	SIFCO FORGE GROUP		WORK INSTRUCTION	
			DOC NO.	QA-WI-018
REV: C	REVISION DATE: 5/15/2025	ORIGIN DATE: 08/10/2016		PAGE 1 OF 6
APPROVED BY:	Bryan Johnson			
TITLE:	SUPPLIER QUALITY REQUIREMENTS			

1.0 Purpose

- 1.1. To define the quality assurance requirements for suppliers of raw material and outside work services related to products produced at SIFCO

2.0 Scope

- 2.1. This document applies to vendors that supply or process material for SIFCO, including but not limited to: raw material providers, chemical processing, machining, heat treatment, and testing laboratories

3.0 References


- 3.1. QP-071: Counterfeit Part Prevention Program

4.0 Definitions

- 4.1. Vendor refers to any organization that supplies or processes material for SIFCO and encompasses subcontractors
- 4.2. Authorized customer: this includes a direct customer of SIFCO, a prime customer of SIFCO, any OEM or design authority on parts manufactured or processed by SIFCO, government agents, including DCAs, DCMA, and FAA, or other persons or organizations that conduct business with SIFCO

5.0 Supplier Quality Requirements

- 5.1. Vendor shall maintain a quality system acceptable to the SIFCO. Quality systems accredited by third party organizations such as NADCAP and AS are preferred.
- 5.2. Vendors shall fill out and return survey's, risk assessments or other evaluations sent by SIFCO within 1 month of receipt from SIFCO
 - 5.2.1. Failure to return documentation may result in suspension or removal of approved supplier status
- 5.3. Vendors shall have a documented code of ethics and documented training available upon request
- 5.4. Vendor's performance will be monitored by SIFCO based upon on-time delivery, quality, and any other factor deemed necessary by SIFCO
- 5.5. Vendors shall not subcontract our any part of the work without authorization from SIFCO
 - 5.5.1. All requirements, including customer specifications and requirements, of any subcontracted work shall be flown down to the subcontractor by the vendor
- 5.6. Vendors shall have a program in place to ensure their personnel are aware of how their work affects and their contribution to product conformity and safety
- 5.7. Vendor shall provide, at no charge to SIFCO, appropriate facilities reasonably necessary to allow SIFCO/or SIFCO's customer to perform quality inspection activities
 - 5.7.1. Vendor agrees that, SIFCO's authorized customer, shall be allowed to enter the vendor's facility at all reasonable times for the purposes of maintaining liaison between vendor's quality control system and SIFCO, for reviewing vendor's manufacturing and processing plans and records, and for conducting preliminary inspection and tests of parts and/or processes

	SIFCO FORGE GROUP		WORK INSTRUCTION	
			DOC NO.	QA-WI-018
REV: C	REVISION DATE: 5/15/2025	ORIGIN DATE: 08/10/2016	PAGE 2 OF 6	
APPROVED BY:	Bryan Johnson			
TITLE:	SUPPLIER QUALITY REQUIREMENTS			

5.7.1.1. Vendor agrees that a similar provision giving SIFCO and SIFCO's authorized customers the same access to the vendor's subcontractors and all following sub-tiers as it relates to SIFCO product shall be flow down

5.8. Contact SIFCO in the event of an invoked obsolete specification for current revision level

5.9. Industry specifications are the responsibility of the vendor

5.10. Order acknowledgment shall:

5.10.1. Contain incoming inspection of quantity, serial numbers, damage, and other conditions

5.10.2. Be sent back to SIFCO within 72 hours of receipt of PO

5.11. Appropriate segregation and identification processes must be documented and controlled

5.11.1. Material shall be fully traceable through all production processes

5.11.2. Multiple batches or lots of material are included in a shipment shall be segregated appropriately

5.11.3. Serialization, where applicable, shall be maintained

5.12. Records of all inspection, processing, testing, and quality control activities shall be maintained and made available within 48 hours of a request from the SIFCO

5.12.1. All activities shall be certified, and records of the certification shall be provided with every shipment

5.12.1.1. Certification shall be approved by qualified and authorized quality representative of the vendor

5.12.2. Certifications shall be emailed to vendorcerts@sifco.com

5.12.3. Records shall be kept for a minimum of 10 years unless otherwise specified

5.12.3.1. Rolls Royce: record retention requirements apply per RR9000 SABRe,

5.12.3.1.1. Section 5: all inspection and testing procedures, laboratory and other test records, heat treatment and processing records and inspection history shall be retained until informed by Rolls Royce (via SIFCO correspondence) that product has been withdrawn from use

5.12.3.2. Embraer: all records shall be maintained for a minimum of 50 years

5.12.3.3. Flight safety and critical part records must be maintained for a minimum of 40 years.


5.12.3.3.1. Vendor will provide SIFCO with the opportunity to obtain the records after retention time has lapsed

5.12.4. Remnant test material shall be kept for a minimum of 6 months unless otherwise specified

5.12.5. All articles are subject to final inspection and acceptance by SIFCO at destination, notwithstanding any payment or prior inspection at source

5.12.6. Final inspection will be made within a reasonable time after receipt of the goods

5.12.7. SIFCO may notify vendor if any supplies delivered hereunder are rejected, and such supplies shall be held by SIFCO or returned to vendor at vendor's risk and expense.

	SIFCO FORGE GROUP		WORK INSTRUCTION	
			DOC NO.	QA-WI-018
REV: C	REVISION DATE: 5/15/2025	ORIGIN DATE: 08/10/2016		PAGE 3 OF 6
APPROVED BY:	Bryan Johnson			
TITLE:	SUPPLIER QUALITY REQUIREMENTS			

5.13. Vendor shall maintain a calibration program that assures appropriate measuring and test equipment is conforming to necessary precision and accuracy requirements

5.13.1. Equipment used for verification activities shall be checked regularly and calibrated against NIST traceable standards

5.13.2. SIFCO recommends the vendor utilize the guidelines of ISO 10012 as a model

5.13.3. All calibration data shall be available upon request

5.14. Vendor shall have a documented counterfeit parts prevention program in place in accordance with AS6174 and SIFCO quality procedure, QP-071, control and prevention of counterfeit parts

5.15. DFARS and ITAR requirements apply as stipulated on the PO, drawing, or other documentation

5.16. Certification shall contain the following information at a minimum:

5.16.1. If you do not supply the goods or services listed in the subsections below then that subsection does not apply

5.16.1.1. Example: You are providing raw forging stock, then the chemical processing section does not apply

5.16.2. Additional information may be required by the PO, specification, or other documentation flow down by SIFCO

5.16.3. Vendor shall confirm no contact with prohibited materials

5.16.4. SIFCO part number

5.16.5. SIFCO PO number

5.16.6. Forge

5.16.6.1. Forge temperature and tolerance

5.16.6.2. Furnace charts

5.16.6.3. Dimensional inspection results confirming drawing characteristics and purchase order text

5.16.6.3.1. Sample and report 1st, 3rd, and last piece unless otherwise specified

5.16.7. Grind / Blast / Packaging

5.16.7.1. Validation that the requirements of the PO were met

5.16.7.2. Heat treated lumber packaging crates shall have heat treat stamps visible on all sides


5.16.8. Heat Treat

5.16.8.1. Furnace charts

5.16.8.2. Time and temperature report

5.16.8.3. Testing results detailed on Heat Treat Instruction and Log (HTIL)

5.16.8.4. SIFCO work order, batch, and lot numbers

	SIFCO FORGE GROUP		WORK INSTRUCTION	
			DOC NO.	QA-WI-018
REV: C	REVISION DATE: 5/15/2025	ORIGIN DATE: 08/10/2016		PAGE 4 OF 6
APPROVED BY:	Bryan Johnson			
TITLE:	SUPPLIER QUALITY REQUIREMENTS			

5.16.9. Machining / Saw / Water Jet

- 5.16.9.1.** Inspection results confirming drawing characteristics and purchase order text
- 5.16.9.2.** Sample and report per AQL 1.0, c=0, unless otherwise specified
- 5.16.9.3.** Inspection data must be included with certification
 - 5.16.9.3.1. If inspection capabilities are not available, first machined piece must be submitted to SIFCO layout for approval prior to processing the balance of the parts
- 5.16.9.4.** Machined surfaces shall be protected against metal to metal contact


5.16.10. Chemical Processing

- 5.16.10.1.** Certify to applicable processing specifications
- 5.16.10.2.** Sample and report removal amount as applicable
- 5.16.10.3.** Test results

5.16.11. Test Laboratories

- 5.16.11.1.** SIFCO Test Plan and revision
- 5.16.11.2.** SIFCO work order, batch, lot, serial number as applicable
- 5.16.11.3.** All required specification on the Test Plan
- 5.16.11.4.** Specification governing test procedure
- 5.16.11.5.** All pertinent information that has an impact on the test parameters or results
- 5.16.11.6.** All parameters required by specification and/or NADCAP
- 5.16.11.7.** Confirmation of heat treatment performed on test blanks
 - 5.16.11.7.1. Furnace charts to be available upon request
- 5.16.11.8.** Microstructure and grain size evaluation: provide photograph at determination magnification unless otherwise specified
- 5.16.11.9.** Grain Size: Microstructural evaluation per NADCAP
- 5.16.11.10.** Fracture Toughness: full validation testing report
- 5.16.11.11.** Dimensions of sample
- 5.16.11.12.** Etchant used
- 5.16.11.13.** Conforming or non-conforming to requirements statement
- 5.16.11.14.** Non-conforming samples to be held for 1 year
- 5.16.11.15.** All pertinent test data associated with a test, such as all hardness readings for decarb by microhardness, fatigue details

5.16.12. Die Sink

	SIFCO FORGE GROUP		WORK INSTRUCTION	
			DOC NO.	QA-WI-018
REV: C	REVISION DATE: 5/15/2025	ORIGIN DATE: 08/10/2016	PAGE 5 OF 6	
APPROVED BY:	Bryan Johnson			
TITLE:	SUPPLIER QUALITY REQUIREMENTS			

5.16.12.1. Inspection report confirming 100% of drawing and/or model dimensions

5.16.13. Raw material:

5.16.13.1. Raw material dimensional tolerances provided as a supplement to these terms and conditions must be met

5.16.13.2. Any variance or exception from these standards must be approved in advance by SIFCO in writing

5.16.13.3. The following surface quality requirements apply to all bars and billets

5.16.13.3.1. Condition all forging stock to minimize or eliminate all detrimental surface imperfections

5.16.13.3.1.1. The depth of grinding shall not exceed 1/32 inch for each inch of dimension up to a maximum of 1/2 inch

5.16.13.3.1.2. All conditioned areas shall be blended

5.16.13.3.1.2.1. The width of blend shall be at least 4x the depth of metal removed

5.16.13.3.2. The surface finish of bars/billets and ground areas shall not exceed 500 RMS microinches

5.16.13.3.3. Raw material must be furnished from a continuous bar section

5.16.13.3.4. Deviation from this requirement must be communicated and approved in writing by SIFCO prior to shipment

5.16.13.3.4.1. Evidence of passing requirements on remaining section will need to be provided for SIFCO approval

5.16.13.4. Substitute material shall not be used for any reason, including to replace defective articles

5.16.13.5. No weld repair or rework is allowed

5.16.13.6. Statement verifying that all processing was free of mercury, alpha, and beta particle contamination

5.17. Vendor shall notify SIFCO of non-conforming product or process and shall have appropriate processes to identify and segregate non-conforming materials


5.18. Vendor shall notify SIFCO in writing of any product that may be nonconforming as a result of their processing

5.19. Vendor shall be responsible for the costs of nonconforming products negotiated with SIFCO

5.20. Vendor shall notify SIFCO of changes in product and/or process definition and, obtain approval from SIFCO on such changes when required prior to implementation

5.21. Vendor shall notify SIFCO of any changes, which may affect the quality of the product including changes in ownership, senior management, and manufacturing location

5.22. Vendor shall have a documented foreign object program, including training and procedure in alignment with NAS 412 or similar

	SIFCO FORGE GROUP		WORK INSTRUCTION	
			DOC NO.	QA-WI-018
REV: C	REVISION DATE: 5/15/2025	ORIGIN DATE: 08/10/2016		PAGE 6 OF 6
APPROVED BY:	Bryan Johnson			
TITLE:	SUPPLIER QUALITY REQUIREMENTS			

- 5.23. Inspection and tests by SIFCO do not relieve vendor of responsibility for defects or other failures to meet order requirement discovered before acceptance
- 5.24. Charges for handling and re-inspection of all articles, which are found to be discrepant, may be charged to vendor
- 5.25. If the material is returned, all freight charges will be the responsibility of the vendor
- 5.26. Further cost of any value-added activities by SIFCO will be the responsibility of the vendor if the item furnished is found to be discrepant after processing has begun
- 5.27. Vendor shall investigate any non-conformance and provide a report to SIFCO within 24 hours of occurrence
 - 5.27.1. If additional investigation is required preliminary results shall be provide within 24 hours and a timeline for the investigation will be established and communicated to SIFCO
 - 5.27.2. In the case of non-conforming test results an investigation verifying the validity of the test shall be conducted

6.0 Acceptance and Verification

- 6.1. The requirements detailed in this document have been reviewed and are understood by our organization
- 6.2. I acknowledge our organization’s compliance to the requirements except as detailed herein
 - 6.2.1. All exceptions shall be agreed upon and approved in writing by SIFCO

Signature

Date