

Global Supplier Quality Manual

October 2015

 CISA  interflex  LCN  SCHLAGE  VON DUPRIN

Table of content

Introduction	3
1. Scope and purpose	4
2. Quality alignment	4
3. Quality Management System expectation	4
4. E-Business, communication and language	4
5. Environmental, Health and Safety (EHS)	5
6. Trade compliance requirements	6
7. Advanced Product Quality Planning (APQP)	7
8. Packaging and labeling	9
9. Production Part Approval Process (PPAP)	9
10. Product launch	10
11. Product and process changes	10
12. Nonconforming material, containment and supplier corrective actions	11
13. On-site audits and contingency plans	12
14. Supplier performance management system	12
15. References	12

Introduction

At Allegion, we help keep people safe and secure where they live, work and visit. Our commitment to create Peace of Mind for our customers is built on a history of product quality and reliability, along with our ongoing commitment towards continuous improvement.

To deliver on this commitment, we are setting aggressive goals for the journey to achieve defect free, reliable products delivered perfectly to our customer's expectations. We recognize this journey is only possible by selecting and working with partners who share in our commitment for excellence. This Supplier Quality Manual (SQM) outlines the expectations we define as critical for our mutual success. These expectations are based on the following principles:

- Alignment on common quality processes within our own manufacturing plants and with our supplier partners
- Proactively communicate on any changes to components, products or processes that may impact the experience of our customers
- Build quality into our day to day processes through a quality management system
- Develop capabilities in advanced quality tools and processes to support the development of new products

To accelerate our journey, we have developed the SQM to clearly communicate our expectations and requirements for doing business with Allegion. Should you have any questions related to this manual, please contact your Commodity Manager or Supplier Quality Engineer.

Thank you for all your efforts every day to serve our business and our mutual customers. Your support and commitment to the expectations outlined in this manual are appreciated. By working together, we look forward to achieving mutual growth for our companies.

With Regards,



Jeff Wood
VP of Global Supply Management



Jan Peels
Director, Global Quality

1. Scope and purpose

This Global Supplier Quality Manual (SQM) sets forth Supplier Quality requirements applicable to any Allegion manufacturing Supplier of products including, but not limited to, finished products, production parts and assemblies, service parts and assemblies, heat treating, painting, and other manufacturing operations, whether they be direct or sub-tier Suppliers (hereafter “Supplier”). References in this manual to ‘Allegion’ mean the Allegion plc and/or its wholly owned subsidiaries as reflected in applicable supply agreements and/or purchase orders.

Allegion is committed to providing quality products and services to our customers. Allegion recognizes the critical role our supply partners play in delivering this commitment to our mutual customers.

2. Quality alignment

The Supplier Quality Assurance expectations in this SQM are fully aligned with manufacturing and customer Quality Assurance activities at Allegion. The Quality expectation that Allegion has from its Suppliers is no different than the expectations it has from its own manufacturing facilities. Therefore this SQM represents an extension of Allegion’s Global Quality Strategy.

3. Quality Management System expectation

Supplier shall establish, document and implement an effective Quality Management System (QMS) in accordance with the most recent version of ISO 9001 that is registered by an accredited third-party certification body. Supplier shall maintain its certification while it remains an Allegion Supplier. Allegion accepts equivalent global QMS certification such as TS 16949 in lieu of ISO 9001.

Supplier also shall implement procedures and processes with the objective of tracking and where necessary improve product Quality (PPM) and On-Time Delivery (OTD) to Allegion. Allegion expects Quality and On-Time Delivery performance of 500 PPM and 97% respectively. Individual improvement targets may be set by your Supply Management contact.

Allegion reserves the right to perform audits on Supplier’s site to verify Supplier’s compliance with this Manual.

4. E-Business, communication and language

Supplier shall have email, internet access, and internet browser capabilities at a minimum. Supplier shall maintain updated contact information with appropriate Supply Management, Engineering, and Quality contacts at Allegion. Supplier shall inform Allegion promptly of any

significant changes in its management and/or organizational structure as well as significant changes in its facilities, including but not limited to changes in manufacturing locations. Change of manufacturing location requires pre-notification and acknowledgement from Allegion before implementation.

As Allegion and its affiliates comprise a global company with facilities across many continents, the use of a single business language is essential. Communications between Allegion and Supplier shall be in English, except where Allegion and Supplier specifically agree otherwise because of regional relations. Where supply happens cross region with multiple native languages, English will be required on all quality related documents. Suppliers within the same region using the same language can use the common language for that region, unless English is specifically requested by Allegion. Where a record is written in both English and the common language and a conflict exists between the English and native versions, the English version shall take precedence.

5. Environmental, Health and Safety (EHS)

a. Environmental compliance

Supplier shall develop and enforce appropriate environmental systems with the goal of ISO 14000 conformance. Supplier shall meet or exceed all applicable local, state (or provincial or the equivalent) and national environmental laws and regulations.

b. Safety and Health

Supplier shall develop and enforce appropriate safety and health systems with the goal of OSHAS 18000 conformance. Suppliers shall meet or exceed all applicable local, state (or provincial or the equivalent) and national safety and health laws and regulations.

c. Restriction of hazardous substances (RoHS, REACH, Proposition 65, Conflict Minerals, WEEE, etc.)

Supplier shall meet or exceed all applicable local, state (or provincial or the equivalent) and national laws and regulations relative to hazardous substances. Supplier shall know and understand the contents along with the origin of restricted substances of its products, including the products of its Suppliers. Upon Allegion's request, Supplier shall provide a complete description in writing (email is acceptable) of the product's material content, origin of restricted substances, compliance certification to this end and ultimate disposition. Specific Allegion policies in alignment with these requirements can be found at www.allegion.com/suppliers.

d. Government regulatory compliance

Supplier's manufacturing processes and products, including purchased products, shall

conform to all applicable local, state (or provincial or the equivalent) and national laws and regulations. Laws and regulations include those relating to health, safety, environment, toxic and hazardous materials. For purposes of this Manual, “applicable local, state (or provincial or the equivalent) laws and regulations” include laws and regulations (a) in the country(ies) where the product is manufactured or a manufacturing process is performed (b) where a product will be delivered and (c) where the product will be used.

6. Trade compliance requirements

a. Country of origin documentation

Supplier shall provide documentation indicating the country of origin of the parts supplied to Allegion, including documentation indicating qualification for free trade agreements, as needed. Documentation shall be provided annually.

b. Supply chain security

Many Customs authorities around the world have implemented supply chain security programs, in partnership with industry, to ensure their import supply chains are secure and to protect against the unlawful introduction of weapons, drugs, contraband and persons.

Several Allegion companies are actively involved in such supply chain security programs, and Allegion, as a policy, requires its shippers and suppliers to ensure all shipments are correctly manifested, carefully inspected and secured with high-security seals (when permissible).

For containers bound for the US, under US law suppliers must ensure all containers are secured with a high security SEAL which meets the ISO/PAS 17712 standards.

Suppliers may be asked to complete a questionnaire annually about the supply chain security at Supplier’s premises. If Supplier is non-compliant in certain areas, then Supplier may be asked to implement a security improvement plan.

c. Shipping documentation/US importer security filing

Suppliers must adhere to the procedures set forth in Allegion’s Import SOPs, where applicable and when provided to supplier.

Supplier shall provide the data elements listed in Allegion’s Import SOPs on documentation that accompanies any shipment to any Allegion location.

For shipments bound for the US, under US customs law, an “Importer Security Filing” (ISF) must be electronically transmitted to US Customs at least 24 hours prior to loading any vessel bound for the US. Failure to file the ISF will result in \$5,000 penalty per violation. For all vessel shipments to the US, Suppliers must obtain an Importer Security Filing transaction number prior to physically turning cargo over to the freight forwarder.

d. Inventory Programs

Supplier may be requested to participate in Allegion's Supplier Owned and Managed Inventory (SOMI) program or other inventory programs aimed at improving agility to meet customer needs. All materials that enter such programs are subject to all aspects of this procedure (particularly, SOMI Import SOPs).

e. Wood packing materials (WPM) requirements

Suppliers must ensure all Wood Packaging Materials (WPM) comply with international phytosanitary standards (ISPM 15) as follows:

- All WPM must be properly marked to indicate it has been either heat treated or treated with methyl bromide
- All WPM must contain the internationally recognized IPPC mark which certifies treatment
- All WPM must also be free of timber pests

Wood Packaging Material (WPM) is defined as wood or wood products (excluding paper products, such as corrugated paper cartons) used in supporting, protecting or carrying a commodity (includes tonnage).

Wooden packaging materials include:

- Pallets, crates, boxes, packing blocks, drums, cases, skids, and pieces of wood used to support or brace cargo.

7. Advanced Product Quality Planning (APQP)

Supplier shall adhere to the APQP approach to support new or transferred products or services in accordance with the Advanced Product Quality Planning (APQP) and Control Plan Manual published by the Automotive Industry Action Group (AIAG). Internally Allegion utilizes derivatives of this process, named Product Development Process (PDP) for new product launches and product/process transfers.

a. Product Development Process (PDP)

In the case of PDP, Allegion, through its Supply Management function and at its discretion, may monitor and manage Supplier from initial product development through the start and ramp up of production. PDP includes implementation of new product launch readiness measures to ensure Supplier is able to produce a product that conforms to the applicable purchase order, control plans and applicable policies and procedures.

b. Critical and significant characteristics

Allegion may at its discretion require the designation, on a per-print and/or PO basis, of

Critical and/or Significant characteristics (CC's and/or SC's) and Supplier shall statistically monitor and manage CC's and SC's to ensure capability and stability. As an essential part of the Production Part Approval Process (PPAP) as described in section 9 below and through the product life cycle, Supplier shall demonstrate process capability with a minimum Cpk of 1.33 (minimum 10 sub-groups of 3) based on a stable process. Although several algorithms exist relative to Cpk, the calculation method referenced in the AIAG PPAP and SPC manuals takes precedence.

Supplier shall document and reference CC's/SC's in its process control plans and shall implement monitoring and process controls accordingly.

c. APQP documentation

In order to develop an adequate Quality Management System, Allegion requires Suppliers to establish and maintain Advanced Quality Documents such as; Process Flow Diagram, Process FMEA (Failure Mode and Effect Analysis) and Process Control Plan for all stages of the manufacturing process at the Supplier. Besides a solid gage calibration program, gages that measure CC's/SC's are required to be evaluated for Gage Repeatability and Reproducibility (Gage R&R) regardless if the Gage provides variable or attribute data. APQP documents such as pFMEA and Control Plan are considered 'living documents'. Continuous improvement activities driven by the pFMEA for RPN's > 100 are required (Risk Priority Number). A pareto approach to RPN reduction is acceptable.

Allegion may request the Supplier to fill out a Supplier Profile to better understand the topics of General Business, Quality, Commercial, Financial, Supply Chain, Logistics and Technical. Allegion or a qualified designee may conduct an on-site audit to assess Supplier's readiness for product launch and the effectiveness of Supplier's Business and Quality Management Systems. In the alternative, Allegion may direct Supplier to perform a self-assessment of the Supplier's premises and to provide a summary of results to Allegion. Allegion may establish and assign action items based on either an Allegion on-site audit of Supplier or Supplier's self-assessment. Supplier shall complete assigned action items in a timely matter

d. Capacity verification

Unless defined in a governing Purchase Order or Supply Agreement, Supplier shall be able to produce and sustain at a minimum 120% of the quoted volume with production tools and equipment in the quoted work patterns. Capacity verification is a requirement at the time of PPAP by completing the corresponding Part Submission Warrant (PSW).

e. Product reliability

Allegion based upon its reliability requirements and in consultation with the Supplier shall develop a test program which verifies the initial sample and ongoing production reliability. Any reliability test plan must, at a minimum, contain a quantitative definition of the test conditions, failure criteria, required reliability, and at a minimum a one sided confidence

limit. Typically, a zero failure test plan will be used; however, the Supplier risk, or test bias associated with this type of test, must be discussed. All failures, if any, must be accompanied by a FRACAS (Failure Report and Corrective Action System) report which details the nature of the failure, the root cause of the failure, and the corrective actions taken to permanently eliminate the failure mode. A burn-in or a safe-launch program may be required depending on the level of risk associated with the project.

f. Traceability

Parts and product traceability is required to identify product lot. Supplier is required to maintain a 2nd level of traceability for raw materials going into products sold to Allegion. Products in which a Lot number can be added to individual parts supplier is expected to do so. Other parts that cannot be individually marked should have a traceability lot number on packaging container.

g. Consigned assets

At times Allegion may provide its suppliers with consigned assets such as tooling, fixtures, gages, etc. When these conditions exist supplier shall assume the responsibility for the protection, calibration, and care (other than normal wear) of all assets provided to the supplier by Allegion. In general, costs associated with normal upkeep and maintenance will be covered by the supplier. Supplier must notify Allegion of any concerns about tool wear prior to producing unacceptable or non-conforming products. Allegion is responsible for costs associated with engineering product and/or specification changes that directly impact the consigned asset's ability to comply to the new requirement. All consigned assets must be clearly labeled as property of Allegion and supplier must make available maintenance information for all of these assets.

8. Packaging and labeling

Allegion, based on its requirements and on consultation with Supplier as appropriate, shall specify packaging for products during the planning process. Supplier shall use packaging and labeling that conforms to the Allegion's Inbound Packaging Specification document and any change or substitution must be approved in writing by Allegion in advance of the implementation of such change or use of such substitution. Supplier shall be responsible for loss and/or damage resulting from the use of packaging that does not conform to Allegion specifications.

9. Production Part Approval Process (PPAP)

Unless otherwise agreed by Allegion in writing, Supplier shall obtain PPAP approval from the applicable Allegion function prior to release of production products using Allegion's Part Submission Warrant (PSW). Depending on the risk Allegion will communicate the submission

level to the Supplier by RFQ, PO or email. If no communication has taken place, the Supplier will default to a level 3 submission (See table 4.2 AIAG-PPAP). Per discretion of the Allegion manufacturing plant or distribution center receiving the Supplier's product, ongoing material lot certifications may be required.

Supplier shall perform annual dimensional layout on all Allegion parts that may be affected by worn tooling. This data should be kept on file and be available upon request. In the event tooling becomes worn or damaged Supplier must contact Allegion of potential risk.

10. Product launch

In the case of an Allegion product launch, Allegion may direct Supplier to provide on-site representation at the Allegion manufacturing and/or distribution site. Supplier's support representative shall be knowledgeable of the product and Supplier's process and shall be empowered to make decisions on behalf of Supplier.

a. Safe Launch Planning (SLP)

Supplier shall create SLP only with review and consultation with Allegion. Depending on criticality SLP can consist of increased QC sampling to a Supplier initiated firewall. The use of SLP provides protection against product defects and failures from start-up errors and operator lack of familiarity with the product. Supplier shall perform SLP with production tooling and production processes. Safe Launch starts with the first production order and lasts for a period to be determined by Allegion or up to a maximum of 30 days or 50,000 pieces (whichever comes first).

11. Product and process changes

Allegion is committed to continuous improvement of its products and processes in order to remain an industry leader. Supplier shall work collaboratively with Allegion to identify and implement product and process changes aimed at continuously improving the quality and value of its products. Upon determining that a product and/or process change (reference AIAG-PPAP manual section 3) is needed, prior to implementing such change, Supplier shall contact and consult with the appropriate Allegion Supply Management representative. A proposed change implementation timeline shall include a plan and schedule for necessary product safety stock and End-Of-Life of current material. Based on the risk of the proposed product or process change Allegion through its Supply Management function will advise the Supplier what level of PPAP will be required. Change or implementation of sub-contracted services by the supplier is not allowed once Allegion has approved PPAP.

Any change in product and/or process (as defined by AIAG-PPAP manual section 3) that is not communicated to Allegion per this manual prior to shipping effected product to an Allegion facility or customer will result in material rejection, corrective action and full cost recoveries per section 12 of this manual.

12. Nonconforming material, containment and supplier corrective actions

Should an Allegion facility or customer receive defective product, Allegion may give notice to Supplier with a request to provide corrective action and containment. Containment must take place, unless otherwise stated in writing, within 24 hours. For purposes of this section, “Containment” means the implementation of measures to prevent the shipment by Supplier of products containing the identified or similar defect and measures to prevent the manufacture of additional products containing the defect.

Depending upon the nature of the defect, number of occurrences of the defect, and level of risk to Allegion’s customer, Allegion may request from Supplier certification that products it has provided or processed meet applicable requirements and Supplier shall provide such certification. Such certification may be requested and shall be provided with respect to products in Supplier’s facility, Allegion’s inventory, and/or products released into the supply chain, including Allegion’s customers’ facilities. Additionally, where Allegion, in its sole discretion determines that it is necessary to prevent the release of defective products to its customer, may require Supplier to use third-party containment to inspect product for a specified length of time. Allegion shall direct the use of third party containment in writing by the Vice President - Global Supply Management. “In writing” may include email. Criteria for termination of third party containment shall be subject to agreement of Allegion and Supplier.

Product certified by Supplier at Supplier’s location shall bear a certified product label clearly reflecting the product’s certification. Each container of certified products being shipped to Allegion shall bear a sign on two sides of the container clearly reflecting the products’ certification.

Supplier shall take prompt corrective actions to address its failures to meet delivery and/or Quality performance requirements. If Supplier repeatedly fails to meet delivery and/or Quality performance requirements, Allegion may require preparation and implementation of improvement plans.

Supplier shall have a corrective action process in place in accordance with its Quality Management System. The corrective action process shall include the use of disciplined problem solving methods. Where Allegion determines that corrective action is required, Allegion will provide Supplier with an online corrective action request using PRISM. The PRISM online corrective action system is based on the common 8D. Within ten (10) working days after release by Allegion of the PRISM request, Supplier shall provide a responsive corrective plan to Allegion. Closure of the corrective action shall take place no longer than sixty (60) days after issuance of the PRISM request.

a. Administration fee

At Allegion’s discretion, administrative costs will be charged after the 2nd Quality infraction within a calendar year. In the event of a significant quality issue caused by the supplier’s scope of work, Allegion will charge for costs incurred to quarantine and rectify

the issue in accordance with terms of Supply Agreement or Purchase Order. Administrative and labor cost will be based on reasonable cost for the region the rejection occurred. Should the need arise to return any purchased material; Allegion requires that the Supplier furnishes the required authorization for such return immediately.

b. Deviations

Allegion will not accept and Supplier shall not ship to Allegion products that do not conform to applicable specifications and Quality requirements. On an exceptions basis, Supplier may ship products that do not conform to applicable specifications and Quality requirements ONLY upon Supplier's prior written request to Allegion and after issuance by Allegion of a written temporary deviation approved by an authorized Allegion representative.

13. On-site audits and contingency plans

Allegion reserves the right to visit Supplier's premises to audit its process, evaluate parts, processes, tooling and/or documentation used to manufacture Allegion products. Where Allegion's customers indicate the need to visit the Supplier's production process with reasonable prior notice, Supplier will accommodate such request in conjunction with Allegion representation.

Supplier shall have and maintain a contingency plan for potential catastrophes that may disrupt the flow of products to Allegion. This plan shall include, but not be limited to, provisions for prompt and effective notice to Allegion of such catastrophes and their impact, provisions for restoration of disrupted manufacturing capabilities, resumption of the manufacture and shipment of products, and the making available of Allegion's consigned tools, assets and/or their replacements.

14. Supplier performance management system

Allegion will monitor and may apply a rating system of its choosing to evaluate Supplier's performance. Criteria may include, at Allegion's discretion, such items as product Quality, On-Time Delivery and Cost.

15. References

AIAG - Production Part Approval Process (PPAP)
AIAG - Advanced Product Quality Planning and Control Plan (APQP)
AIAG - Statistical Process Control (SPC)
AIAG - Measurement System Analysis (MSA)

AIAG documents referenced may be obtained through www.aiag.org

Allegion documents referenced can be obtained through www.allegion.com/suppliers
PRISM 8D Portal can be accessed through www.global8d.com/allegion

Revision History:
Feb 2014: Initial publication
Oct 2015: Added Conflict Minerals and WEEE Requirements, replaced SCAR with PRISM-8D Process, added Allegion Inbound packaging specification reference, updated Procurement to Supplier Management

About Allegion

Allegion (NYSE: ALLE) helps keep people safe where they live, work and visit.

Allegion is pioneering safety as a provider of security solutions for homes and businesses through 23 global brands. Allegion specializes in security around the doorway and beyond: everything from residential and commercial locks, door closers and exit devices, steel doors and frames, to access control and workforce productivity systems. Allegion is a \$2 billion business employing more than 7,600 people and offering products in more than 120 countries across the world.

Allegion's portfolio includes strategic brands CISA®, Interflex®, LCN®, Schlage® and Von Duprin®; and other brands including aptiQ®, Briton™, Bricard®, Dalco™, Dexter by Schlage®, Falcon®, Fusion Hardware Group™, Glynn-Johnson®, ITO Kilit™, Ives®, Kryptonite®, Legge®, Martin Roberts™, Normbau™, Randi™, Steelcraft®, XceedID®.

For more, visit allegion.com

