FIRST FILTER
SUPPLIER QUALITY MANUAL

Revision 04
10.09.2024

PREFACE

This Supplier Quality Manual is to specify and establish a set of requirements and procedure guidelines on goods and services procured by First Filter in order to meet our intended purposes with regards to Quality, HSE Safety, Delivery and Price performance, and Compliance to Local Government/ Contractual requirement are achieved; and ultimately provide assurance of our products and services that meet the specified requirements resulting in **Total Customer Satisfaction.**

First Filter Sourcing/ Procurement team values all suppliers and our objectives are to:

- Develop and sustain a reliable supply chain to achieve zero defects.
- Support continuous improvement of the Approved Suppliers.
- Ensure the integrity of purchased material and services used are in competitive to manufacture First Filter products.

First Filter Supplier Quality Manual is an overview of First Filter's fundamental requirements for our suppliers. It is an outline of First Filter's minimum expectations of all approved critical vendors.

The First Filter Supplier Quality System manuals are subject to review from time to time to ensure the effectiveness of the Quality Systems. This manual is not a substitute for understanding the detailed requirements of any purchase order, specification, document, and/or drawing.

First Filter Procurement/Sourcing Team can be contacted at sourcing@firstfilterinc.com

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SQM HISTORY RECORD

DATE	DESCRIPTION	REV.	ISSUED BY	REVIEWED BY	APPROVED BY
12 April 2020	Initial Release	Rev. 0	Jeevetha U. QA / Technical Operations Engineer	Dennis Tan Operations Manager	Ivy Tan Management Representative
14 April 2020	Format Change	Rev. 1	Jeevetha U. QA / Technical Operations Engineer	Dennis Tan Operations Manager	Ivy Tan Management Representative
21 April 2020	Update Section 4 and format change.	Rev. 2	Jeevetha U. QA / Technical Operations Engineer	Dennis Tan Operations Manager	Ivy Tan Management Representative
10 Mar 2023	Update Section 4.3.5 Re-evaluation of supplier	Rev.3	Salmi Syakilla QA Supervisor	Jeevetha U. Sales & Engineering Director	Dr. Darwinie Regional Management Representative
10 Sep 2023	Update Section 4.3.3 & 4.3.5	Rev.4	Salmi Syakilla QA Supervisor	Jeevetha U. Sales & Engineering Director	Dr. Darwinie Regional Management Representative

NOMENCLATURE

ASL	-	Approved Supplier List
ASTM	-	American Society for Testing and Materials
BOM	-	Bill of Material
CAPA	-	Corrective and Preventive Action
CDA	-	Confidentiality Agreement
CIPL	-	Commercial Invoice and Price List
COC	-	Certificate of Conformance
COO	-	Certificate of Origin
ES	-	Engineering Specifications
ECN	-	Engineering Change Note
FA	-	First Article
FAI	-	First Article Inspection
FF	-	First Filter International
FFES	-	First Filter Engineering Specifications
ITP	-	Inspection Test Report
ISO	-	International Organization of Standardization
MD	-	Managing Director
MPP	-	Manufacturing Process Plan
MR	-	Management Representative
NDA	-	Non-disclosure Agreement
NDT or NDE	-	Non-destructive Testing Examination
PM	-	Plant Manager
PO	-	Purchase Order
PPE	-	Personal Protective Equipment
PRF	-	Purchase Request Form
PT	-	Procurement/Sourcing Team
QA	-	Quality Assurance
QM	-	Quality Manual
QN	-	Quality Notification (Q-Note)
QMS	-	Quality Management System
QP	-	Quality Procedure
RS	-	Router Sheet
SQM	-	Supplier Quality Manual
SQP	-	Supplier Quality Plan
WI	-	Work Instructions
WPS	-	Welding Procedure Specification

SECTION 1: OVERVIEW

1.1 Scope

Provide an overview of fundamental requirements for our suppliers to ensure that the new suppliers have the ability to provide products and services conforming to our requirements. The manual is not all-inclusive, but instead outlines First Filter's minimum expectations for the supply base.

1.2 Control

This Manual is originated and issued by FF QA Personnel, Reviewed and approved by FF MR prior for publication and distribution.

1.3 Definitions

Approved Suppliers (AS)	- Those who provide products or services on a regular basis and have been approved as qualified suppliers. This includes contractors or sub-contractors.
Procurement Team (PT)	- First Filter's procurement/sourcing team negotiates the price, delivery dateline, terms and conditions. He or she places the purchase order for qualification, production, special processes and / or services. The PT is also the official contact between the supplier and First Filter for the intended commercial issues and may be reached at sourcing@firstfilterinc.com
New Suppliers	- Those who provide products or services for the first time to our company.
Critical suppliers (CS)	- Those who provide products or services that are assigned FF product code starting with A and B number.
Non-critical suppliers (NCS)	- Those who provide products or services that no substantial impact on product quality that are assigned FF numeric number.
First Article Inspection	- An inspection proposed to verify the production materials, tools, and processes meet First Filter's product requirements and that the production process has the potential to produce products meeting requirements during an actual production run.

SECTION 2: RELEVANT DOCUMENTATIONS

2.1 International Quality Standards

ISO 9001 Latest Revision - Quality Management System – Requirements.

API Q1 Latest Revision - Quality Management System Specification for Manufacturing Organizations to the Petroleum and Natural Gas Industry.

2.2 Quality Management Document

2.2.1 First Filter Engineering Specification

Generally, all business-specific technical requirements will be issued to supplier as required. In most cases, the latest revision of document shall be used unless indicated otherwise.

All FFES related documents will be provided upon request only after grant of FF PO.

2.2.2 Communication with Supplier

During any stage of the order, it is advisable for supplier to be in touch with respective First Filter's Procurement/Sourcing Team Representative/s. This step is for supplier to keep First Filter updated of all quality and technicality issues such as specifications and/or drawings may contain conflicting/ inconsistent requirements/ incomplete information or other factors that possibly may arise or affect the order.

The following documents are provided to aid in such scenarios:

- FF PO.
- Part Drawing.
- Material Specification.
- FF Engineering Specification.

SECTION 3: SAFETY REQUIREMENT

3.1 Safety First

First Filter is committed to protecting all employees' health and safety as well as the environment. As the company's first and foremost priority, safety awareness must be strongly adept by all employees. FF believes that safety is the foundation of quality.

3.2 Personal Protective Equipment (PPE)

Prior to entering the shop floor, First Filter strongly encourages all personnel including it's the suppliers and its employees to comply with the following Personal Protective Equipment propositions:

- hard hat, safety glasses and steel-toed shoes should be worn at all times.
- Depending on situations/purpose of visit to shop floor, additional PPE such as dust masks, gloves, welding goggles, and other protective clothing may be required.

3.3 Basic Safety Rules

When in the shop floor, First Filter encourages suppliers to ensure that their employees are accustom to the following basic safety rules at all times:

- All loose jewelry and neckties are to be removed before entering the shop floor.
- Opened-toed shoes such as slippers/sandals/barefoot are **NOT** permitted.
- Long hair needs to be neatly tied back at all times.
- If oil spillage on the floor occurs, immediately clean up the spillage.
- Ensure that the shop area is clean at all times, to maintain a safe work environment.
- Loose-fitting clothes must be tucked in or tied up.
- Polyester and nylon clothing are not recommended.

3.4 Machine Guarding

Machine guarding/maintenance is a critical requirement for all manufacturers, hence, any machine part, function, or process that may pose an injury should be secured or stowed at a safe area. First Filter strongly recommends that suppliers practice usage of safety guards to prevent severe injuries.

3.5 Safety Awareness

Suppliers are advised to avoid harmful/hazardous workplace conditions and serious workplace injuries by frequently holding safety briefing/meetings and training for their employees. First Filter recommends that supplier equips new employees with safety awareness and provide continuous safety awareness training to all employees.

SECTION 4: SUPPLIER QUALIFICATION

4.1 Confidentiality and Proprietary Agreement

Throughout the course of business, First Filter's suppliers will frequently have access to information that is of proprietary nature. Deeper to the guidelines of the CDA between First Filter and our suppliers, all information shall be maintained in the strictest confidence. Therefore, should a supplier desire to sub-contract to another party any services that require the use of First Filter's information, the primary supplier shall ensure that subcontractors / vendors control and protect First Filter documents when in their possession.

An NDA shall be signed between First Filter, the primary and sub-tier suppliers to protect First Filter's intellectual property. In a case where the primary supplier desires to procure a pre-existing First Filter product from another First Filter vendor, prior to ordering, the primary will need to obtain First Filter's express written consent.

4.2 Supplier Approval

In order for a supplier to receive First Filter PO, a formal supplier approval is mandatory. Approval is an independent of part qualification. Supplier approval and qualification will be in regard to First Filter's QP 07.4.1 Initial Supplier Evaluation and Re-Evaluation of Suppliers.

4.3 Qualification of Supplier and Product

4.3.1 Assessment of Approved Supplier

Suppliers shall be qualified as Approved Suppliers if they satisfy at least one of the following criteria:

a) Satisfactory performance in supplying similar products or services to company for the past two (2) years based on the results as per QP 07.4.1.
b) Satisfactory on-site assessment of the suppliers based on Supplier evaluation questionnaire.
c) Holding registration to a recognized Quality Standard for Critical Supplier (such as: ISO Standard).
d) Satisfactory results of the evaluation of samples by company.
e) Recommendation or experience of other users.
f) Supplier will be qualified after the first article pass. Clearance given by the quality team. Buy off process will be done.
g) Customer ASL list will be considered and used as per the formalities.
h) Supplier to provide first article report to FF and the report will be reviewed and updated in the FF ASL list.

4.3.2 Supplier Category

Critical supplier -Products, components or services provided are assigned with **FF A & B** substantial impact on product quality or requirements.

Noncritical supplier -Products or services supplied do not have substantial impact on the product quality requirement.

4.3.3 Critical Supplier Evaluation

Initial evaluation of purchase product shall consist of the following:

i. Verification of supplier QMS and must conform to the FF QMS requirements for supplier.

ii. Verification of the type and extent of control applied by the supplier, internally and to their supply chain, in order to meet the organization's requirements.

iii. Supplier should be assessed to ensure meet FF's requirements by one or more of the following based on the risk assessment as Quality Procedure (QP 07.7):

- Performing On-Site evaluation, to verify the process controls are effective to achieve to requirements.
- Performing a remote assessment, to verify the process controls are effective to achieve to requirements; verification of objective shall be evident through audio/visual observation of required activities and documentation.
- Performing inspection, testing, or verification of relevant characteristics of purchased product.

Based on risk assessment, suppliers with high-risk severity shall be evaluated through on-site process, if not performed evaluation shall include remote assessment and inspection, testing, or verification of relevant characteristics of purchased product.

If any addition to supplier scope of approval or change of approved site evaluation shall be performed.

When the supplier is specified by the customer, or by proprietary, and/or legal requirements. Supplier shall be qualified to concern customer contract only, if not evaluated as per FF SQM 4.3.3. iii. The evaluation scope includes the following.

- Verification of suppliers QMS to comply with international standard i.e. ISO, API, BS, etc. also their capability and ability shall meet the FF purchase requirements and/or customer's requirements.
- Identifying conformity of the supplied product, component, or activity to specified requirements.

4.3.3.1 Critical Supplier Qualification Process

The supplier and product qualification processes for critical suppliers are branched into three stages which are Stage 1: Supplier Identification, Stage 2: Supplier Selection followed by Stage 3: Supplier and Product Qualification. An overview of the critical supplier qualification processes is as below:

STAGE 1: Supplier Identification

- Preliminary screening of supplier.
- On-site supplier assessment.
- Supplier capability appraisal consultation.
- Supplier questionnaire submission.

STAGE 2: Supplier Selection

- Shortlisting prospective suppliers.
- Quotation request.
- Release of a non-controlled supplier QM.
- Scheduling of a supplier audit before initiation of FA.
- PO for FA granted.

STAGE 3: Supplier and Product Qualification

- Supplier technical review meeting.
- Submit manufacturing quality process plan.
- Test run supplier FA for approval of FA.
- Approval/rejection of supplier qualification.

4.3.4 Non-Critical Supplier Evaluation

Initial evaluation of purchase product need to one of the conditions:

i. Verification of supplier QMS and must conforms to the FF QMS requirements for supplier.
ii. Ensure the supplier capabilities to meet FF purchasing requirements according to FF QP 07.4.2.
iii. Assessment on the product or component upon delivery or activity upon completion.

4.3.5 Re-evaluation of Critical and Non-Critical Supplier

During re-evaluation, if any critical suppliers are found to not meet FF requirements, they will be removed from the ASL at the discretion of FF. The frequency of re-evaluation of suppliers will be conducted based on risk level and assessment scores. Every 12 months, an assessment shall be conducted based on QMS, quality, delivery, price, risk level and HSE matters. Any supplier or contractor that fail the rating system (less than 6 points) will be warned by company and may be removed from the Approved Suppliers List. Suppliers who have scored more than 14 points in 2 consecutive years will be re- revaluated in the next 3 subsequent years. These 3 years acts as

grace / leisure period. Suppliers who have scored less than 14 in 2 consecutive years will be re-evaluated in the next subsequent year. However, if such supplier has any problem or non-compliance with regards to the quality or delivery, such waiver period will be revoked to yearly evaluation. If there is no purchase made within that year, risk assessment and re- evaluation will be conducted prior to purchase (QF07.4.2-1).

Example case as below:

YEAR		EVALUATION / ASSESSMENT OF YEAR	SCORE
2020	1st	Initial Evaluation + Score of Assessment 2020	15
2021	2nd	Score of Assessment 2021	15
2022	Cont. Yr1	Score of Assessment 2022	10
2023	Cont. Yr2	Score of Assessment 2023	15
2024	Cont. Yr3	Score of Assessment 2024	15
2025	Re. Ev. Yr.& 1st	Re- Evaluation + Score of Assessment 2025	**
2026	2nd	Score of Assessment 2026	**

The re-evaluation of suppliers will be as per the following sections in **FF QP07.4.1**:

- **Critical Suppliers : Section 4.1.3 (a)**
- **Non-critical Supplier : Section 4.1.3 (b)**

4.4 Assessment of Suppliers Performance

First Filter's supplier development, procurement and supplier quality professional may conduct an on-site assessment of the supplier's facility together with other First Filter personnel (e.g. manufacturing technology, technology & operations) who may also participate. The supplier will be given a notice minimum of 5-business days in advance of assessments. The on-site assessment consists of:

Business Assessment - to determine if the supplier has the necessary financial resources, production capacity, and other business resources required to fulfil First Filter's volume production needs and continuity of supply.

Manufacturing Assessment - to determine whether the supplier has the needed manufacturing and quality processes controlled in a manner that prevents the shipment of defective product to First Filter.

Technology Assessment - determines whether the supplier has the needed technical resources, including production and inspection equipment, facilities, engineering resources, and etc.

4.5 Supplier Quality System & Manufacturing Process Audit

Quality Management System (QMS) audits and technical audits are performed at First Filter's discretion using formats defined by the auditor. An audit will be conducted to the

guidelines of the SQP Program, and the First Filter Quality audit checklist. Additional documents utilized as applicable. A QMS audit is a documented activity performed to verify, based on review and evaluation of procedures, activities and records, that the elements of a supplier's quality system are appropriate, documented, communicated and effectively implemented.

Upon conclusion of an audit, a post- audit review with the supplier will be conducted to and summarize any observations, findings, and action items. A Supplier Quality Audit Report will be compiled to specify observations, recommendations, and findings. CAPA requests will be generated for each adverse finding to assure correction of the finding and prevent recurrence. CAPA Requests require the following response:

- Determination of the cause of the nonconformance.
- Identification of similar nonconformances (if applicable).
- Description of the action taken to correct this and similar nonconformances.
- Action taken to preclude recurrence.
- Schedule for implementation of the planned action

Corrective and Preventive actions response shall be submitted to First Filter within thirty (30) days of generation date specified on the CAPA request. Responses will be reviewed, and effectiveness validated during follow-up visits/communication.

4.6 Compliance to Local Governmental /Contractual Obligations

The requirements on localization workforce/ supplies shall be imposed on critical local suppliers if there is contractual obligation to customer and local government.

First Filter shall rely and set the required targets of such to the critical local suppliers/ critical local sub-contractors, evaluation of this performance is one of the evaluation criteria during supplier annual performance review.

SECTION 5: PRODUCT QUALIFICATION

5.1 Pre-production Technical Reviews

Pre-production Technical reviews will be completed by a First Filter representative with supplier before production begins. If any problems emerge during the preproduction review, a follow-up communication should be done with First Filter's representative. Pre-production review helps to ensure that the supplier understands the details of the following elements:

- Materials.
- Documents.
- Purchase order.
- Project timeline.
- Sub-tier suppliers.
- Inspection Test Plans.
- Drawing/ Specifications.
- Manufacturing Process Plans.
- Labelling, packaging, and shipping.
- Documentation and certification requirements.
- Responses to corrective and preventive actions issued during any audits must be received by their scheduled due dates - action plans to be identified within the time planned implementation dates.
- Supplier's employees have been re-trained to properly perform any new processes, techniques, and procedures.

5.2 First Article Package Requirements

The First Article Inspection is intended to verify supplier's production materials, tools, and processes meet First Filter's product requirements and that the production process has the potential to produce products meeting requirements during actual production run.

A FAI may include confirmation of the following (but not limited to):

- Inspection test plan (ITP).
- Manufacturing Process Plan (MPP).
- Drawing/Specification/Dimensional verification.
- Certificate of Conformity and completeness, if applicable.

- Material test Report/ Material Certificate conformity and completeness (if applicable).
- The conformity of an item against the applicable specifications/drawing's acceptance criteria as per applicable revision.
- Documentation for processes requiring assessment such as Welding, NDT, heat treatment, Hardness test report and etc.

SECTION 6: SUPPLIER QUALITY PLAN

6.1 SQP

It is advised for First Filter suppliers to have a documented quality plan to ensure the integrity of First Filter documents/products before, during, and after the parts are manufactured. Suppliers should document and illustrate quality plan procedures in a logical format that clearly shows how the supplier will maintain product integrity at all times. Other than an SQP, supplier needs to have a secondary supplier Approved Vendor List which is to be submitted to First Filter. This is for scenarios where supplier requires subcontracting to a sub-tier supplier to assist the order given by First Filter. In general, when it is necessary for a primary supplier to subcontract a process or service to a secondary sub- tier supplier, a secondary Quality Plan will need to be developed. The supplier's documented quality plan should ensure that the manufacturing and supporting functions as well as departments, have process control methods in place at all times to ensure parts conform to First Filter's PO, drawings, and specifications.

A supplier quality plan is expected to have the following but not limited to:

- Training.
- Calibration.
- In-process inspections.
- Manufacturing Process Plan.
- Documentation management.
- A Quality Plan for their supplier.
- Safety Awareness Plan/Emphasis.
- Handling of non-conforming material.
- Raw material incoming inspection processes.
- Labelling, packing, and shipping processes /procedures and documentation.
- ITPs, final inspection processes, and documentation.(Including details on measurement and test equipment used, with calibration information and serial numbers).

6.2 Manufacturing Process Plan

A Manufacturing Process Plan (MPP) is a method for documenting the step-by-step procedures that are to be in place during production. Basically, an MPP or in other words may be called as a Router Sheet (RS), is a medium to record the manufacturing process and document continuous improvement as well as revision changes. The MPP also serves as a training aid for new operators and other personnel. Additionally, in case of a defect/nonconformity, the MPP is a resource for the corrective and preventive action investigation.

Hence, a supplier that has been awarded a First Filter PO is obligated to have an MPP for each part number/feature which should be sent to First Filter for approval as only an MPP with FF's approval is valid. The supplier is responsible for reviewing each purchase order, verifying the latest drawing, and specification revisions as well as keeping the MPP up to date with all current processes, including any changes to a sub-tier supplier's MPP. Suppliers can customize any MPP format, as long as it meets the minimum requirements that First Filter requires such as:

- Revision control provisions.
- Identification of critical Sub-Tier Suppliers.
- Identification of component parts and sources.
- Signatures of approval from manufacturing and quality representatives.
- Identification of manufacturing locations and sub-tier suppliers' locations.
- A list of applicable First Filter specifications, ordering sheets, outline drawings, and specifications/instructions for processes requiring assessment along with the latest revision letter or number.
- List of WPS used for manufacturing of the part and a visual weld inspection procedure (when applicable) according to FF docs.
- A sequence plan of major and critical manufacturing and inspection steps with appropriate sign-off documentation.

6.3 Inspection Test Plan

An Inspection Test Plan is a disciplined and documented method to determine specifically how each required part feature is measured against the requirements on the drawing(s). Each supplier awarded an FF purchase order must submit an ITP template for each item which is to be produced, to the assigned First Filter representative for review. After review, FF will provide feedback to the supplier where the feedback and approval shall be documented as only the ITP containing FF's approval may be used. The supplier's ITP shall include the following minimum information:

- Inspection method (instrument used).
- Characteristic/feature to be inspected.
- ITP revision number, date, person who initiated the ITP template.

- First Filter part number, part name/title, drawing, revision number and feature tolerance specified on drawing.

First Filter's supplier is responsible for ensuring that the ITP is maintained and up to date with the latest inspection method. In any scenario where the supplier needs to deviate from the inspection method on the already approved ITP, the supplier must first contact First Filter and submit the changes needed on the ITP to First Filter's Quality Representative. Approval of the changes must be received by the supplier prior to implementation as only the ITP's containing First Filter's approval shall be used after changes initiated.

SECTION 7: SUPPLIER PRODUCTION PROCESS MANAGEMENT

7.1 Record Retention

First Filter may review all documents prior to, during, and after the manufacturing and inspection process of any/all product. Hence, all suppliers should preserve documents for five (5) years from the date of shipment (unless otherwise specified).

7.2 Component Traceability Requirements

Traceability	- to ensure the history, application or location of an item by means of recorded identification is properly documented

Trace records of all components shall be maintained by First Filter approved vendors. The supplier shall ensure traceability to the batch / lot number of all components during production. These numbers shall be recorded on their internal production documents (e.g. Job traveler, Job ticket, Job sheet, and production order) so the unique identity of any item can be tracked. Upon request, suppliers/subcontractors should be able to retrieve the following information:

- Material Batches.
- Production Batches.
- Manufacturing Date.
- Equipment/ machine used.
- Inspection and test reports.
- Nonconformance reports (when applicable).
- Operator and/or Quality Control Inspector in-charge.

7.3 Raw Material Traceability Requirements

Material heat number	- the chemical analysis reference number recorded on the material test certificate, traceable to a specific batch of raw material produced by the steel mill.
Material heat lot number	- the heat treats oven load reference number recorded on the material test certificate, traceable to a specific batch of raw material produced by the steel mill.

Raw materials supplied by raw material vendors, including raw materials that are purchased by turnkey suppliers, are required to have a direct photocopy of the originating steel mill raw material test report. The material has to be traceable to the material test report using the material heat number and material lot number. It is advisable to take note that each material heat number / material heat lot number is considered as a single trace number. Thus, if possible, mixing of multiple heat / heat lot numbers has to be avoided.

However, in the event where multiple heat / heat lots of material is provided, each heat / heat lot of parts provided need to be clearly identified on the applicable parts so that First Filter can clearly identify the specific part – heat / heat lot combinations.

7.4 Component Identification Requirements

Supplier is required to mark all parts according to the First Filter Engineering Specified Requirements and those identification must be legible. Care shall be taken to ensure that the marking performed is not done on special surface finishes or in areas that could scrap the part. It is utmost crucial to ensure that all required marking applied is correct. All components need to be identifiable and controlled in order to:

- Prevent the use of incorrect or defective components/ items.
- Assure that problems can be identified, and proper CAPA is taken.
- Provide traceability throughout all operations in the manufacturing process.

7.5 Production Modifications

In the event where the supplier's manufacturing location changes from that specified on the approved MPP for a given item, suppliers are required to notify their respective procurement representatives and supplier quality professionals. Notification must take place prior to manufacturing product and must be in writing as First Filter reserves the right to reject any products not meeting the location requirements stated on the qualification form and/or the approved MPP. Supplier is held responsible for shipping and handling charges that will be applied to any products rejected due to this criterion.

Please take note that this requirement also applies to sub-tier supplier relocations or changes of sub-tier suppliers. Failure to notify a supplier's manufacturing location change or a sub-supplier change may result in disqualification of the supplier.

First Filter must be informed beforehand of any planned changes by the supplier to the manufacturing process or manufacturing location, such as:

- Use of other material than was used in previously approved part or product.
- Production from new, additional, replacement or modified tools, dyes, molds, patterns, & etc.
- Production following upgrade or rearrangement of existing tooling or equipment.
- Production from tooling and equipment transferred to a different plant site or from an additional plant.
- Change of sub-tier Supplier for parts, inequivalent materials, or services (E.g. heat treating, plating, etc.).
- Change to test/inspection method – new technique (no effect on acceptance criteria).
- For bulk materials: new source of raw material from new or existing supplier, or change in product appearance attributes, etc.

7.6 Control of Non-conforming Product

Non-conforming items needs to be properly managed. Any materials, products or items found to be non-conforming during receipt, fabrication, welding or assembly shall be clearly identified as "rejected". Rejected items shall be segregated from acceptable materials, products and/or items to the extent practical. All non-conformances should be documented in detail.

Dispositions of nonconforming materials, products or items (inclusive of rework instructions when applicable) shall be documented on non-conformance / rejection reports and signed by the First Filter approved vendor quality representative or an authorized designee. All nonconforming reports shall become a permanent record and shall be retained with the manufacturing work order packet.

Non-conformance disposition request waivers, requiring First Filter’s approval, shall be submitted on materials, products and/or items found defective at the First Filter approved vendor.

7.7 Control of Reworked Product

Rework is an additional operation, required by a non-conformance or engineering change notice (ECN), that is not part of the basic production process flow. In a case where rework is performed, the rework will bring the product into full compliance with applicable drawings and specifications.

Documented instructions for rework, including re-inspection requirements, shall be accessible to and utilized by the supplier's appropriate personnel. All rework shall be documented and accepted by quality.

Repair defined as using alternative manufacturing techniques, methods, materials, or processes which may not bring product into full compliance with applicable drawings and specifications are not allowed without prior written approval from First Filter.

7.8 Packaging

It is the responsibility of the suppliers to ensure that all goods delivered are packed according to acceptable commercial standards or to any additional First Filter's requirements/requests. All equipment and material shall be handled in a manner that will not cause damage to threaded ends or finishes.

The following factors need to be paid attention to:

- Equipment shall be packed to prevent damage during transport.
- Thread protectors/protection shall be applied prior to shipment to First Filter.
- Consideration shall be given to environmental conditions in the shipping process.
- Orders shall be verified for completeness of order, identification of markings, packaging requirements and required documentation.

7.8.1 Cleanliness

Supplier shall ensure that parts shall be free from dirt and contaminants which could contribute to deterioration of the item or which could result in the plant having to clean the part before use.

7.8.2 Preservative

Supplier shall ensure that parts, especially machined metal parts, that are susceptible to corrosion or deterioration shall be provided with a proper type of preservative coating such as anti-rust oil or anti-corrosion chemicals.

7.8.3 Cushioning

Supplier shall ensure that parts requiring protection from physical and mechanical damage or which are fragile in nature shall be protected by wrapping, cushioning, pack compartmentalization, or other means to mitigate shock and vibration during handling and shipment.

7.9 Identification

Throughout the production and transportation processes, all materials shall be clearly tagged/marked with adequate information to maintain traceability to the applicable purchase order or production package.

7.10 Calibration

Any materials, products, or items shall be inspected during receipt, fabrication, welding or assembly using calibrated equipment. Calibration standards must be traceable to N.I.S.T. / U.K.A.S. or similar recognized National Standards. Measurement and test equipment shall be clearly identified as "calibrated" using a calibration status indicator. Records of calibration shall be retained and shall be available for review by First Filter, or the designated FF representative.

In a scenario where the calibration shows that any measuring and test equipment has worn off or any discrepancy exceeding acceptable limits, processes/procedures shall be in place to ensure products previously inspected are recalled or removed from service, and / or re-inspected. The use of an **"OUT OF SERVICE – EXPIRED CALIBRATION"** component/machine/etc. is strictly **prohibited**. Additionally, there shall be a method for customer notification if products delivered are found to be defective. It is the responsibility of the user to ensure that the equipment used has a current (not past due) status indicator.

When a supplier performs calibration in-house, the location performing calibration technically becomes a calibration laboratory. The supplier should be aware that there are general industry requirements for the competence of testing and calibration laboratories. If the calibration laboratory is part of an organization performing activities other than testing and/or calibration, the responsibilities of key personnel in the organization that have an involvement or influence on the testing and / or calibration activities shall be defined in order to identify potential conflicts of interest.

The calibration laboratory will also need to establish and maintain procedures for identification, collection, indexing, filing and storage of technical records. The calibration laboratory shall ensure that it utilizes the latest valid edition of standards unless it not appropriate or possible to do so.

7.11 Gauge Storage and Handling

All equipment, instrumentation, and gauges used for inspection and acceptance shall be segregated, packaged, protected, and coated at all times in a manner suitable for each item to prevent damage, rust, contamination, and loss.

Each user is responsible for ensuring that gauges are handled in a manner that maintains accuracy and fitness for use. Suppliers shall conduct a visual inspection for damage to all gauges prior to and after use.

7.12 Work Instruction

Supplier shall develop documented methods to performed activities (under controlled conditions), to achieve conformity to First Filter specified requirements. The method/instructions used shall contain adequate information to validate the quality of the product provided. The method/WI shall be maintained and available at the point of use, as necessary.

7.13 Releasing Parts for Shipment

It is the responsibility of FF Supplier to ensure that specified FF requirements are fulfilled prior to shipment. If specifications are not fulfilled, then suppliers shall not ship finished goods. Supplier needs to verify and meet FF requirements which may include (but are not limited to), requirements in the purchase order, documentation, and part drawings. Before packing components for shipment, supplier needs to liaise with FF Procurement/Sourcing Team (PT).

The following documents need to be acknowledged with signature and company stamp of both parties (FF and Supplier) as an approval before packing for shipment:

- Final inspection report with dimensional checks submitted to FF PT (QA of PRF issuing plant to verify the specifications of produced component before payment).
- Marking Instructions given to Supplier by FF PT (FF QA of PRF issuing plant).
- COC and Mill Cert to be submitted by Supplier to FF PT (FF QA of PRF issuing Plant to verify).
- CIPL / COO to be sent to FF PT (FF Logistics to verify).

7.14 Special Processes

Special processes must be strictly controlled and performed in accordance to Industry or First Filter qualified processes and/or procedures. The following shall be applicable:

- Qualification and documented approval of special processes by First Filter is required, prior to use.
- Approval of equipment and qualification of personnel is required.
- FF approval of specific methods and procedures and control of significant operations and parameters of special processes in accordance with documented process specifications and changes is required.
- Records of special processing and qualifications must be maintained.
- Revalidation, when applicable, must be performed and documented.

Special processes are defined as (but not limited to):

- Coating.
- Welding.
- Heat treating.
- Non-destructive testing/examination.
- Any additional process where resulting output cannot be verified by subsequent monitoring or measurement.

7.15 Welding Process

Welding operations shall be controlled by the use of qualified personnel and procedures and by controlling use of consumable materials. All welding/brazing inspection is accomplished by qualified individuals who have successfully fulfilled the minimum requirements of training as specified in documented procedures. Prior to welding on any First Filter equipment components, the following will need to be developed reviewed and approved by First Filter:

- Welding procedure specifications (WPS).
- Welding procedure qualification records (PQR).
- Welder qualifications: Only qualified welders are allowed to weld.

7.16 Non-destructive Testing Examination (NDT)

Records of NDT inspection results shall be documented and shall be included in a document package provided to First Filter. NDT shall be performed by trained and qualified personnel according to documented procedures. Level II qualification is the minimum required for interpretation of NDT results. Engineering specifications for NDT is indicated on the First Filter PO, BOM, and/or FF engineering drawing.

NDT personnel qualification shall be conducted to the requirements of SNT-TC-1A, ISO 9712, EN 473, or like recognized industry standards. Personnel qualifications, including current eye examinations (annually), for Level II or Level III must be maintained. Level III examiners are responsible for establishing and maintaining a written practice for the control and administration of NDT personnel training, examination and certification, as outlined in SNT-TC-1A/ISO 9712 and for the approval of all NDT engineering specifications. All training, testing and records of NDT examiners are the responsibility of the Level III examiner. If required, raining by outside agencies may be utilized.

7.17 General Vision Requirements

Eye examination records must be retained and indicate the results of the tests, name and title of the person who conducted the examination, and date it was performed. Personnel performing NDT inspection, weld inspection and/or final visual inspection functions must receive an annual eye examination per FF requirements.

The charts listed below are the minimum requirements and where these charts are not available, charts or examinations that meet or exceed these requirements are acceptable. This examination should assume natural or near distance acuity in at least one eye.

First Filter's Eye Test Requirements for the above-mentioned personnel is as follows:

S Ishihara Chart (Colour Contrast) : NDT personnel only.

Jaeger-1 Chart (Near Vision) : Weld Inspection Personnel only.

Jaeger-2 Chart (Near Vision) : NDT & Final Inspection of Product Personnel.

Snellen Chart (Far Vision) : NDT, Weld Inspection & Final Inspection of Product Personnel.

7.18 Heat Treatment Process

Heat treatment must be performed to approved /controlled documented procedures. Heat treated items/materials will be subjected to evaluations, to assure conformance to hardness and mechanical requirements of the applicable engineering specification(s). Heat treat charts/records as well as physical property testing shall be maintained by the supplier and shall be included in a document package provided to First Filter.

As a minimum, heat treatment suppliers must ensure for the following items are being performed or maintained accordingly:

- The heat treatment furnaces shall be surveyed at pre-determined intervals to ensure continuous compliance to furnace uniformity.
- Surveys shall be performed to SAE-AME-H-6875A, AMS2750 or BS2M 54 or like recognized industry standard.
- The thermocouples and survey wire must be certified and traceable to NIST or an equally recognized industry standard.

7.19 Hardness Testing

Suppliers shall develop a hardness testing procedure in accordance to the guidelines ASTM E-10 (Brinell) and / or ASTM E-18 (Rockwell) as well as First Filter specification (available upon request). All employees performing hardness testing shall be trained and indoctrinated to the requirements of FF specification. Records of indoctrination and hardness testing qualification must be maintained.

First Filter heat-treated material for H2S service orders shall be 100% hardness checked. Standard service shall be checked in accordance with the sampling with FF requirements.

Only Brinell and Rockwell testing methods will be allowed and recognized for final acceptance while Equotip or other like processes may be used for informal sorting or verification. However, **Equotip** or **other similar processes** shall **not** be recognized as the final hardness test method. If those testings are prohibited due to product design, an alternate method of hardness inspection may be performed upon prior notification and documented approval from the First Filter PT. Records of hardness inspection results shall be documented and shall be included in a document package provided to First Filter.

7.20 Coating / Plating Process

Components that require coating/plating will be performed according to First Filter specifications by First Filter approved vendors. In the event where a supplier has an alternate vendor which they feel is competent in performing the required coating / plating, a documented request to use the vendor shall be submitted to First Filter for consideration and possible approval prior to release and processing of the items. It is essential to take note that First Filter's approval of the vendor must be documented. Records of coating / plating processing and inspection results shall be documented and shall be included in document package provided to First Filter.

7.21 Work Environment

To have a positive work environment, suppliers shall identify, provide, and maintain appropriate facilities to ensure capability and compliance with all processes in achievement of conformity of products provided. Suppliers should create an environment with adequate workspace, lighting, ventilation to achieve conformance to product requirements.

Human and physical factors in the work environment should be continually reviewed in order to determine suitability for achieving product conformity, maintaining compliance with local regulations, and / or improving work conditions.

7.22 Equipment & Machine Preventive Maintenance

All Suppliers are expected to establish an effective preventive maintenance system to ensure that manufacturing production machines are checked routinely, and maintenance is conducted to predict the machine's processing capability.

7.23 Training & Competency

Competencies are accessed through testing, evaluation/observation and work performance records as applicable. Thus, established procedures should be developed in order to identify specific job competency requirements and ensure conformance to product requirements.

The effectiveness of personnel's training shall be evaluated through improved or changed performance and measurement to applicable personnel development objectives. Indoctrination / training and applicable records shall be created and/or updated as personnel changes or revisions to procedures, processes and specifications are made. Indoctrination/training shall occur within three months of date of employment, transfer, or revision to the procedures, processes and specifications, as applicable.

Suppliers shall maintain with the following records and evidences:

- Employee training plan.
- Employee training records.
- Employee training material.
- Employee education certification.
- Employee training evaluation records

SECTION 8: SUPPLIER PERFORMANCE

8.1 Supplier Performance Metrics

All suppliers are expected to have an assigned Procurement Specialist and Supplier Quality Professional who is responsible for monitoring the supplier's activity and conducting periodic reviews with the supplier. Contributions by, and involvement of others, in the procurement process are encouraged in all aspects of supplier reviews.

A supplier review shall have the following basic components:

Performance measurements	: Review of the prior quarter's activity and progress made toward defined objectives.
Problem resolution	: Discussion of problems which have occurred and their resolution to prevent future occurrences.
Projects	: Projects for cost reduction and / or design improvement. These projects are ongoing. This serves as a forum for formal project review.
General business information exchange	: Exchange of forecast information, new opportunities and more.

8.2 Supplier Corrective and Preventive Actions

When a corrective and preventive action is issued due to non-compliance, performance or audit findings, the First Filter Quality Professional will develop and issue the corrective and preventive action request. A copy of the request will be sent to the vendor and respective supplier's procurement personnel.

Non-conforming materials and products identified are documented by the use of a nonconformance report called Q-Note, segregated to the extent practical and controlled to prevent unintended use or delivery. Where isolation is not practical, non-conforming items and materials are positively identified by appropriate marking.

Suppliers must report non-conformances to the appropriate First Filter's Quality Professional. It is the responsibility of the supplier to report non-conformances from any sub-tier suppliers to the First Filter Supplier Quality Professional.

The First Filter Supplier Quality Professional will be responsible to forward such reports to the appropriate First Filter representative for disposition. Parts cannot be shipped until all non-conformances are dispositioned and CAPA is identified. The Q-Note may be written as facilitated by the applicable documentation system in effect.

Q-Note -A report of FF supplier's documented nonconformance of manufactured and/or purchased items/materials/products/services detected. Detection of a nonconformance may occur at any point.

8.3 Containment Plans

When there is an identification of an effect or problem, a Containment plan shall be created. A containment plan states which parts are to have problems and shall prevent defective and suspect parts from being mixed with acceptable parts.

It is the responsibility of the supplier to document the containment plan and submit the plan to First Filter when the problem is reported.

The containment plan must at least include the following criteria:

- Part quantity at supplier.
- Part quantity at First Filter.
- Method of marking the parts.
- Purchase order line-item quantity.
- Location of the parts at the supplier facility (e.g., WIP, QC, shipping, warehouse, or in-transport).
- Other information that distinctively identifies the specific parts and exact location.

SECTION 9: GOOD PRACTICE COMMENDATIONS

9.1 QUALI-5S' Work Environment

The **Quali-5S**'system is a method for keeping the workplace safe, organized, performance-oriented, clean, and more enjoyable, as well as a foundation for continuous improvement that involves the operator in organizing the place of work.

First Filter strongly encourages suppliers to implement **Quali-5S**' for the following reasons:

- Usage of clean equipment is more reliable.
- A better path to have an efficient operation.
- Clean and organized areas improve efficiency.
- Orderly work areas have fewer safety incidents.
- Good organization makes waste obvious and initiate waste reduction contingency plan.

The five elements in **Quali-5S**' are:

Sort : Position things in order and eliminate unnecessary items.

Shine : Preserve a clean and orderly workspace.

Set in order : Align, arrange, and place items for easy access.

Standardize : Follow steps for maintaining clean and organized work areas.

Sustain : Pledge to keeping areas clean every day and conducting 5S audits.

DISCLAIMER

All information in this manual is prepared in respect to the supply base for the suitability of First Filter International. This record is not a replacement for any essential part of a contract and/or document review by suppliers in order to fulfil First Filter's order requirements. Please note that this is not a contractual certificate. At any point, First Filter has the rights to change any section and/or clause of this quality without due notice.