

AS 9100: What Quality Professionals Need to Know



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What is AS 9100?



- Quality Management System standard based on ISO 9001 and AS 9000
- Expands requirements to meet needs of aerospace manufacturers
- Recognized worldwide
- Intended to ensure safety, reliability and quality
- Regulatory and statutory requirements take precedence over AS requirements (e.g., FAA, DoD, NASA, etc.)

Background of AS9100



- 1997: introduced for large US aerospace contractors
 - 1999: International Aerospace Quality standard
 - AS 9100A: aligned with ISO 9001:2000 (did not require substantial changes from AS 9100).
 - AS 9100B: additional requirements released in 2004
-
- Recognized by FAA

AS 9100 Expectations



- Improve safety
- Improve quality
- Improve supplier control and monitoring
- Improve on-time delivery
- Improve customer satisfaction

Specific Requirements



- Safety reliability and maintainability
- Design, design verification, validation and testing
- Approval and review of suppliers and their performance, flow down requirements
- Identification throughout product's life cycle
- Configuration management
- Control of production process changes
- Control of production equipment, tools and programs

Specific Requirements (cont.)



- First Article Inspections
- Control of outside processing work
- Special processes (identify, validate, control)
- Inspection and testing procedures
- Methods, resources and records
- Emphasis on calibration data and records
- Review of nonconforming material dispositions
- Corrective action (and flow-down to suppliers)
- Service
- More audit requirements for registrars (AS 9101)

Title Change



AS 9100B:

Quality Management Systems - Aerospace -
Requirements

AS 9100C:

Quality Management Systems – Requirements for
Aviation, Space and Defense Organizations

AS 9100C: Substantial Revisions



- Emphasis on product and process improvement
 - Risk management
 - Critical items
 - Project management
- More emphasis on quality and on-time delivery

Incorporates all changes from ISO 9001:2008

3 Deletions

8 Revisions/Relocations

6 Additions

AS 9100C: Deletions



4.2.2 Quality Manual

Deleted requirement to show the relationship between AS 9100 clauses and the organization's documented procedures.

7.4.3 Verification of Purchased Product

Deleted requirement to periodically validate test reports for raw material.

8.2.2 Internal Audit

Deleted requirement that detailed tools and techniques be developed and measured against the effectiveness of the internal audit process and overall QMS performance.

AS 9100C: Revisions/Relocations



1.1 Scope

Scope extended to include Defense as well as Aviation and Space

4.1 QMS General Requirements

Moved the requirement to address Customer and applicable statutory and regulatory to the QMS level (previously located in 4.2.1, Documentation)

7.1.3 Configuration Management

Moved from Clause 4.3 to 7.1.3 to focus configuration management on the product throughout product realization

AS 9100C: Revisions/Relocations



7.1.4 Control of Work Transfers

Moved from Clause 7.5.1.4 (Production) to 7.1.4 to expand coverage for permanent transfers (e.g. from one organization to another, from one organization to a supplier, from supplier to another)

7.4.1 Purchasing Process

Added Note recognizing that “objective and reliable data from external sources” may be considered for supplier selection and evaluation

7.4.1 Purchasing Process

7.4.1 a) revised register of suppliers requirement to include status (approved, conditional, disapproved) and provided examples for scope of approval (product type, process family)

AS 9100C: Revisions/Relocations



7.5.1.1 Production Process Verification

Moved from Clause 8.2.4.2, First Article Inspection, to 7.5.1.1 to acknowledge that FAI verifies the process capability as well as measures the product

8.2.4 Monitoring and Measurement of Product

Revised sampling inspection plan justification to be based on recognized sampling principles and appropriateness for use

AS 9100C: Additions



3.1 Risk

Added definition: An undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence.

3.2 Special Requirements

Added definition: customer requirements that have high risks to being achieved thus requiring they be included in the risk management process

3.3 Critical Items

Added definition: Those items having significant effect on the product realization and use of the product

AS 9100C: Additions



5.2/8.2.1 Customer Focus/Satisfaction

Added requirements to measure product conformity and on-time delivery and to take action when planned results are not achieved.

Added requirement to develop and implement plans for customer satisfaction improvements that address deficiencies.

7.1.1 Project Management

Added requirement for planning and managing product realization in a structured and controlled way to meet requirements at acceptable risk within schedule and resource constraints

AS 9100C: Additions



7.1.2 Risk Management

Added requirement to implement a risk management process focuses on product risk during the product realization process.

Includes:

- Assignment of responsibility
- Criteria
- Mitigation
- Acceptance of risks remaining

Upgrade Time Frame



AS 9100C issued Jan 2009

From Release of AS 9101D (tbd):

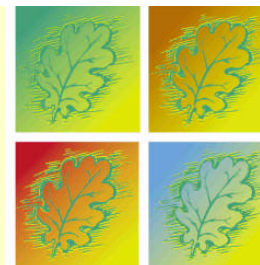
Develop Auditor
Training
(max 6 months)

Train
Certified Bodies
& Auditors
(max 12 months)

Companies Upgrade
at Next Surveillance
Audit or Re-Cert
(max 12 months)

Earliest opportunity to upgrade is after your Certified Body and Auditor have completed training (7-8 months after release of AS 9101D)

Where do you go from here?



- Get training for AS 9100C and AS 9101D
- Evaluate your QMS for gaps
- Revise your processes and update your QMS Documents as necessary
- Implement the changes – objective evidence!
- Complete a Management Review
- Conduct a full Internal Audit to AS 9100C
- Prepare...but not until the time is right
- Stay in contact with your Registrar for timing

Questions?



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