



AS 9100C:2009

Aviation, Space and Defense Management System

Development of AS 9100C

This standard was published in January 2009 and includes the ISO 9001:2008 management system requirements and specifies additional aviation, space and defense industry requirements, definitions and notes. Many of the world's leading companies such as Boeing, Lockheed Martin, Northrop Grumman, General Electric, DoD, and NASA support the standard. AS 9100C was developed through a global effort by aerospace industry representatives in the United States, Europe, and Asia.

The Society of Aerospace Engineers (SAE) at www.sae.org publishes the standard.

The associated AS 9110 Requirements for Aviation Maintenance Organizations is aimed at repair stations, and AS 9120 Requirements for Aviation, Space and Defense Distributors is aimed at stock list distributors.

The benefits associated with AS9100C

Your certificate of registration shows your selective customers and others that your business operates under a globally recognized operational and quality systems standard which differentiates you from the competition. Associated registration benefits are:

- Improved product and process quality
- Reduced operating costs and improved customer satisfaction
- Reduction in external party audits
- Improved levels of traceability within supply chain
- Common system approach for supplier and subcontractor development
- Reduced rework through process and product monitoring and measurement
- System responsibility of all employees





ISO 9001:2008

Many aviation companies, FAA repair stations, and aviation parts suppliers are familiar with the ISO 9001:2008 standard published in November 2008. The key difference is that AS 9100C includes sector specific requirements in addition to the ISO 9001:2008 standard for the aviation, space and defense industry. These additions have been added to satisfy industry, government, and regulatory bodies.

The Five Clauses of the ISO 9001:2008 Standard, contributed to a process based approach to management. The inputs and outputs (linkages) of many operational processes are now properly identified and reviewed for suitability and effectiveness for achieving customer satisfaction and continual improvement. ISO 9001:2008 which makes up much of AS 9100C produces a process based approach that equates to understanding the interacting processes and needs of your business and customers.

This change enables organizations to link business objectives with business efficiency and effectiveness more directly. Some of the major differences are:

- Measurable product and process quality objectives
- Resources to improve customer satisfaction
- Planning of product and process needs
- Effective arrangements for communicating with customers
- Monitoring customer information relating to satisfaction
- Analyzing appropriate data for system effectiveness
- Improving effectiveness of quality management system



Additional Clauses of AS9100C

The following details information that has been included beyond the requirements of AS9100B, the prior revision:

Risk Management

- **Addition:**
 - An undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence. A Risk Management process is required to manage risk to requirements as appropriate to the organization. The process must be applicable to the product and organization covering: responsibility, criteria, mitigation & acceptance.



Special Requirements

- Addition:
 - Those requirements which have high risks to being achieved thus, requiring their inclusion in the risk management process.
 - Factors used to determine special requirements include:
 - product or process complexity
 - past experience
 - product or process maturity.

Critical Items

- Addition:
 - Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on the product realization and use of the product; including safety, performance, form, fit, function, producibility, service life, etc.; that require specific actions to ensure they are adequately managed.
 - Examples of critical items include:
 - safety critical items
 - fracture critical items
 - mission critical items
 - key characteristics

Design and Development

Robust design and organizational complexity requires structuring the design effort. The additional requirements also consider the key product characteristics, including people, tasks, and equipment needed to ensure that the key characteristics are managed throughout the process.

Purchasing

Regulatory requirements are defined for supplier control. The goal is to ensure that legitimate parts are used with accountability at necessary levels. The increased role of verification of product is emphasized.

Production and Service Provision

The establishment of process controls, key characteristics, and in-process verification points. This includes the importance of Traceability and control through effective documentation.



Monitoring and Measurement

Process and product nonconformity is emphasized in relationship to identification, controlling, recall of nonconforming product. This includes inspection techniques, sampling, increased documentation, and the practice the industry uses of conducting first article inspection.

Corrective Action

Purpose: To ensure that if a supplier is responsible for a corrective action, they are involved in the root cause analysis and identification.

Major Clauses of AS 9100C

- ❑ **Quality Management System-** describes general requirements along with such documentation requirements as the quality manual, procedures, work instructions, and records. It establishes the system, defines the processes in producing a good product and/or service, and allows for continual improvement.
- ❑ **Management Responsibility-** management defines policy, objectives, planning and quality management requirements and providing feedback through management review for changes and implementation of improvements. It addresses the responsibility that a system must continually meet customer needs and expectations. This responsibility includes quality objectives at each organizational function and level.
- ❑ **Resource Management-** where resources, such as human and facilities are determined and utilized. These resources, which include infrastructure and work environment are required to implement and maintain the quality management system.
- ❑ **Product Realization-** processes, such as customer-related processes, design, purchasing, and production and service provision, are established and implemented. The processes that are needed to manufacture product and/or deliver services from receipt to delivery.
- ❑ **Measurement, Analysis and Improvement-** processes and product results are measured, analyzed, and improved along with internal audits, nonconforming product control, continual improvement and corrective and preventive actions.

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