



Supplier Quality Manual

Approvals:

Quality Manager: Mark Chinn

Date: 11/18/2019

Procurement Manager, Multi Site: Dennis Okocha

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SECTION I

Purpose / Scope

The purpose of this document is to communicate the Saint-Gobain requirements for the structure of a fundamental quality management system for those companies that supply goods and services to Saint-Gobain.

The intent of this Supplier Quality Manual is to define the minimum quality assurance requirements which shall become an integral part of the supplier's Quality System.

It should be noted that Saint-Gobain is committed to facilitating assistance and partnering with our suppliers to achieve compliance the requirements of this Manual as well as the requirements of the AS 9100 Aerospace Standard.

As part of our Supplier Partnership Philosophy, Saint-Gobain will be available, upon request, to assist our suppliers in improving upon their Quality Management System development.

The establishment of a Supplier Quality System is intended to assure that material provided to Saint-Gobain conforms to the contracted requirements, drawings and/or specifications. The Quality System shall ensure material conformance throughout the supplier's functions pertinent to contract compliance, including, but not limited to, development, manufacturing, testing, inspection, packaging and storage. All materials shall be processed, controlled, inspected and tested continually in accordance with the requirements set forth in this and other applicable customer standards, drawings and/or specifications.

The supplier's manufacturing and support locations, including procedures, material, inspection methods, test equipment and usage, techniques, facilities, personnel, performance, and documentation may be subject to periodic review and evaluation to this Manual by Saint-Gobain Quality, Engineering and Purchasing Personnel.

SECTION II

1) General Quality Expectations

The basis for the Saint-Gobain Supplier Quality Manual Requirements was derived from the requirements contained within the AS 9100 Aerospace Standard.

Saint-Gobain has adopted the AS 9100 Aerospace Standard as the framework for the basic quality systems required for all suppliers of production goods and services. These requirements are an integral and legally binding aspect of the Saint-Gobain Purchase Order. Although this does not alter or reduce any other requirements of the contract, it does provide a concise understanding of Saint-Gobain supplier quality expectations.

Saint-Gobain expects that supplier's will not only meet engineering specifications, but will continuously improve products and services through process performance optimizations and through reduction in process variation.

Suppliers are responsible for developing and implementing effective operating systems to control and improve the quality of their process and products.

To enable Saint-Gobain to evaluate quality products and systems, we require all suppliers to have available specified documented evidence of quality for review.

The supplier shall ensure that Foreign Objects and subsequent Foreign Object Damage (FOD) is eliminated from all parts prior to shipment. In addition to maintaining compliance with Saint-Gobain cleanliness specifications, all suppliers must maintain a FOD free environment during machining, manufacturing, assembly, maintenance, inspection, storage, packaging and +shipping.

- ❑ Potential FOD includes but is not limited to burrs, chips, dirt, corrosion and contamination resulting from the manufacturing, assembly, maintenance, processing, cleaning, storage and subsequent packaging of parts.
- ❑ Suppliers must ensure all passageways- cast and/or machined are clear of chips, core material, dirt, breakout of cast walls, etc.
- ❑ Prior to closing inaccessible or obscured areas and compartments during assembly, supplier shall ensure the areas are free of FOD.
- ❑ Suppliers must ensure all parts are clean and FOD free prior to shipment.
- ❑ Suppliers are required to maintain a FOD prevention program, which includes prevention and elimination of FOD from the manufacturing processes and work area.
- ❑ Specific attention should be given, where applicable, to items such as:
 - ❑ Housekeeping and cleanliness
 - ❑ Food and beverage control

- ❑ Tool and small part accountability
- ❑ Loose objects
- ❑ Material handling and parts protection
- ❑ External cleaning following evidence of external contamination
- ❑ Supplier shall ensure that the responsibility for the FOD prevention program is clearly defined and appropriate personnel have received FOD awareness training.
- ❑ Suppliers are responsible for flow down of these requirements to their sub-tier suppliers to ensure FOD free products. Saint-Gobain reserves the right to evaluate this documented evidence at any point in the time of the products life cycle.

2) Waivers

All Commercial Requirements detailed in this Supplier Quality Manual shall be considered mandatory unless a documented signed waiver has been issued by Saint-Gobain. The Purchase Order issued to suppliers may also waive requirements detailed in this Supplier Quality Manual.

In the event that the supplier provides the same product, materials or service to multiple Saint-Gobain facilities, the supplier shall submit individual written waivers to each of the Saint-Gobain facilities. Approval of a written waiver by one Saint-Gobain facility does not constitute automatic approval by the other Saint-Gobain facilities.

3) Commercial Requirements

The supplier shall be responsible to reimburse Saint-Gobain for any additional cost incurred resulting from either supplier related quality and/or delivery concerns. Reference the Saint-Gobain terms and conditions. Typical charges may include, but are not restricted to:

- ❑ Excessive / Premium freight costs to Saint-Gobain customer facilities
- ❑ Costs of rejected material, products or services
- ❑ Costs of testing or laboratory inspection / tests
- ❑ Labor premiums associated with overtime
- ❑ Labor cost for Saint-Gobain personnel to sort / rework suspect product
- ❑ Labor costs for running replacement product
- ❑ Labor costs for Saint-Gobain customer personnel sorting
- ❑ Travel costs for Saint-Gobain personnel to support Saint-Gobain Customer facilities
- ❑ Administrative costs

4) Accessibility to Facilities

The supplier shall provide accessibility to facilities for Saint-Gobain Personnel, as well as contracted affiliates of Saint-Gobain. The supplier shall also provide the same level of accessibility to customers and regulatory bodies of Saint-Gobain.

5) Supplier Responsibilities and Contributions to the SGPP Program

a) Changes and Issuance of relevant SGPP Quality Management System Documents

As necessary, relevant and applicable Quality Management System documents may be provided to our Suppliers to assist them in complying with designated Saint Gobain or Saint Gobain Customer Requirements

We ask that you manage these documents in a manner to ensure their effective control, legibility, internal distribution, and understanding.

Contact SGPP immediately if you lose or damage a document beyond legibility, or if you require clarification with respect to the documents intent

b) Our Supplier's contribution to product or service conformity

Suppliers are requested to comply with all Product and Service Requirements in order to enable Saint Gobain in meeting their Customer Specific Requirements.

Each and every process operation is equally important.

By effectively completing your individual tasks, you assist Saint Gobain in meeting our overall goals and assist us in promoting the benefits of improved performance.

c) Our Supplier's contribution to product safety

'Product Safety' has been defined as the state in which a product is able to perform its designated or intended purpose without causing unacceptable risk or harm to persons or damage to property.

Your strict adherence to the Saint Gobain and our Customers' Quality Requirements should ensure that we are all producing a finished product that is able to perform its designated or intended purpose without causing unacceptable risk or harm to its users.

Internally, please use care when handling and processing our product to prevent against un-intended employee injury.

d) The importance of ethical behavior

Saint-Gobain Supplier Charter covers the following supplier ethical behavior:

Suppliers are expected to abide and act in ways consistent with what society and individuals typically think are good values.

Ethical Behavior is good for business in that it involves demonstration of respect for key moral principles that include honesty, fairness, equality, dignity, diversity, and individual rights.

Treating our Suppliers fairly and honestly is our #1 priority.

SECTION III

Supplier Approval & Ongoing Performance Requirements

All potential new suppliers must successfully address and respond to the Saint-Gobain Supplier Approval / Evaluation Form (See Attachment 1).

Those suppliers, who are not registered to AS9100 or ISO 9001, are encouraged to seek registration of their quality systems.

Once returned and reviewed and approved by Saint-Gobain Quality and Purchasing Personnel, the Supplier will be added to the Saint-Gobain Approved Supplier List under a conditional status pending the satisfactory receipt of product / material shipments or the fulfillment of a service contract.

Once the quality portion of the Saint-Gobain Supplier Approval / Evaluation Form has been fulfilled, the Supplier will be officially added to the Saint-Gobain Approved Supplier List and will then be responsible for adhering to the ongoing performance criteria stipulated in this Manual.

Specific supplier performance will be evaluated against the following:

- ❑ On Time Delivery of products, materials or services to Saint-Gobain
- ❑ The suppliers are expected to adhere to 100% on time delivery requirements. Failure to achieve this goal may result in the issuance of a corrective action. Delivery Due Dates are clearly identified on each Saint-Gobain Purchase Order.
- ❑ Quality Performance
Poor Quality and/or Service performance will be communicated in the form of Corrective Actions issued to the Supplier.
- ❑ Corrective Action Responsiveness
Suppliers are expected to respond to issued Corrective Actions within the time frames specified on the individual corrective action documents.
- ❑ ISO 9001:2000 Registration
Suppliers are encouraged to obtain Third Party Registration to the ISO 9001:2000 Standard. SAINT-GOBAIN should be contacted with regards to registration status at the completion of each Third Party Audit activity in order to assure continued registration or potentially assist the supplier is resolving issued nonconformances.

SECTION IV

1) Quality System Registration

The supplier shall provide a copy of their Quality System Registration Certificate to Saint-Gobain Purchasing, to retain on file. The supplier shall advise Saint-Gobain, in writing, of any changes to their registration status, whether renewal, probation, revocation, upgrading or certification to additional standards.

In the event any of the supplier's other customers place them on a special status notification, the supplier shall communicate related Quality or Delivery issues to Saint-Gobain Quality.

In addition, the supplier shall be able to demonstrate, when requested, compliance with national and/or international standard and regulations regarding health, safety and environmental issues relative to its business.

Saint-Gobain reserves the right to request further registration certificates, as appropriate, i.e. Environmental, Medical, Laboratory, etc. Such additional requests shall be dependent upon the end use of the product, material or services or Saint-Gobain customer specified requirements.

2) Continual Improvement

Each supplier is recommended to promote continual improvement in all activities such as quality, cost, delivery, and where appropriate, design and development.

Continual Improvements may be demonstrated through the use of metrics associated with the Key Processes and may include projects related to efficiency, training and cost of poor quality. Examples may include education and training in problem solving techniques

The Continual Improvement Projects shall incorporate assigned responsibilities, target dates for completion, and be reviewed regularly.

3) Purchasing and Supplier Control

If the supplier purchases or outsources materials, processes, parts, or special processes to its sub-tiers the requirements of the Saint Gobain purchase order must be flowed down to the sub-tier. The following items are applicable to this requirement.

- a) Control of Quality Records
 - Receiving and Production Records Must be maintained for 10 years minimum.
 - FAI and Nonconformity Records Must be maintained for the product life cycle (minimum 30 years)
- b) Purchasing and Flow down
- c) Special Process Control
- d) Inspection/ Audit by Buyer
- e) Inspection/ Audit by Buyer's Customer or Regulatory Authority
- f) Digital Product Definition

4) First Article Inspection (FAI)

When specified by contract or purchase order, First Article Inspection data (FAI) will be submitted with or prior to shipment of the part or material. Typically, FAI will be required for new parts, when a product has been inactive for 2 years or longer, or a change in manufacturing location.

The FAI AS9102 or Equivalent Report shall include the following items, as applicable:

- 1) Part Number, Work Order No., Serial No., Purchase and/or Sales order numbers
- 2) The actual configuration: drawing revision, spec. level, etc.
- 3) Required dimensions, tolerances and actual results, including all drawing notes
- 4) The specific tool numbers used to manufacture and/or inspect the product
- 5) Validation of tooling dimensions, shapes, etc., through CMM report or other means (inspection, master transfer, etc).
- 6) Testing requirements are met (hardness, conductivity, transmission, etc)
- 7) Raw materials meet drawing/spec requirements;
- 8) Raw material traceability documents are verified, including any sub-tier supplier documentation (C of C, test reports, etc).
- 9) Special processes are identified by spec. number, revision, and are verified to be completed.
- 10) For Assembly or Sub-Assembly products - Verification of all items on Bill of Material, including: quantity, part numbers, etc.
- 11) FAA, JAA, or other authorized regulatory agency Airworthy documentation (i.e. FAA 8100-1, 8100-9, 8130-3, etc).
- 12) Manufacturing Order (M/O, traveler), including raw material traceability data
- 13) FAA 8130-3 may be required per Purchase Order instructions.

5) Safety Data Sheets (SDS)

All product, materials or services provided to Saint-Gobain shall satisfy current governmental regulations applicable to the county of sale as well as the country of manufacture. Governmental regulations typically include, but are not restricted to:

- Toxic and Hazardous Materials
- Environmental Impact
- Banned and Regulated Substances (International Material Data System – IMDS)

Safety Data Sheets (SDS), with full disclosure, must be submitted to the Saint-Gobain facility receiving the product, material or service. The SDS will be reviewed prior to placing the purchase order. Subsequent shipments will only require an SDS if there is a change in revision.

Approval of an SDS submission by one of the Saint-Gobain facilities does not constitute automatic approval by the other Saint-Gobain facilities.

6) Process Control and Engineering Specifications

For any product, material or service, specifications may be referenced on the Saint-Gobain Purchase Orders.

The Saint-Gobain supplier shall be responsible for:

- obtaining and maintaining the current revision of any specifications referenced
- compliance to all specifications referenced
- notifying Saint-Gobain of any exceptions, deviations or waivers for stated requirements (any such notification must be documented and approved by Saint-Gobain before being considered an allowable exclusion)
- the control over subcontracted suppliers. For any product, material or service, which requires the Saint-Gobain supplier to subcontract to external facilities, the Saint-Gobain supplier shall be responsible for ensuring compliance to specifications. The Saint-Gobain supplier shall be considered responsible for all aspects of their subcontractor's performance including reporting of non-conforming materials.
- Where required, the implementation of a Digital Product Definition (DPD) system is required. The DPD system will control security, configuration management, translation, and inspection of parts using electronic (3D) data. The specifications governing DPD system will be provide by Saint Gobain when the requirement is outlined in the purchase order.

The Seller shall notify the Buyer and obtain written approval 90 days prior to shipping products with changes in product, processes, components, sub-suppliers / subcontractor, manufacturing facility location, packaging, shipping method or outside processor. The Seller shall also notify the Buyer in writing prior to any change in top management, ownership, quality management system, or a major change in the number of employees or resources used in a Saint Gobain Purchase Order

If the Buyer deems any of these above changes significant, a full or partial part / product requalification will be necessary to validate the change. Since these changes are driven by the Seller, all cost of product or process requalification needed to validate products will be at the Sellers' expense.

Proposed changes to specifications will be sent to suppliers for review and acknowledgement. It is the supplier's responsibility to review proposed changes and respond in writing concurrence as written or request exceptions, deviations or waivers.

Suppliers are responsible for supplying products that meet the current revision level of all specifications.

Measurements provided as evidence of compliance shall be traceable to calibrated equipment that can be further traced to NIST or, in the absence of such, an industry recognized standard. This shall also apply for calibration services provided.

7) Nonconformances

Saint-Gobain only accepts products that meet print or specification requirements.

Requests for deviations, concessions or waivers for non-conforming products shall be submitted to the Saint-Gobain Quality Department. Requested waiver should include the unique part number and the quantity or life span of the deviation. This requirement shall include sub-tier suppliers. The supplier, prior to shipment of the nonconforming product, must receive Saint-Gobain written approval and uniquely mark and/or identify the shipment so that Saint-Gobain receiving personnel understand that the product / material is being received with an accepted deviation from the requirements.

In the event nonconforming product is identified at Saint-Gobain, the supplier will be required to process a formal Corrective Action in order to eliminate the cause of the nonconformance.

A Saint-Gobain Corrective Action Form (see Attachment 2) will issued detailing the supplier's responsibility for applying an immediate and short term containment action, investigating and identifying the root cause of the situation, applying a long term corrective action solution, and following up to verify whether the corrective action applied was implemented and has effectively eliminated the nonconformance from recurring.

The supplier is reminded that the nature and number of nonconformances, as well as the effectiveness in resolving Corrective Actions make up an integral part of the Saint-Gobain Supplier Ongoing Monitoring and Performance Criteria. Failure to meet the ongoing monitoring and performance criteria may be grounds for removal from the SAINT-GOBAIN Approved Supplier List and the awarding of additional business.

8) Supplier Control

A supplier is a person at any tier of the supply chain who provides a product, article, or service that is used or consumed in the design or manufacture of, or installation on, a product or article. Section 21.137(c) of the CFRs requires procedures for ensuring that each supplier-furnished product or article conforms to its' approved design.

This section also requires a reporting process for products, articles, or services that have been released from or provided by the supplier and subsequently found not to conform to the production approval holder's requirements. Saint-Gobain, as a PAH, may use suppliers in other countries under the same established and controlled system as USA sub-tier suppliers.

In this case, Saint-Gobain should notify the FAA as soon as possible to determine FAA's ability to perform surveillance.

9) Corrective Actions

Nonconforming material or other nonconformances on the part of suppliers to Saint Gobain may lead to the issuance of a corrective action request to that supplier.

The decision is the responsibility of Quality, however input from customers (drop-shipped customer supplied material), purchasing, or other departments will be taken into consideration.

SCARs are logged with the internal corrective actions.

SCAR Triggers have been identified in the chart below:

Rejection Point	Reject Category	Action (based on progressive discipline)
Receiving Inspection	Dimensional	1 st incident = SCAR
	Out of Specification	
	Missed Shipment	
	Cosmetic	1 st incident = call to Supplier & RMA 2 nd Incident* = SCAR <i>*Same issue within the supplier independent of the part number</i>

Rejection Point	Reject Category	Action (based on progressive discipline)
Scorecard Evaluation	Score of 69 or below	SCAR unless: <ul style="list-style-type: none"> • SCAR(s) already in place that would improve the score (above 69) once root cause is implemented • Part is being discontinued • Supplier is being replaced
		On-Site audit may be performed based on following criteria: <ul style="list-style-type: none"> • Ineffectiveness of issued SCAR(s) • Repetitive nonconformance
		Removal from Approved Supplier List and search for alternative source

For Corrective Action, the supplier will be required to complete the Saint-Gobain Corrective Action Form (Attachment 2) in accordance with the directions provided for each individual instance.

It is acceptable, and recommended, to utilize your own corrective action form when processing any Saint-Gobain Supplier Corrective Actions for the purpose of ensuring that information regarding the nonconformance(s) is being captured in your own corrective action system.

Other corrective action formats may be requested in order to satisfy Saint-Gobain Customer Requirements.

Upon notification of a nonconformance, the supplier will be provided with a Saint-Gobain Supplier Corrective Action and shall be required to complete the necessary investigations and action plans within the time frame specified.

As previously stated, corrective actions returned to Saint-Gobain must include:

- The application of a short term fix (containment action),
- Records of the investigation and identity of the root cause of the situation,
- Application of a long term corrective action solution,
- Follow up verification activities with records to support corrective action implementation and overall effectiveness in eliminating the initially identified nonconformance and its recurrence.

NOTE: Containment actions shall be short term temporary solutions to a nonconformance, until long term corrective actions can be implemented and proven effective. Containment actions will not be accepted as a long term corrective action.

10) Traceability and Records

Suppliers shall establish a documented system, which provides for positive identification and record keeping for each lot throughout the production process per shift, from receipt through to delivery.

The supplier shall have a documented procedure that outlines the identification, storage, protection, retrieval, retention and disposition of quality and production related records.

When a Certificate of Conformance or FAA Form 8130 is required per the Purchase Order, the documents must be signed digitally or by signature of the authorized representative.

11) Labeling

At a minimum, the label on the final product and/or material provided to Saint-Gobain must include:

- Supplier Name
- Supplier Part Number
- Saint-Gobain Part Number
- Part Description
- Manufacturing Date
- Lot Number

The Lot Number and/or Manufacturing Date must ensure traceability of product from raw materials to finished goods in the supplier's manufacturing process.

12) Packaging & Shipping

All products and/or materials supplied to Saint-Gobain facilities must be in suitable packaging to prevent damage and to reasonably protect the products / materials during shipment to Saint-Gobain.

Suitable packaging methods have been defined as:

- The use of a suitable pallet (size and strength),
- The use of a suitable product container and packing material (as applicable),
- Shrink wrap or other protective barrier,

- Banded products and materials,
- No shipping containers or boxes shall hang over the edge of any pallet

Additional packaging instructions (special instructions) may be specified on the individual Saint-Gobain Purchase Order Documents or on the Saint-Gobain Specification Data Sheet for Packaging.

SECTION V

Revision History

Rev #	Revision Date	Description of Change	Approvals
-	6/8/2009	Initial release of the Saint-Gobain Supplier Quality Manual	
A	6/15/2012 DCN 4182	Added Purchasing and Supplier Control section, added records requirements to the Traceability section,	
B	7/15/13 DCN 4315	Revised section 6.0	
C	9/16/2013	Revised Section 6.0 (Require 90 Day Advance Notice Prior to Process Changes. Removed Supplier Acknowledgement section.	DCN 4339
D	05/09/2016	Revised Approving Managers; Section IV, Item 4 (added AS9102 form requirement); changed length of inactive part from 1 year to 2 years; Section IV, Item 5 (replaced MSDS with new SDS call out); Section IV, Item 7 (removed Engineering Department and added requirement for sub-tier suppliers); Section IV, Item 11 (corrected grammar/spelling); Section III, remove reference to ISO 2000	DCN 4846
E	8/18/2017	Revised Section 2, General Quality Expectations to include FOD.	DCN 5090

Rev #	Revision Date	Description of Change	Approvals
F	10/18/2019	Removed reference to <i>Performance Plastics</i> throughout manual. Revised Section 4, FAI Requirements to include change of manufacturing location. Added table to Section 9, Corrective Actions to include SCAR triggers. Added comment to Section 10, Traceability and Records to include signature on C of C or 8130. Add Section IV, Supplier Quality Manual Acknowledgement Form.	DCN 5550
G	11/18/19	<p>Updated to add better reference to the requirements contained within AS9100:2016 section 8.4.3 m).</p> <p>Table of Contents now includes Section II, 5) titled, Supplier Responsibilities and Contributions to the SGPP Program</p> <p>Section II, 5) was added and includes content to explain how these responsibilities and contributions are to be addressed by the Suppliers</p>	DCN 5578

SECTION VI



Supplier Quality Manual Acknowledgement Form

Rev. G, Dated November 18, 2019

Please acknowledge receipt of the document indicated below as the applicable contractual Quality Requirements document referenced in all purchase orders issued by Saint-Gobain. Unless otherwise specified by the purchase order, the latest revision of this document posted on Saint-Gobain website: www.sheergard.com shall be the only valid version.

THIS SECTION TO BE COMPLETED BY THE SUPPLIER

Company Name: _____

Company Address: _____

Telephone _____ Fax: _____

E-mail: _____

Responsible Name: _____ Signature: _____

Title: _____ Date: _____