or makes reference to acceptance criteria and includes critical and crucial characteristics for safety and functionality of the product or process. As applicable, design and development output provides data and information for product design, manufacturing process design and/or service operations. Additional outputs for product design include FMEAs, special characteristics, product definitions, design reviews and other defined output results. Additional outputs for process design include drawings, FMEAs, control plans, process performance and other information and data to ensure that manufacturing processes meet requirements.

As regards this manufacturing process design output shall be expressed in terms that can be verified against manufacturing process design input requirements and validated. The manufacturing process design output shall include

- Specifications and drawings
- Manufacturing flow chart/layout
- Manufacturing process FMEAs
- Control plan (see 7.5.1.1)
- Work instructions
- Process approval acceptance criteria
- Data for quality, reliability, maintainability and measurability
- Results of error-proofing activities, as appropriate, and
- Methods of rapid detection and feedback of product manufacturing process nonconformities

Design outputs are reviewed prior to release, ensuring the characteristics of the product are essential for safe and proper use.

7.3.4 - 7.3.4.1 Design and development review, monitoring

Engineering performs formal design reviews to identify any potential problems in meeting requirements and design goals. Problems are identified and appropriate action is taken.

Progress and end results of design and development planning (such as effectiveness, costs, lead time) are recorded at defined stages of the planning, and are submitted to the Management Representative for input to management reviews.

Records of design reviews and resulting actions are maintained.

7.3.5 Design and development verification

The Project Team performs periodic design verifications to verify that design and development outputs meet the design and development input requirements. Results of design verifications and resulting actions are recorded and maintained.

7.3.6 - 7.3.6.1 Design and development validation

Engineering performs design validation to ensure that the designed product meets defined customer/user needs and requirements. Validation is according to customer requirements and includes program timing. If possible, this validation should be performed prior to production. However, if required, partial validation is acceptable. Results of validations and necessary actions are recorded and maintained.

7.3.6.2 Prototype program

If required by the customer, the product development includes the development of a control plan and a prototype. Processes, equipment and materials used for the prototype should be the same as those used for final production runs. Testing activities are monitored regarding timely completion and compliance with requirements. In the event that services for prototype development are outsourced, it is understood that Hope Global, Inc. is still responsible for the quality and performance of the prototype. As required, Hope Global, Inc. provides technical assistance and support to contractors/suppliers.

7.3.6.3 Product approval process

Sample submission of production parts for automotive customer approval is the responsibility of the Quality Assurance. Methods and guidelines specified by the customer are followed. Production part approval is requested for a production parts, engineering change of production part, manufacturing location, material suppliers and production process environment. Any change to these conditions requires customer notification and possible re-submission of production parts for approval. Hope Global, Inc. is responsible for contracted materials and services.

As appropriate, production part approval is extended by engineering for non-automotive and purchased products.

Engineering changes are properly validated by the Feasibility Planning Team.

7.3.7 Control of design and development changes

Design and development changes are identified and records maintained. The changes are reviewed, verified and validated, as appropriate, and approved before implementation. The review of design and development changes includes evaluation of the effect of the changes on constituent parts and already delivered product.

Records of the results of the review of changes and any necessary actions are maintained (see 4.2.4).

Note: Design and development changes include all changes during the product program life.

7.4 Purchasing

7.4.1 Purchasing process

The Purchasing department is responsible for the effective and efficient operation of purchasing functions and activities.

Depending on the effect of the purchased product on the final product, on production processes and/or service activities, the type of control applied to the supplier and the method used for verification of purchased product are identified and established by Quality.

Materials, products and services are only purchased from approved suppliers. Suppliers are evaluated and selected according to defined selection criteria and their ability to supply product that meets specified requirements. Records of evaluation and selection of suppliers as well as related actions are maintained by Purchasing.

Supplier performance is monitored through evaluation of product quality, problems reported by the customer involving supplied product, and delivery performance.

7.4.1.1 Regulatory conformity

Quality verifies that incoming purchased products and materials used in production are in compliance with applicable regulatory requirements.

7.4.1.2 Supplier quality management system development

Purchasing encourages suppliers to prepare for and/or implement the necessary procedures in order to meet the requirements of ISO 9001:2008 and to become certified. As required, the assistance of the TS Management Representative is requested. Purchasing follows up on the suppliers' progress with the implementation of ISO 9001:2008. A further goal would be conformity of certain suppliers to ISO/TS 16949:2009(E)

7.4.1.3 Customer-approved sources

Where according to customer contract, a product or material is purchased from a customer-designated supplier, it is the responsibility of the Purchasing department to ensure that these materials or products are only purchased from the customer-designated supplier. Other suppliers for this product/material must be approved by the customer. Materials supplied by customer-designated suppliers are subject to receiving inspection by Quality as per receiving instructions. For the supply of materials for other applications, the customer-approved supplier must be approved according to Hope Global's approval criteria.

The use of customer-designated sources, including tool/gauge suppliers, does not relieve the organization of the responsibility for ensuring the quality of purchased products.

7.4.2 Purchasing information

For products and services purchased, including customer supplied product, Purchasing ensures that required records are set up and maintained. The data describe and identify clearly the product to be ordered, requirements for the approval of product, procedures, processes and equipment, statutory and regulatory requirements, requirements for qualification of personnel, and quality management system requirements, as applicable. As appropriate, standards or other documents are referenced. The adequacy of specified purchase requirements is ensured prior to submission to the supplier.

7.4.3 - 7.4.3.1 Verification of purchased product and incoming product quality

Hope Global has a process to assure the quality of purchased product (see 7.4.3) utilizing one or more of the following methods:

- Receipt of, and evaluation of, statistical data,
- Receiving inspection and/or testing such as sampling based on performance,
- Second-or-third-party assessments or audits of supplier sites, when coupled with records of acceptable delivery product quality,
- Part evaluation by a designated laboratory, and/or,
- Methods agreed with the customer.

The extent of quality control exercised over a supplier or over the supplied product is determined by Quality and depends on the importance of the product or product class, the initial evaluation of the supplier, and/or type and extent of inspection performed by the supplier, and/or the results of ongoing performance ratings of the supplier. Incoming purchased product is submitted to a receiving inspection performed by Quality.

In the event that Hope Global or one of Hope Global's customers wants to verify purchased product at the supplier's premises, these verification requirements and/or the method of product release are requested and defined by either Engineering, Quality or Sales, and are specified in the purchase order. Verification activities at the supplier's are coordinated through the Purchasing department.

7.4.5 Supplier monitoring

Supplier performance is monitored through evaluation of product quality, problems reported by the customer involving supplied product, delivery performance, and customer feedback.

Purchasing and Quality develops periodic performance ratings of approved suppliers. Suppliers are informed of their rating and corrective action is taken as required. Records of supplier performance ratings are maintained.

7.5 Production and service provision

7.5.1 Control of production and service provision

Operations processes and service activities are performed under controlled conditions. Based on the output from quality planning, Operations and Technical Service ensure that the necessary documents, data and operating instructions for the performance of manufacturing processes and service activities are developed and available to personnel. These documents or data describe in sufficient detail the product characteristics, production processes and/or service activities, the equipment to be used, as well as the activities for monitoring and measuring of these processes. Included are procedures for release, delivery and post-delivery activities. The Operations department ensures that operating instructions, including instructions for special processes, are available at the workstation, that production activities, verification results and SPC records are recorded, and that activities for the monitoring and measurement of production processes are implemented and followed.

It is also the responsibility of the Operations department to ensure that the work environment is appropriate for the work being performed and meets statutory requirements. The EMS-Coordinator is responsible for compliance with regulatory requirements.

7.5.1.2 Control Plan

Control plans are developed during quality planning and define the development of prototypes, pre-launch and production processes, as applicable. Control plans are available for all production stages of products or parts, including assembly. Pre-Launch control plans need the outputs of DFMEAs and PFMEAs.

As applicable, control plans specify

- the required controls for manufacturing processes
- the methods used for monitoring applied controls over special characteristics (customer/Hope Global)
- customer-required information
- the reaction plan to be initiated when the process becomes unstable or not capable

With changes of product and service specifications, or any changes affecting the product, manufacturing processes, service activities, inspection activities, logistics, supply sources or FMEAs, control plans are updated by the quality planning team. If required, customer approval is obtained for the change.

7.5.1.3 Work instructions

It is the responsibility of the department heads to develop and maintain documented work instructions and operating instructions that are necessary for the performance of processes and activities affecting quality of products or service. These documents are made accessible to personnel at the work place. Work instructions and operating instructions are derived from the output data from quality planning, such as the quality plan or control plan.

7.5.1.4 Verification of job set-ups

Operations is responsible for proper set-ups of production equipment. In case of set-up difficulties, a last-off comparison is performed by Quality, as appropriate. First-Offs are approved by Quality. Work instructions shall (always) be available for set-up employees. As applicable, statistical verification methods are used.

7.5.1.5 Preventive and predictive maintenance

A master list of machinery and equipment that requires preventive maintenance to ensure continuous process capability is developed and maintained by Manufacturing. Preventive maintenance objectives are established and documented in the first quarter of each year. These objectives are evaluated at least yearly regarding their achievement and opportunities for improvement.

Designated staff in Operations/Maintenance performs required preventive maintenance. The actual maintenance status of each equipment is identified. The maintenance system includes a MIN/MAX – inventory system of frequently used replacement parts and a predictive maintenance analysis that assists in the review of preventive maintenance cycles, maintenance methods and inventory of replacement parts. Equipment and tooling and gauging that are kept in Operations are packaged and preserved according to manufacturer's guidelines and recommendations.

7.5.1.6 Management of production tooling

As applicable, the departments of Engineering, and Quality are responsible for the design, construction, review and approval of production tooling and fixtures.

- Manufacturing is responsible for the construction of tooling and fixtures. Established controls are followed to effectively coordinate all activities, including a full dimensional inspection of the tooling and the monitoring of timely completion.
- The status or availability of tooling and fixtures is clearly identified.
- Engineering is responsible for preventive maintenance, repair, storage and recovery of production tooling.
- The set-up of tooling and equipment is the responsibility of Manufacturing.
- Engineering establishes programs for changes of perishable tools in Operations.
- The Engineering department is responsible for design changes of tooling and fixtures, including engineering change level. As required, these changes are passed on for implementation.
- Engineering coordinates tool modification and revision to documentation.
- As required, the Feasibility Planning Team is involved in the planning of changes to tooling and fixtures.

In the event that design or construction is contracted to outside sources, a tracking and follow-up system is put in place by Engineering.

Customer-supplied tooling is inspected and approved by Operations, Tool room and Quality.

7.5.1.7 Production scheduling

Operations is responsible for production scheduling. The production scheduling of custom made parts is order driven.

Quarterly, the inventory turnover rate is calculated and corrective action is taken in case that the turnover rate is below the established minimum.

7.5.1.8 Feedback of information from service

Based on service reports and customer feedback provided by Sales, the TS Management Representative issues quarterly statistics, which are analyzed by the heads of Engineering, Sales, and Operations. Corrective or preventive action is taken as required.

7.5.1.9 Service agreement with customer

It is the responsibility of the Sales department to ensure that required product information, service instructions and service information is developed, printed and distributed to customers/distributors.

7.5.2 - 7.5.2.1 Validation of processes for production and service provision

Where the resulting process output cannot be verified through monitoring or measurement, production and service processes are validated by the Feasibility Planning Team with the assistance of Operations and Sales, regarding their ability to achieve planned results.

The quality planning team establishes procedures for the review, approval and requirements of these processes, including - as applicable: criteria for review and approval, approval of equipment and qualified personnel, the use of methods and procedures, required records, and re-validation in case that expected results are not achieved.

Attention is given to special processes where the results cannot be verified through measurement or testing, such as the processing of *Appearance Items* or where deficiencies become apparent when the product is already in use or the service has been supplied.

7.5.3 - 7.5.3.1 Identification and traceability

Designated employees in Quality, Operations and Stockroom identify incoming product and material, product and material during production, and product and material in storage with the product identification and inspection status.

Products manufactured are traceable by lot number.

7.5.4 Customer property

Customer owned product supplied for production is inspected by Quality according to defined inspection requirements.

The responsible department head ensures that customer owned product is identified, stored, used, handled and shipped in an appropriate manner in order to ensure its suitable condition for use.

During periodic cycle counts conducted by designated employees in Operations, a visual inspection of products, including customer owned product, is performed to verify the product's condition and proper identification. Any loss, damage or deterioration of customer-supplied product is recorded and the customer is notified.

7.5.4.1 Customer owned production tooling

It is the responsibility of the Tool room to ensure that customer owned tooling and fixtures are clearly identified with a metal plate showing the ownership of the equipment.

7.5.5 Preservation of product

It is the responsibility of Operations and the Stockroom to ensure the proper identification, handling, packaging, storage and protection of product and materials during receiving, handling and storage, shipping, and Operations. This includes constituent parts of a product.

Temperature sensitive products and materials are stored in the temperature-controlled room.

7.5.5.1 Storage and inventory

During periodic cycle counts, the condition of materials and products in the stockroom is verified to ensure that any deterioration or damage is detected and recorded, and that required corrective action is taken.

The MRP-system in Operations is used to ensure optimized inventory turns over time, minimum inventory levels and appropriate stock rotation (FIFO) of product and raw materials. Manufacturing is responsible for keeping established inventory levels of finished product, using the computerized production scheduling system.

The inventory turnover rate is periodically reviewed and corrective action is taken in the event that the turnover rate is below the established minimum.

When processing shipping orders, the employees in Shipping and Receiving ensure that FIFO is applied.

7.6 Control of monitoring and measuring devices

To ensure accurate and reliable monitoring and inspection results, the Quality, Operations, Tool room and Sales ensure that monitoring and measuring equipment and devices are controlled, calibrated and maintained.

The type of monitoring and measuring equipment/device/software to be used in Operations, by Quality, Tool room and Engineering, and the required accuracy of these monitoring and measurement activities are defined during quality planning and specified in the manufacturing plan, process sheet and/or inspection reports.

It is the responsibility of the applicable department to ensure that monitoring and measuring processes are capable for their intended purpose and are performed in a manner that is consistent with requirements.

To ensure valid results, measuring equipment is

- calibrated and/or checked in defined intervals or prior to use, and according to a recognized standard; where no recognized standard is used, the basis applied for the calibration is documented.
- adjusted and re-adjusted as necessary to ensure required accuracy
- identified with a unique identification number and the current calibration status.
- kept in a secure and restricted location to prevent misuse and improper adjustments, which could invalidate calibration settings.
- protected from damage and deterioration during handling, maintenance and storage

In the event that monitoring and measuring devices are found out of calibration, previous measuring results are reviewed regarding their validity. Corrective action on the measuring device or product affected is taken, including recall of nonconforming product, if required.

Prior to the use of computer software for monitoring and measuring activities, it is verified and confirmed that the software produces defined results. Records of these verifications are maintained

7.6.1 Measurement system analysis

It is the responsibility of the Quality to ensure that a Repeatability and Reproducibility study is conducted for each measuring device referenced in control plans. Records of these studies provide evidence of the variations present in the results of each type of measuring device and are taken into consideration when inspection reports are developed.

7.6.2 Calibration/verification records

The department performing the calibration of monitoring and measuring devices is responsible for the record keeping of calibration activities. These records include the identification of the equipment and the calibration standard, revisions due to engineering changes, and calibration results such as out-of-specification/conformity to specifications.

When monitoring and inspection equipment is found out-of-specifications, the impact on products previously measured with this equipment is reviewed and validated and an *Out-Of-Calibration Report* is initiated as appropriate. If suspect product/material has been shipped, the customers are informed and the product is recalled as required.

7.6.4 Laboratory requirements

7.6.4.1 Internal laboratory Scope

The Quality department performs visual inspection and dimensional inspection in accordance with approved work instructions. This includes the use of microscopes, micrometers, comparators and force gages, calipers, indicators and tensile test equipment.

Hope Global's Internal Calibration Scope is:

The calibration of Calipers and Micrometers in accordance with work instructions.

CALIBRATION EQUIPMENT	RANGE CAPABILITY
Calipers	0.001" – 12.000"
Micrometers	0.001" – 6.000"

It is the responsibility of Quality to re-define and re-document the scope of the capability of tests and inspection activities, which can be performed by the in-house laboratory facility. Quality has specified and implemented technical requirements for the

- suitability of implemented procedures
- competency of personnel
- testing of product
- capability to perform these services correctly and according to pertinent process standards,
- the review of related records

7.6.4.2 External laboratory

External/commercial/independent laboratory facilities used for inspection, test or qualification services by Hope Global shall have a defined laboratory scope that includes the capability to perform the required inspection, test or calibration, and either

- There shall be evidence that the external laboratory is acceptable to the customer, or
- The laboratory shall be accredited by ISO/EC 17025 or equivalent.

Note 1: Such evidence may be demonstrated by customer assessment, for example, or by customer-approved second-party assessment that the laboratory meets the intent of ISO/EC 17025 or national equivalent.

Note 2: when a qualified laboratory is not available for a given piece of equipment, the equipment manufacturer may perform calibration services. In such cases, Hope Global should ensure that the requirements listed in 7.6.3.1 have been met.

8 Measurement, analysis and improvement

8.1 General

In order to demonstrate conformity of manufactured product, the conformity of the quality management system and its continual improvement, the TS Management Representative develops and distributes quarterly statistics. These statistics are analyzed by department heads and corrective and preventive action, and action for the continual improvement of the quality management system is taken as appropriate.

8.1.1 Identification of statistical tools

During product quality planning, appropriate statistical tools are determined for each process and are included in the control plan. This includes statistical methods for product development (variation analysis, dependability analysis, etc.), for product verification (process capability, variation analysis, control charts, etc.), and other processes.

8.1.2 Knowledge of basic statistical concepts

Department heads, with the assistance of the TS Management Representative ensure that employees is trained in the use and application of basic statistical concepts defined by quality planning and used in their respective departments. Training records are maintained.

8.2 Monitoring and measurement

8.2.1 - 8.2.1.1 Customer satisfaction

Periodic customer satisfaction surveys are conducted by management to verify if customer satisfaction has been achieved. Survey results, which include customer complaints and feedback, customers' business disruptions, customer returns of nonconforming product and delivery performance are analyzed and evaluated. As required, management takes corrective or preventive action. The effectiveness of these corrective or preventive actions is monitored by the TS Management Representative.

8.2.2 - 8.2.2.1 Internal audit of the quality management system

Following the established documented procedure Internal Quality Audits (QSP 8.2.2), the TS Management Representative is responsible for internal audits. Internal audits are planned and scheduled in such a way that all applicable clauses of ISO/TS 16949:2009 (E) and other additional quality system requirements are audited regarding compliance with this implemented quality management system and ISO/TS 16949:2009 (E) and ISO 9001:2008. Audits do also verify if the quality management system is effectively implemented and maintained, and that it meets the requirements of Hope Global, including planned actions, objectives and results.

The TS Management Representative selects the auditors and ensures that they have required experience and knowledge to perform auditing activities.

Audits are scheduled on the basis of the importance of the activity to be audited. Audit activities are assigned to personnel not responsible for the area or activity to be audited.

Audit results are recorded and corrective action is taken as required. Where applicable, follow-up audits are conducted to ensure that corrective action was implemented and is effective.

Records of internal audits are maintained. As appropriate, management is informed of the results of audits and follow-up audits and takes additional corrective action. The TS Management Representative ensures that audit results are part of Management Review.

8.2.2.2 Manufacturing process audit

In addition to the normal internal audits of the quality management system, the TS Management Representative coordinates with the Operations department the auditing of all manufacturing processes. Audits of Operations processes are performed at least once per year. Required corrective actions are taken by responsible employees in Operations. A summary of audit results of the manufacturing processes is prepared and included in Management Reviews.

8.2.2.3 Product audit

During the auditing of process in Operations and the Stockroom, inspection and test results of product in process and finished product are audited to verify conformity to specified requirements. Incoming product, product in inventory and product ready for shipping is audited regarding compliance with packaging and labeling requirements. As appropriate, physical product can be inspected and tested by the auditor to confirm the product's conformance to requirements and proper functionality.

8.2.2.4 Internal audit plans

Internal audits cover the entire quality management system and its processes, including all shifts of these processes, and are scheduled according to a yearly auditing plan and schedule prepared by the TS Management Representative. Due to special circumstances, such as nonconformities and customer complaints, the auditing frequency is increased as appropriate.

8.2.2.5 Internal auditor qualification

It is the responsibility of the TS Management Representative to ensure that internal auditors of the quality management system have the necessary experience and qualification for performing internal quality audits. Training needs are identified and training is provided as required.

8.2.3 Monitoring and measurement of processes

During Quality Management System Planning, and based on statistics of operational performance and the achievement of quality objectives, the processes of the quality management system are analyzed by the TS Management Representative and responsible department heads regarding their effectiveness. As required, corrective action is implemented to achieve planned results and product conformity, to correct nonconformities or to improve the operational effectiveness and efficiency of the processes of the quality management system.

8.2.3.1 Monitoring and measurement of manufacturing processes

To verify process capability and provide additional input for process control, the quality planning team arranges for the monitoring of new and modified manufacturing processes. Results are documented and include instructions for production processes, verification and maintenance as well as objectives for manufacturing process capability, reliability, maintainability and availability.

Manufacturing ensures that processes are implemented according to control plans and other applicable procedures or documents in order to ensure that process capability and process performance is maintained according to customer part approval process requirements.

Control plans and process flow diagrams are implemented, including adherence to specified measurement techniques, sampling plans, acceptance criteria and reaction plans.

It is the responsibility of Operations to monitor process capability and to ensure that process capability and performance is according to applicable control plans. In case of nonconformity of processes, defined reaction plans are followed.

Important events that are occurring during production, such as down times are recorded.

If identified characteristics on the control plan become unstable or non-capable, the applicable reaction plan is followed. If appropriate, these reaction plans include containment of produced parts or products and 100% inspection. Corrective action is taken as per established procedure in order to restore required process capability and product quality. If required, these corrective action plans are reviewed with and approved by the customer.

Effective dates of process changes are documented by Operations.

8.2.4 Monitoring and measurement of product

It is the responsibility of Quality to establish and maintain procedures and inspection reports for receiving inspection, in-process inspection and final inspection (when applicable, or when requested by the customer), of product and materials.

Product is not released and service is not delivered until all specified requirements have been met, unless otherwise approved by an authorized function - and where applicable by the customer.

The stockroom performs a visual inspection of outgoing product to ensure that the product and packaging is in good condition and that marking and labeling requirements are met.

In the event that purchased product is released for urgent production prior to inspection and acceptance by Quality, the product is recorded and controlled in order to permit recall and replacement in case of nonconformity of the product.

Product that does not meet specified requirements is rejected and quarantined as per established documented procedure.

As required, Quality selects accredited laboratories for certain inspection or testing activities. Records of these inspection results are verified, reviewed and maintained.

Inspection results are recorded and records are maintained. These inspection records document acceptance criteria, inspection results, whether the product was accepted or rejected and the inspection authority responsible for the product release.

8.2.4.1 Layout inspection and functional testing

At least once every twelve months or as otherwise specified by the customer, Quality performs a layout inspection and functional verification for each product specified in control plans. Results are available to the customer upon request.

8.2.4.2 Appearance items

Operations ensures that if required, that proper conditions such as lighting and masters for appearance are available at the workstation. Appropriate controls and maintenance for these masters as well as for the evaluation equipment are implemented. The operator's performance is periodically evaluated to ensure required qualification and training.

8.3 - 8.3.1 - 8.3.2 - 8.3.3 Control of nonconforming product and reworked product

Nonconforming product and product without proper identification is quarantined and controlled according to the documented procedure. The nonconformity of the product is verified and confirmed by Quality Assurance and verification results and recommended disposition or action are recorded. Functions concerned are notified.

Product with unidentified or suspect status shall be classified as nonconforming product.

Quality, Operations or Engineering review and authorizes the release of quarantined product for its final disposition, according to the following options:

- rework to meet specified requirements

- accept with or without repair by concession
- re-grade for alternative applications
- reject or scrap

If the acceptance with or without repair requires the concession of the customer or the approval or permit of a regulatory body or other authority, Operations ensures that the required concession is received prior to initiation of the repair.

Rework Orders are processed by qualified personnel in Operations. Detailed instructions for required rework are available to operators.

Reworked product is re-inspected by Quality.

As appropriate and required, the customer is notified by the Sales of the proposed use or repair of nonconforming product. Where applicable, Operations ensures that the reworked product is identified with the actual condition of the product, including the customer's release authorization.

Records of nonconforming product, including the type of nonconformity, actions taken and concessions obtained are maintained.

In the event that nonconforming product is detected after the product was shipped to the customer, or after its use in Operations, Engineering and Sales analyze the impact of the nonconformity and take appropriate action. As required, the customer is informed promptly that product has been shipped; and, the nonconforming product will be recalled.

Nonconforming purchased product and material is returned to the supplier with a Discrepant Material Report issued by Quality.

8.3.4 Customer waiver

In the event that manufactured product, or purchased product, or manufacturing processes are different from the product or process approved by the customer, or that temporary change to product and processes is required, the request for temporary change or deviation is submitted to Engineering/General Manager for approval. As required, customer production part approval is obtained.

Operations keeps records of expiration dates and quantities of authorized deviations and ensures that normal production activities are re-instated after expiration of engineering deviations.

Products manufactured and shipped on customer authorization are identified as such on each packaging unit or container.

8.4 - 8.4.1 Analysis and use of data

The TS Management Representative issues statistics regarding the performance of the quality management system. Ratings on supplier performance are issued by Purchasing. The statistics are analyzed by the TS Management Representative regarding the effectiveness, suitability and opportunities for improvement of the processes of the quality management system, and by department heads regarding the performance and suitability of activities and processes under their responsibility. This includes the analysis of customer complaints and customer returns.

A summary report is issued by the TS Management Representative, providing information on: customer satisfaction or dissatisfaction, product quality, characteristics and trends of processes and products including opportunities for preventive action, and supplier performance.

The TS Management Representative controls and coordinates the implementation of required corrective or preventive actions. Analysis results of statistics and actions are reported by the department heads to the TS Management Representative who monitors the progress and results of these actions.

In addition, trends in quality and operational performance are compared with progress toward objectives and lead to action to support: the development of priorities to resolve customer-related problems, to determine customer related trends and correlation for status review, decision making and longer term planning, and an information system for reporting of product information related to usage.

8.5 Improvement

General

It is the responsibility of the TS Management Representative to form and implement a Feasibility Team for the handling of assigned activities related to the quality management system.

The purpose of the quality team is to review, analyze and make final decisions on Corrective Action Requests and Quality Improvement Proposals, to make recommendations for preventive actions and quality improvements, to coordinate and implement preventive actions and quality improvement projects, monitor results, and to provide a forum for any quality issue which requires a cross-functional approach. Nonconformities and deficiencies are analyzed, root causes are determined and required action is taken or recommended as appropriate.

It is mandatory for the heads of departments to have one representative on the Feasibility Team. As required and/or decided by management, selected *Quality Improvement Proposals* are referred to the Feasibility Planning Team for review regarding their feasibility and benefits.

8.5.1 - 8.5.1.1 Continual improvement

The planning, coordination and control of activities for continual improvement is the responsibility of the Feasibility Team. Continual improvement activities include - but are not be limited to - the following:

- activities of the Feasibility Team
- actions on results from analysis of data
- evaluation of suppliers
- achievement of departmental quality objectives
- results from internal quality audits
- quality improvement proposals
- corrective actions and preventive actions
- periodic review of controlled documents

The objectives of the corporate quality policy are taken into consideration for planning of improvement. During Management Reviews, the effectiveness of continual improvement is reviewed and opportunities for improvement are identified.

8.5.1.2 Manufacturing process improvement

It is the responsibility of employees in Operations to continually monitor the performance of manufacturing processes regarding conformity with product characteristics and process parameters, leading to the reduction of variation. In monthly meetings with the production staff, process performance of production areas are analyzed, and opportunities for improvement are identified and implemented.

8.5.2 Corrective action

It is the responsibility of the TS Management Representative to implement and maintain the documented procedure Corrective Action that defines a corporate approach for corrective action.

Following the established procedure for corrective action, nonconformities are identified, root causes are determined, corrective action is evaluated and defined, recurrence of the nonconformity is prevented, corrective actions and their results are recorded, and the effectiveness of corrective action taken is reviewed. Corrective actions are appropriate to the importance and impact of the addressed nonconformity.

It is the responsibility of the department heads to inform the Sales department of all customer complaints and related corrective actions.

It is the responsibility of the department heads to establish and maintain records of corrective actions and their results.

8.5.2.1 Problem solving

To determine the root cause of a problem or deficiency, and to establish required corrective action, a disciplined problem solving method as outlined in the work instruction, or any other suitable method, is used as appropriate.

8.5.2.2 Error-proofing

As appropriate, Engineering applies error-proofing methods in the corrective action process to prevent recurrence of the problem.

8.5.2.3 Corrective action impact

As applicable, Engineering applies implemented corrective action to other similar processes or products in order to correct nonconformity.

8.5.2.4 Rejected product test/analysis

Product returned from customers is analyzed by Quality in order to initiate appropriate corrective action and to prevent recurrence. Hope Global shall minimize the cycle time of this process. Records of these analyses shall be kept and made available upon request. Hope Global shall perform analysis and initiate corrective action to prevent recurrence.

Note: Cycle time related to rejected product analysis should be consistent with the determination of root cause, corrective action and monitoring the effectiveness of implementation.

8.5.3 Preventive Action

It is the responsibility of the TS Management Representative to implement and maintain the documented procedure Preventive Action (QSP 8.5.3) that defines a corporate approach for preventive action to prevent the occurrence of potential nonconformities, deficiencies or problems. Any employee can suggest a preventive action to the responsible department head by initiating a CAR.

The process of preventive action includes the following steps:

- identify potential nonconformities, deficiencies or problems
- determine the root causes
- determine the necessary preventive action
- implement the action
- follow-up on status and results
- review the effectiveness of preventive action.

Department heads analyze and evaluate data of statistics and perform periodic reviews of procedures in order to detect deficiencies and problems and to take preventive action as required.

It is the responsibility of the department heads to establish and maintain records of preventive actions and their results. The TS Management Representative ensures that relevant information on preventive action is on the agenda of management reviews.

List of Quality System Procedures

QSP 4.2.3	Document Control
QSP 4.2.4	Quality Record Maintenance
QSP 6.2.1	Training, Awareness & Competence
QSP 8.2.2	Internal Audits
QSP 8.3.1	Control of Nonconforming Product
QSP 8.5.2	Corrective Action
QSP 8.5.3	Preventative Action