



Sintered Specialties, LLC

SUPPLIER QUALITY ASSURANCE MANUAL

Requirements for Suppliers to SSI Sintered
Specialties LLC

Revision 5
Effective May 2019

PURPOSE

- Establish minimum quality assurance requirements for all suppliers/subcontractors that affect SSI Sintered Specialties, LLC manufactured products.
- To ensure all suppliers and subcontractors to SSI Sintered Specialties, LLC comply with or follow the established Quality standards of ISO 9001 and/or IATF 16949.
- Assure that the products and services furnished by the supplier/subcontractor conform fully to the requirements contained in part drawings, engineering specifications, purchase documents and all other relevant part specific requirements.
- The requirements covered by this specification do not replace other terms and conditions covered by the purchase documents.
- This specification is subject to change at any time by SSI Sintered Specialties LLC.

TABLE OF CONTENTS

1 SSI SINTERED SPECIALTIES, LLC SUPPLIER CODE OF CONDUCT	4
2 QUALITY CONTROL SYSTEM REQUIREMENTS	5
2.1 DRAWINGS AND SPECIFICATIONS	5
2.2 CHANGE CONTROL	5
2.3 PRODUCT IDENTIFICATION AND TRACEABILITY	6
2.4 MEASUREMENT AND TEST EQUIPMENT	7
2.5 INSPECTION AND TEST CONTROL PROCEDURES	7
2.6 PRODUCT PROTECTION AND PRESERVATION	7
2.7 HAZARDOUS MATERIALS/RESTRICTED SUBSTANCE	7
2.8 STATUTORY AND REGULATORY REQUIREMENTS	7
2.9 CONFLICT MINERALS	8
2.10 RECORD RETENTION	8
2.11 FIFO SHIPMENT REQUIREMENT	8
2.12 LOT SHIPMENT LABELING REQUIREMENTS	8
2.13 GENERAL SUPPLIER CAPABILITIES	9
2.14 QUALITY SYSTEM REQUIREMENTS	9
2.15 CONTINUAL IMPROVEMENT	10
3 QUALITY PLANNING	10
3.1 ADVANCED QUALITY PLANNING	10
3.2 CLASSIFICATION OF CHARACTERISTICS	10
4 PRODUCTION PART APPROVAL PROCESS	11
4.1 PPAP REQUIREMENTS	11
4.2 RELEASE OF PRODUCTION SHIPMENTS	11
4.3 DEVIATIONS	12
5 NONCONFORMING MATERIAL NOTIFICATION AND RESPONSE	12
5.1 NONCONFORMING MATERIAL GENERAL REQUIREMENTS	12
6 EVALUATION OF SUPPLIERS	13
6.1 SUPPLIER SELECTION	13
6.2 SUPPLIER PERFORMANCE MONITORING	13/14
7 RISK READINESS	15
8 REFERENCES/FORMS	15
Acknowledgement / QMS Status Form to be returned to SSI Sintered Specialties, LLC	16

1. SSI SINTERED SPECIALTIES, LLC SUPPLIER CODE OF CONDUCT

SSI Sintered Specialties, LLC requires all suppliers to follow the Ten Principles of the United Nations Global Compact regarding human rights, labour, environment, and anti-corruption. Link to United Nations Global Compact:

<https://www.unglobalcompact.org/what-is-gc/mission/principles>

The following are the Ten Principles of the UN Global Compact.

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: Undertake initiatives to promote greater environmental responsibility; and

Principle 9: Encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

The following US Affirmative Action Law applies to all US suppliers.

Contract, Lease, and Purchase Order Language

All US suppliers shall abide by the requirements of 41 CFR sections 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities

and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, protected veteran status or disability.

All US suppliers shall abide by all provisions of Executive Order 13496 and all relevant rules, regulations, and orders in regard to Executive Order 13496.

2. QUALITY CONTROL SYSTEM REQUIREMENTS

2.1 DRAWINGS AND SPECIFICATIONS

- 2.1.0 The supplier is responsible for ensuring parts are manufactured to the current released drawing, engineering specifications and purchase order revision level including any specifications listed on the drawing.
- 2.1.1 When clarification and interpretation is required, it is the supplier's responsibility to obtain the necessary information from the appropriate SSI Sintered Specialties, LLC personnel.

2.2 CHANGE CONTROL

- 2.2.0 The supplier must have written authorization from SSI Sintered Specialties, LLC prior to incorporating any changes to process, materials, supplier changes and production location as specified in the AIAG PPAP Manual.
- 2.2.1 Shipments incorporating such changes shall not be made until authorized through SSI Sintered Specialties, LLC PPAP approval or approved deviation.
- 2.2.2 The supplier is expected to maintain control records with effective dates and lot identification of all engineering and process changes.
- 2.2.3 The control system must ensure removal of obsolete information from all points of use and provide for proper identification and disposition of the affected product. The supplier's change control records are to be available for review by SSI Sintered Specialties, LLC personnel.

2.3 PRODUCT IDENTIFICATION AND TRACEABILITY

- 2.3.0 All suppliers must establish a system for positive identification and record keeping for each production lot throughout manufacturing, inspection and testing. The method of lot control and identification must be developed by the supplier consistent with the supplier's manufacturing facilities and

operations, but must include the following elements:

2.3.1 LOT IDENTIFICATION

- Each lot (job/batch/work order/heat, etc.) must be identified through a unique identification/traceability number.
- Each shipping container must be identified with the lot identifier or serial number referencing the lot identifier. Parts with different lot numbers may not be mixed within a shipping container.

2.3.2 LOT TRACEABILITY CONTROL

- The supplier must establish a system for identifying production lots so that:
 - The records of inspection or test results contain the main and subordinate lot codes.
 - The final inspection records are cross-referenced to supporting inspection and test documents and the raw material code (e.g. material heat numbers or lot numbers) are cross referenced to the lot numbers of the items shipped to SSI Sintered Specialties, LLC.

2.4 MEASUREMENT AND TEST EQUIPMENT

- 2.4.1 The supplier shall maintain a calibration system for all gages and measuring equipment used to inspect product.
- 2.4.2 In instances where SSI Sintered Specialties, LLC supplies gages to the supplier, gages shall be handled in accordance with the supplier's documented calibration system and identified as being owned by SSI Sintered Specialties, LLC.
- 2.4.3 Measurement System Analysis (MSA) is required for any measuring equipment in the control plan or as defined by special characteristics. MSA acceptance criteria shall be as listed below.
 - A. R&R (Repeatability and Reproducibility)

- a. R&R less than 10% is acceptable
- b. R&R between 10% and 30% is marginally acceptable (SSI Sintered Specialties, LLC approval required)
- c. R&R greater than 30% is unacceptable

2.5 INSPECTION AND TEST CONTROL PROCEDURES

- 2.5.1 During the course of procurement and production, the supplier's inspection and testing, including periodic layout and laboratory testing must be documented in the control plan or equivalent document. The frequency must be adequate to assure control of product that conforms to specifications.
- 2.5.2 The supplier and the supplier's subcontractors shall maintain records of their inspection and test results. These records are to be available for review by SSI Sintered Specialties, LLC personnel upon request.

2.6 PRODUCT PROTECTION AND PRESERVATION

- 2.6.1 The supplier's system is expected to provide controls that will assure SSI Sintered Specialties, LLC products are satisfactorily protected against damage, contamination, and corrosion during manufacturing, subsequent storage, and shipment. When applicable, the system shall also include storage control provisions for products subject to limited shelf life.

2.7 HAZARDOUS MATERIALS/RESTRICTED SUBSTANCES

- 2.7.1 SSI Sintered Specialties, LLC has proactive environmental policies that prohibit certain materials from being used in our manufacturing process. If a Safety Data Sheet (SDS) exists for the product or any portion thereof or is required by law the supplier shall include the same with each shipment. SSI Sintered Specialties, LLC may request specific hazardous material reporting as required by end customers. This may apply to but not be limited to: IMDS, RoHS, REACH, Conflict Minerals, etc. SDS shall be submitted in the language country of final user.

2.8 STATUTORY AND REGULATORY REQUIREMENTS

- 2.8.1 The supplier shall have a process to ensure product, processes and services conform to applicable statutory and regulatory requirements in the country of receipt, country of shipment and customer identified country of destination.

2.9 CONFLICT MINERALS

- 2.9.1 SSI Sintered Specialties, LLC is committed to maintaining a safe and healthy working environment for our employees and the community and, at the same time, complying with all applicable government regulations. As required by the Conflict Minerals provisions of HR 4173, Section 1502 of the Dodd- Frank Wall Street Reform and Consumer Protection Act, SSI Sintered Specialties, LLC is working with all of our raw material suppliers to confirm that their supply of materials does not include conflict minerals as outlined in the aforementioned bill.
- 2.9.2 The four minerals listed as conflict minerals are Tin, Tungsten, Tantalum and Gold from the countries listed on the aforementioned bill.
- 2.9.3 Suppliers must declare whether or not if any of these conflict minerals are in their products.

2.10 RECORD RETENTION

- 2.10.1 Unless otherwise specified, the supplier and supplier's subcontractors shall retain records of their inspection and test results including control records and any and all certifications for material and subcontracted processes or services. The records shall be retained for the length of the time the product is active for production and service requirements, plus one calendar year.
- 2.10.2 These records shall be available for review by SSI Sintered Specialties, LLC personnel upon request.

2.11 FIFO SHIPMENT REQUIREMENT

- 2.11.1 SSI Sintered Specialties, LLC requires all products and services to be handled on a first-in-first-out basis.

2.12 LOT SHIPMENT LABELING REQUIREMENTS

- 2.12.1 To facilitate quality control, lot control, and containment of nonconforming material, the supplier shall affix labels to all containers shipped to SSI Sintered Specialties, LLC. Additional labeling requirements may apply.

2.13 GENERAL SUPPLIER CAPABILITIES

- 2.13.1 Qualified Personnel – Suppliers are expected to have qualified, trained employees in place to perform activities related to product quality and delivery.

2.13.2 Electronic Data -Suppliers are required to have electronic data systems in place to receive releases electronically and exchange key data with SSI Sintered Specialties, LLC electronically.

2.13.3 Supplier Sustainability - Suppliers are expected comply with SSI Sintered Specialties, LLC requests regarding supplier sustainability to the extent the Supplier's business is able to help the environment and create profit opportunities by taking action to help the environment.

2.14 QUALITY SYSTEMS REQUIREMENTS

2.14.1 Preferred suppliers must be IATF 16949 3rd party registered. Suppliers who are not registered to the above must follow the quality management system development progression below.

- A. Certification to ISO 9001 by maintaining a third-party certification.
- B. Certification to ISO 9001 with compliance to other customer-defined QMS requirements (such as minimum automotive quality management system requirements for sub-tier suppliers through second party audit
- C. Certification to ISO 9001 with compliance to IATF 16949 through a SSI Sintered Specialties, LLC or second party audit.
- D. Certification to IATF 16949 by maintaining third-party certification.

2.14.2 The supplier shall maintain their quality system registration through their registrar's surveillance program and notify SSI Sintered Specialties, LLC of any change in their registration status such as new certificate number, suspension, revocation or switch to a new registrar.

2.14.3 The supplier must submit a copy of their certification to SSI Sintered Specialties, LLC.

- A. Certificates shall be emailed to jkelly@ssisintered.com.

2.14.4 SSI Sintered Specialties, LLC expects suppliers to manage the quality of their supply base.

2.14.5 SSI Sintered Specialties, LLC requires that tier 1 suppliers allow and facilitate SSI Sintered Specialties, LLC visits and audits of tier 2 suppliers

when requested.

2.15 CONTINUAL IMPROVEMENT

2.15.1 SSI Sintered Specialties, LLC expects suppliers to monitor the outputs of their quality system and continually improve in quality, service and cost throughout the supplier's organization.

2.15.2 Suppliers are expected to apply continual improvement techniques to all areas within the organization. These areas shall include product and non-product characteristics that impact quality, service and cost.

2.15.3 Suppliers shall use statistical tools for monitoring continuous improvement.

2.15.4 Suppliers shall conduct an internal quality management system audit annually at a minimum.

3 QUALITY PLANNING

3.1 ADVANCED QUALITY PLANNING

3.1.1 The supplier shall have a process to meet the requirements of the AIAG APQP process and is required to participate in APQP with SSI Sintered Specialties, LLC upon request. Each supplier shall have a Process Flow, Process FMEA and Control Plan per the appropriate AIAG manual.

3.2 CLASSIFICATION OF CHARACTERISTICS

3.2.1 During the advanced quality planning stage SSI Sintered Specialties, LLC will communicate special characteristics which must be controlled or monitored by the supplier.

3.2.2 Any designated special characteristics should be reviewed with your SSI Sintered Specialties, LLC contact during the APQP process.

3.2.3 Unless otherwise specified by the customer all KPC's and Special Characteristics must have capability indexes (both C_{pk} and P_{pk}) greater than 1.67 for initial studies. If the values are below this, action items must be assigned to correct the low values.

4 PRODUCTION PART APPROVAL PROCESS (PPAP)

4.1 PPAP REQUIREMENTS

- 4.1.1 All new product/process launches and changes to existing products/processes will require production part approval by SSI Sintered Specialties, LLC.
- 4.1.2 PPAP Requirements for new product/process launches will be defined for supplier during APQP process.
- 4.1.3 SSI Sintered Specialties, LLC requires suppliers to follow the latest version of the AIAG PPAP manual.
- 4.1.4 PPAP Annual Re-Validations are required.
- 4.1.5 PPAP Annual Re-Validation submission may include (minimum Level 1 PSW):
 - A. Level 4 Submission
 - B. Part Submission Warrant stating "Annual Re-Validation"
 - C. Three piece layout
 - D. Current revision drawing
 - E. Material certification
 - F. Capability data on special characteristics
 - G. Or agreed upon requirements with SSI Quality group
- 4.1.6 All PPAP documentation shall be submitted to one of the following email address, or appropriate quality personnel.
 - A. SSI Sintered Specialties, LLC: SSIQuality@ssisintered.com.

4.2 RELEASE OF PRODUCTION SHIPMENTS

- 4.2.1 A signed Part Submission Warrant (PSW) or other written approval from SSI Sintered Specialties, LLC is required prior to shipment of production product.
- 4.2.2 In the absence of SSI Sintered Specialties, LLC written approval in the

manner specified above the supplier assumes all risk, expense, and responsibility with respect to continued production and shipment of the non-approved material.

4.3 DEVIATIONS

- 4.3.1 The Request for Deviation Form is the sole means of communicating Deviation Requests to SSI Sintered Specialties, LLC. This form must be completed if the Supplier wants to request the shipment of product that does not meet normal requirements. The Deviation request must include all information as outlined on the Deviation form.
- 4.3.2 The deviated material must be retained by the supplier pending receipt of an approved Deviation Form from SSI Sintered Specialties, LLC.

5 NONCONFORMING MATERIAL NOTIFICATION AND RESPONSE

5.1 NONCONFORMING MATERIAL GENERAL REQUIREMENTS

- 5.1.1 When a nonconformance is detected at SSI Sintered Specialties, LLC that requires corrective action the supplier will be notified via a SCAR (Supplier Corrective Action Request).
- 5.1.2 The supplier is responsible for providing immediate containment activities, which may include, in-house sorting, 3rd party sorting, and/or the immediate shipment of replacement stock to keep SSI Sintered Specialties, LLC production lines running.
- 5.1.3 A documented Initial Response using the SSI Sintered Specialties, LLC or equivalent problem solving format is required to be submitted to SSI Sintered Specialties, LLC within one business day.
- 5.1.4 Due dates for root cause analysis and corrective action will be agreed upon by SSI Sintered Specialties, LLC and the supplier. This timing may be based on SSI Sintered Specialties, LLC Customer requirements.
- 5.1.5 In the event that product must be returned from SSI Sintered Specialties, LLC to the supplier, the supplier will be required to issue a Returned Material Authorization (RMA) number to SSI Sintered Specialties, LLC. Upon issue of the RMA, product will be returned to Supplier via agreed upon method.

- 5.1.6 Costs associated with nonconforming material may be passed onto the supplier in the form of a debit memorandum. Additional charges may apply due to administrative or SSI Sintered Specialties, LLC customer issues.

6 EVALUATION OF SUPPLIERS

6.1 SUPPLIER SELECTION

- 6.1.1 Suppliers are selected by SSI Sintered Specialties, LLC based on business needs, supplier capabilities and various other cost and logistical considerations.
- 6.1.2 Suppliers are required to complete a New Supplier Data Sheet and other supporting information to begin the process of being considered for new business. This request along with the associated documentation will be provided by SSI Sintered Specialties, LLC during the Supplier RFQ process.
- 6.1.3 Suppliers may be asked to complete a “Non-Disclosure Agreement” during the Supplier Selection process or at any other time during the business relationship. Suppliers are expected to abide by the language contained in those agreements for as long as the document is valid. SSI Sintered Specialties, LLC will supply this form to the appropriate supplier personnel as required.

6.2 SUPPLIER PERFORMANCE MONITORING

- 6.2.1 Supplier performance can be monitored through Supplier Rating, Supplier Scorecards, Product/Process Certifications, Supplier Self Assessments, On-Site Assessments and 3rd Party Certifications.

6.2.2 SUPPLIER RATING

- A. All Raw Material Suppliers and Subcontractors have a rating in the SSI PLEX ERP system which determines supplier status. Supplier status ratings are as follows:
 - a. Acceptable: ISO 9001 and/or IATF 16949 Registered with acceptable performance. Can be used unconditionally to supply approved product to SSI Sintered Specialties, LLC.
 - b. Probationary: Suppliers with poor quality and delivery performance or suppliers not registered to ISO 9001. Probationary suppliers can be used under the following conditions:

- i. 3rd Party Registered suppliers with poor performance require an Action Plan to correct the poor delivery or quality issues approved by SSI Sintered Specialties, LLC Quality.
 - ii. Audited as needed by SSI Sintered Specialties, LLC and have an action plan for ISO 9001 and/or IATF 16949 certification.
 - iii. Customer waivers obtained for the use of those suppliers. Note that the customer waiver will be placed in the PLEX supplier certification monitoring system so that it can be reviewed annually.
 - iv. If either of the above conditions are not met in a reasonable timeframe, the Supplier may be re-sourced.
- c. On Hold: Supplier not approved for use or new business.

6.2.3 SUPPLIER MONITORING

- A. Suppliers will be rated on a scorecard driven by performance to SSI Sintered Specialties, LLC requirements. Specific breakdown of metric categories will be provided on the scorecards. Scorecards are available upon request.
- B. Poor performing suppliers will be notified when corrective actions are required. SSI Sintered Specialties, LLC will monitor scorecards and will determine where corrective action plans are warranted. Continued poor performance can result in change of Supplier Rating to Probationary or On Hold.
- C. Premium freight will be tracked by the number of occurrences.

6.2.4 PRODUCT/PROCESS CERTIFICATIONS

- A. Product or Process Certifications from Suppliers may be required for shipments of parts. The requirements for these certifications will be outlined during the APQP process.

6.2.5 SELF-ASSESSMENTS

- A. Suppliers may be asked to perform a self-assessment and provide objective evidence as requested by SSI Sintered Specialties, LLC. Areas scoring poorly on the assessment may require corrective action plans.

6.2.6 ONSITE ASSESSMENTS

- A. SSI Sintered Specialties, LLC may determine that an onsite assessment is required at a Supplier Location. In this instance a SSI Sintered Specialties, LLC representative will contact the supplier in advance with an agenda. Areas scoring poorly on the assessment may require corrective action plans.

6.2.7 3RD PARTY REGISTRAR CERTIFICATIONS

- A. Accredited registration bodies must be used when obtaining certifications to internationally recognized standards (ISO 9001, IATF 16949, etc.).

7 RISK READINESS

7.1 Suppliers shall have a documented contingency plan in place to manage their environmental, geographical, and political risk. (This includes natural disasters, political unrest, power outages, etc.).

7.2 Suppliers shall manage their suppliers order fulfillment risk. (This includes geographic risk, political unrest, etc.).

NOTE: Risk readiness also includes an emergency recovery plan and capacity confirmation.

8 REFERENCES/FORMS

8.1 AIAG Manuals (APQP, FMEA, MSA, PPAP and SPC)

8.2 Supplier Information Form



Confirmation of Receipt / Acknowledgement of Requirements

SSI Sintered Specialties, LLC has updated and released the Supplier Requirements Manual Rev 5.

SSI Sintered Specialties, LLC requests that each supplier review the attached Supplier Quality Assurance Manual and check each box below to assure your organization has completed each item:

Received the SSI Sintered Specialties, LLC Supplier Quality Assurance Manual Rev 5 and reviewed the contents. Agree to the requirements set forth in the manual. If not please provide specific concerns.
Completed the key contacts matrix below and listed all contacts that require future communication regarding the SSI Sintered Specialties, LLC Supplier Requirements Manual.

KEY CONTACTS

(Mandatory for one Quality and one Customer Service/Sales contact be listed)

Department	Name	Title	Email	Phone
Quality				
Customer Service				

Confirmation of Quality Management System

With the recent upgrades from TS 16949 to IATF 16949 and ISO 9001:2015, please provide your company QMS status:

QMS	Certificate #	Expiration Date
IATF 16949		
ISO 9001:2015		
TS 16949		
ISO 9001:2008		

If your company is not currently IATF 16949, is there a plan to achieve this certification? If yes, provide timing. If there is not a plan to achieve IATF certification, what is the plan to achieve ISO 9001:2015 certification?

IATF 16949 <input type="checkbox"/>	ISO 9001:2015 <input type="checkbox"/>	No Certification <input type="checkbox"/>
Timing plan to achieve above certification:		

Person who completed this form

Print Name	Title	Signature	Date

PLEASE RETURN THIS COMPLETED FOR TO SSI SINTERED SPECIALTIES, LLC