

Rockwell Automation Supplier Quality Manual

Improving Supplier Performance with Clear Expectations on Quality



Quality Policy

Rockwell Automation is committed to making our customers more productive. We apply our unique expertise and technology to understand and consistently address their Industrial Automation and Connected Enterprise needs.

We fulfill the requirements of our customers and other interested parties by challenging ourselves, our suppliers, and our partners to continually improve the quality, simplicity, and value of our processes, products, services, and solutions.

Quality Policy 900-20-01 Revision D

LISTEN.
THINK.
SOLVE.

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 **Rockwell
Automation**

Dear Supplier,

At Rockwell Automation, our mission is to be the most valued supplier for our customers. To reach and maintain this goal, we are relying on your quality and delivery performance. Without your support, Rockwell Automation cannot fulfill its mission.

This manual describes Rockwell Automation's expectations with respect to our suppliers' quality management programs and product quality standards, as well as the processes that must be followed to successfully execute these programs and standards.

Rockwell Supplier Quality is a prevention-based organization, responsible for operational processes that affect supplier- and part-level evaluation and approval, as well as formal supplier corrective and preventive actions. Supplier Quality is organized by both commodity and geography. Commodity leads within Supplier Quality have global commodity responsibilities and are supported by regional Supplier Quality engineers, who are the supplier's first and main contact points. Rockwell Automation's expectations of suppliers are listed below:

Supplier's Quality System

Supplier shall maintain a quality management system in compliance with ISO 9001 standard. Supplier commits to the zero-defects principle. It shall continuously improve its processes and will produce and control its products according to the rules of its quality management system. The supplier shall ensure that Rockwell Automation part and quality system requirements are compatible with its quality management system.

If the supplier obtains production or test equipment, software, services, material, or other supplies from sub-suppliers for the production or quality assurance of the products, it shall contractually include sub-suppliers in its quality management system or ensure the quality of the supplies at its end.

The supplier shall keep records of the performance of the aforementioned quality assurance measures, especially measured values and test results, and file such records and store possible product samples in an organized way. It shall, to the necessary extent, grant Rockwell Automation insight and provide copies of the records, including samples as required. The type, scope, and retention periods of these records and samples should be documented in the supplier's quality management system.

Documentation

Rockwell Automation's documentation related to product conformance may include, but is not limited to, the following:

- Parts list, product structure (bill of materials)
- Drawings
- Order specifications
- Other supporting specifications/documentation (i.e. DIRs, Rockwell Automation Standards, OEM customer, etc.)

The official business language for all documents referenced on this manual shall be English.

Workmanship

The supplier is responsible for ensuring that build-to-print parts meet Rockwell's Workmanship Standards as defined by the Engineering drawing or industry best practices.

Order of Precedence

The various documents relating to product conformance shall be interpreted so as to be consistent with one another. In the event that a conflict or ambiguity arises in the interpretation of such documentation, said conflict or ambiguity shall be resolved in accordance with the following order of precedence:

- 1) Provisions required by statute, regulation, or Government contract
- 2) Provisions set forth in Purchase Order (see NOTE 1)
- 3) Engineering drawings (see NOTE 2)
- 4) Computer-Aided Drawing (CAD) Model
- 5) Other Engineering specifications (i.e. Test Requirements, Workmanship Standards, or other supplement Engineering requirements)
- 6) Industry standards

NOTE 1 – Provisions in Purchase Order connect change design data, i.e. data on drawings, specifications, or standards.

NOTE 2 – Unless the Engineering Drawing itself specifies that the CAD model takes precedence in the event of an ambiguity or conflict

Supplier's Quality Interface

Supplier shall communicate quality issues through a Rockwell Automation Supplier Quality representative unless otherwise specified. Rockwell Automation buyer should be included on communication.

Communication is the key to any successful partnership. Rockwell Automation involves the organization from product concept through mass production.

Supplier Evaluation and Approval

The supplier shall grant Rockwell Automation the right to carry out audits, which may include the quality management system, the relevant processes, and the components/products under contract to be supplied.

In this context the supplier shall, at reasonable intervals, allow Rockwell Automation to check the quality assurance metrics of the supplier, to have insight into the existing documentation, and to carry out quality tests itself. For this purpose, the supplier shall grant the employees of Rockwell Automation access to its operating sites to a reasonable extent and after prior notice. During such access, supplier's qualified staff shall be available for support. If necessary, supplier shall make existing test equipment available and provide access to quality records.

Conditions that warrant audits of a supplier (or sub-suppliers) may include, but are not limited to, the following:

- New supplier
- Quality issues
- Engineering changes
- Process changes
- Plant location changes (e.g. tool transfer)

In some cases, the supplier may be asked to perform a self-assessment in conjunction with, or in lieu of, an on-site audit. Eligibility for self-assessment shall be determined by the Rockwell Automation's Supplier Management team.

Electrostatic Discharge Protection

Parts and technology sensitive to electrostatic discharge must be properly handled, packaged, and labeled in conformance with ANSI/ESD S20.20 or equivalent.

Foreign Object Debris (FOD)

The supplier shall maintain a Foreign Object Debris/Damage (FOD) control program that is consistent with industry best practices and that utilizes appropriate tools and techniques to manage part-level FOD risk throughout the manufacturing process. FOD risk and associated mitigating actions must be documented in a part-level risk register, PFMEA, or Control Plan.

Cybersecurity

Supplier shall document, implement, and maintain a mutually acceptable security development lifecycle process ("Security Development Lifecycle"). ISO/IEC 15288, ISO/IEC 12207, CMMI, ISA/IEC 62443-4-1 are examples of acceptable process standards and requirements. The Security Development Lifecycle shall encompass, but is not limited to, the following fundamental processes: requirement analysis and management, design, implementation, verification, and validation, change management, configuration management, anomaly management, and release. The Security Development Lifecycle is subject to Rockwell Automation's written approval.

Supplier shall retain records produced throughout the Security Development Lifecycle. The type, scope and retention periods of these records should be documented in Seller's quality management system.

Vulnerability Management

As part of their Security Development Lifecycle, Supplier shall document, implement, and maintain a comprehensive security vulnerability management and response process which includes the process for identification, assessment and scoring, remediation, and communication of security vulnerabilities. Supplier shall adhere to international standards, such as ISO/IEC 29147 and ISO/IEC 30111, for disclosing security vulnerabilities and remediation. Supplier shall notify Rockwell Automation, directly via secure@ra.rockwell.com or in coordination with the Department of Homeland Security Cyber and Infrastructure Agency, of security vulnerabilities prior to public notification, when possible, in accordance with Rockwell Automation's Vulnerability Disclosure Policy documented in Rockwell Automation publication SECURE-RM001. When not possible, Supplier shall notify Rockwell Automation upon public disclosure, regardless of origin of the disclosure, within a reasonable amount of time.

All notifications shall include a written statement on the security vulnerabilities, the Common Vulnerability Scoring System (CVSS) score for identified vulnerabilities, and corrective actions, fixes, mitigation guidance, or monitoring guidance for vulnerability exploits associated with the flaw.

Sub-supplier Control

Supplier shall have a documented supplier management procedure to manage its own supplier quality (such as outsourced materials, components, process steps, or changes to process, material, manufacturing location, and/or sub-suppliers).

Our expectation is that the supplier shall apply the Rockwell Automation supplier management approach to its suppliers and sub-suppliers. Adherence to the approach will ensure that Rockwell Automation's suppliers and its sub-suppliers have aligned expectations to deliver the highest quality products, services, and solutions with the best value to customers.

As part of their Security Development Lifecycle, Supplier shall document, implement, and maintain a comprehensive supplier management process to assess the security risk of and to manage intelligent component suppliers, purchased software suppliers and open-source software suppliers.

An intelligent component is characterized as a component that has, or could have, software, firmware, and/or embedded software resident on it. Examples include, but are not limited to: SD Card, memory chip, UART, power supply, microcontroller, etc.

Rockwell Part Qualification/Approval Process

Rockwell Automation requires that suppliers submit Part Qualification documentation for parts manufactured to Rockwell Automation requirements. All submitted documents must be in English. Supplier's execution of the Rockwell Automation Part Qualification Process provides evidence of the supplier's capability to manufacture parts that are compliant with Rockwell Automation's requirements.

For products and parts built to Rockwell Automation custom drawings, the supplier shall submit Production Part Approval Process (PPAP) to the requirements as requested by the Rockwell Automation SQE in the Rockwell Automation Purchase Order. The PPAP requirements and templates are defined in the Supplier PPAP Playbook (DIR#10004603624 – available upon request). Changes to part design, suppliers, and manufacturing processes

require notice to Rockwell Automation and subsequent part approval submittals by the supplier. Please see the section directly below for greater detail regarding supplier change management requirements.

Supplier Change Management

The supplier shall maintain a documented Change Management procedure that describes the sources of changes, review, disposition, and notification to Rockwell Automation using the Rockwell Automation Supplier Change Notification form (Form 20-26A – available upon request) with necessary deliverables (refer to Form 20-26A “Matrix” tab) by email to:

RAComponentObsol@ra.rockwell.com

Copy Rockwell Automation buyer and supplier quality in the email. No changes shall be implemented by the supplier prior to the supplier’s receipt of a fully executed Supplier Change Notification form.

A change notification request is required from the supplier including but not limited to the following circumstances:

- With respect to material/ component:
 - Change to construction, material, or component
 - Change in part/product appearance attributes
- With respect to process:
 - Change in production process/method or process sequence
 - Change in test or inspection method
- With respect to supplier:
 - Change of supplier/sub-supplier
 - Change of material/component source
- With respect to manufacturing site:
 - Change of manufacturing site/location
- With respect to tooling/equipment:
 - Tooling or equipment transfer to different site
 - New, additional, or modified tool
 - Upgrade/rearrangement/refurbishing of tools
- With respect to packaging/label:
 - Changes to product packaging, labels, instruction sheets, BOM
- With respect to any other change:
 - Any change that affect part/product form, fit, or function
 - Any major rework activities affecting final/assembled product

Supplier Change Notification Requirements:

- Change notification shall be provided with sufficient time for review and re-qualification, as applicable. The supplier will provide the notification at a minimum of 6 months in advance, unless stated otherwise in a signed agreement.
- The supplier shall assess risk associated with the change and will provide Rockwell Automation with a risk mitigation plan, accordingly.
- The supplier will discuss changes with the respective Rockwell Automation contact or project team before submitting a change notification.
- Rockwell Automation will review the change notification and may request additional testing based on the nature of the change.
- Rockwell Automation will have no obligation to accept delivery of the part/product if

Rockwell Automation has not signed a change notification form 20-26A.

- Upon Rockwell Automation's written acceptance of the part/product change, the supplier agrees to provide support to Rockwell Automation in the release of the changed part/ product (e.g., information, clarifications, testing, label changes), which the supplier shall provide in a timely manner to Rockwell Automation

Quality performance

Rockwell Automation expects the supplier to commit to the zero-defect principle and to continuously improve its processes to reach and maintain this goal.

Quality goals may include, but are not limited to, the following:

- PPM (parts per million)
- Non-conforming Incident
- CI (Customer Impact) external and internal
- Corrective Action Request Time
- Timeliness and quality of PPAP submission

Nonconformance and Corrective Actions

In the case of noncompliance to the agreed quality specifications, the supplier shall analyze each anomaly and provide written evidence to the requesting Rockwell Automation representative of the following:

- Immediate containment actions within one working day of notification.
- Short-term corrective action and return compliant material flow within one week of notification
- Root cause analysis and Corrective and Preventative Actions within one month of notification whereby requested by Rockwell

Using the established Eight Disciplines (8D) methodology, or equivalent, the supplier shall deploy structured problem-solving practices to establish the Root Cause(s) of nonconformances. The supplier shall also provide Objective Evidence of such Corrective Actions, Verify that a Corrective Action has permanently resolved the non-conformance, perform look-across to take Preventative Action, and also flow down Corrective Action requirements to sub-contractors where applicable.

Containment

It is the supplier's responsibility to contain/quarantine all non-conforming goods (including pre-materials) and its shipments that or in were already produced transit at the time of the noncompliance. Containment must be performed within one working day of quality notification. At Rockwell Automation's request, the supplier will enact an emergency plan to re-establish delivery of conforming material, subject to Rockwell Automation's approval.

Process Control

It is critical to assure Rockwell Automation that:

- Supplier is manufacturing the part or product as per specification (e.g., drawings, workmanship standards, industry standards)
- Supplier manufacturing process is defined with process flow and a control plan to

- mitigate process risks identified via Failure Mode Effects Analysis (FMEA)
- Process capability is stable and within control

The following Items shall be included in the FMEA, Control Plan, process instructions and require manufacturing control to assure compliance:

- “Critical to Quality”(CTQ) or
- Functionally relevant characteristics or
- Performance, Fit, Assembly, Regulatory (PFAR) (see classification table on Rockwell Automation drawings).

Statistical methods (such as SPC or control chart) shall be used for critical and functionally relevant characteristics, in order to obtain information about the capability of the process and the adherence to the specified quality requirements. Areas where statistical techniques can be applied may include, but are not limited to the following:

- First time yield
- Defect analysis
- Continual Improvement Processes (CIPs)

Supplier shall achieve Cpk values as defined in the following table:

Cpk > 1.67	Likely meets Rockwell Automation requirements.
Cpk = 1.33 to 1.67	Process may not meet Rockwell Automation long-term requirements. If necessary, additional long-term studies, controls, error-proofing measures and process improvement plans should be conducted until Cpk > 1.67.
Cpk < 1.33	The process is substandard for meeting Rockwell Automation requirements. Increased process controls, error-proofing and inspection must be given high priority until a consistent Cpk of 1.33 or greater is achieved.
Unstable Processes	The process does not meet Rockwell Automation requirements. Every effort should be made to identify and evaluate assignable causes and eliminate them. Use fixtures, gages, sorting methods and 100% inspection until a stable process is achieved.

Lot Certification

For selected Rockwell Automation parts, a supplier shall provide Rockwell Automation the lot certification document on each lot shipment or delivery:

- Certificate of Compliance (includes the part number, lot number, drawing number and revision)
- Outgoing dimension and visual inspection result
- CPK (based on PFAR or critical to quality/ functionality characteristics)

Packaging and Labeling Requirements

For Direct material components

Unless otherwise specified by Rockwell Automation, supplier shall develop, create, produce and test suitable and safe packaging of components. Testing must be to the appropriate NMFC (National Motor Freight Classification) (US & Canada), or equivalent, or must otherwise be submitted to Rockwell and be shown to protect product integrity under normal shipping conditions. It is the supplier's responsibility such that the packaging unit shall be safe during the entire transport (i.e. between supplier, sub-tier suppliers, Rockwell, and others), and product integrity must be maintained such that the product arrives at Rockwell in the same condition it left the supplier's facility, to the extent reasonable under normal expected shipping conditions. Higher-level packaging requirements shall be specifically agreed upon between the supplier and Rockwell Automation, including Rockwell Automation standard and returnable packaging.

In the case of change of shipping method (for example, boat versus air freight), or if the end destination has changed (for example, changed from short distance to long distance transit), the supplier must review and validate the packaging, pallets, palletization method, etc. are suitable for additional handling required.

NOTE: Rockwell Procedure 960-60-10 Performance Testing of Shipping Containers & Systems may be used as a reference (available upon request).

Approval of PPAP for supplier-designed packaging requirements does not relieve the supplier of responsibility for damage arising from poor packaging.

Unless otherwise specified by Rockwell Automation, direct material component labels shall indicate (at minimum):

- Rockwell Automation material number
- Name of part/product
- Name of supplier
- Quantity
- Production date or batch number (for traceability at supplier)
- Rockwell Automation purchase order number

Appendix

Appendix A – AS9100 D 8.4.3

Revision History

Edition	Description of Changes	Released by
September 2022	Added Workmanship, Order of Precedence, FOD, ESD, Packaging & Labeling, Appendix A	D. Hensel

Appendix A

Rockwell Automation requires its suppliers to adhere to the AS 9100 D 8.4.3 where applicable:

Rockwell requires:

- a. the processes, products, and services to be provided including the identification of relevant technical data (e.g., specifications, drawings, process requirements, work instructions);
 - b. the approval of:
 1. products and services
 2. methods, processes, and equipment
 3. the release of products and services
 - c. competence, including any required qualification of persons
 - d. the external providers' interactions with the organization
 - e. control and monitoring of the external providers' performance to be applied by the organization
 - f. verification or validation activities that the organization, or its customer, intends to perform at the external providers' premises
 - g. design and development control
 - h. special requirements, critical items, or key characteristics
 - i. test, inspection, and verification (including production process verification)
 - j. the use of statistical techniques for product acceptance and related instructions for acceptance by the organization
 - k. the need to:
 - implement a quality management system
 - use customer-designated or approved external providers, including process sources (e.g., special processes)
 - notify the organization of nonconforming processes, products, or services and obtain approval for their disposition
 - prevent the use of counterfeit parts (see 8.1.4)
 - notify the organization of changes to processes, products, or services, including changes of their external providers or location of manufacture, and obtain the organization's approval
 - flow down to external providers applicable requirements including customer requirements
 - provide test specimens for design approval, inspection/verification, investigation, or auditing
 - retain documented information, including retention periods and disposition requirements
 - l. the right of access by the organization, their customer, and regulatory authorities to the applicable areas of facilities and to applicable documented information, at any level of the supply chain
 - m. ensuring that persons are aware of:
 - their contribution to product or service conformity
 - their contribution to product safety
- the importance of ethical behavior