

**QUALITY CONTROL REQUIREMENTS
FOR SUPPLIERS
(QCR-HNWL-G)**

Schmiede Corporation

Section I

APPLICABILITY - Other specifications apply when referenced on drawings or the Purchase Order; applicable revision status of such specifications shall be the revision in effect on date of Purchase Order, unless otherwise specified in the Purchase Order or related documents. However, applicable revision status of procured/deliverable items shall always be as specified in the Purchase Order or related documents.

SUPPLIER'S QUALITY CONTROL SYSTEM-

1. **Organization** - Quality Control responsibility shall be clearly designated within the Supplier's organization. Personnel having this responsibility shall have sufficient authority to assure that quality is not compromised.
2. **Procedures** - The Supplier's quality control system shall be implemented by written procedures which adequately provide for compliance with the requirements of the Purchase Order.

SURVEYS AND SURVEILLANCE - Buyer may conduct a survey and/or perform surveillance of the Supplier's quality control system to evaluate the degree of ability to comply with these and other applicable requirements, or assist in the resolution of quality problems. As necessary, a Buyer's Customer may accompany the Buyer's Quality Control Representative.

RECORDS - The Supplier shall maintain adequate records of inspections, tests, and other quality control activities. Records shall provide objective evidence of the quality control operations performed, the results obtained, and corrective actions taken. Such records shall be available to Buyer. Where such records are traceable by serial or lot designation to material supplied to Buyer, they shall be retained for a period of at least 7 years from the date of shipment to Schmiede. For material designated as Critical Flight Safety, or Airworthiness/Product Safety Critical retention of these records shall be indefinite.

FINAL ACCEPTANCE - Inspection/test acceptance at the Supplier's facilities by Buyer or the Government does not guarantee final acceptance. Final acceptance shall be at Buyer's facility unless other specified on the Purchase Order.

CONFORMANCE RESPONSIBILITY - Surveillance, inspection and/or test conducted by Buyer or representatives of any customer or government agency at the Supplier's or Buyer's facility shall not relieve Suppliers of their responsibility in meeting the quality requirements of the Purchase Order.

SAMPLING - Buyer reserves the right to use MIL-STD-105 or equivalent sampling plans for the acceptance or rejection of supplies. If a lot is rejected by the sampling procedure, the entire lot may be returned to the Supplier for screening at the Supplier's expense, or the rejected lot may be screened by Buyer at the Supplier's expense (if agreed to by the Supplier).

REQUIREMENTS - The Supplier is responsible for compliance with all requirements referenced through the Purchase Order and for the maintenance of quality control records evidencing compliance with such requirements, regardless of whether work was performed by the Supplier or his lower-tier suppliers.

BUYER QUALITY CONTROL REPRESENTATIVE - Buyer may, at its discretion, provide resident or itinerant quality control personnel whose function shall be to survey Supplier operations, assist the Supplier in the resolution of quality problems, and witness at any stage (subject to proprietary considerations) the manufacture, processing, test, and inspection of items being manufactured for Buyer. The scope of Supplier operations, as well as the volume of Buyer work being produced, will determine in part the need for surveillance and a resident or itinerant quality control representative. Copies of applicable specifications and documents shall be made available to the Buyer's Quality Control Representative.

DRAWING AND CHANGE CONTROL - The supplier's system shall assure that the latest applicable drawings, specifications, technical requirements, Purchase Order information and changes thereto will be available at the time and place of Supplier's acceptance of material. All changes shall be processed in a manner which will assure incorporation on the affected supplies at specified effectivity points. On Buyer-designed parts, Buyer may require that the Supplier's change control system be compatible with that of Buyer.

DESIGN - When design is the Supplier's responsibility but requires Buyer approval, changes shall not be made without written authorization from Buyer.

PROCUREMENT BY THE SUPPLIER - The Supplier shall maintain a system to assure that Supplier-procured supplies and services conform to drawing and specification requirements. Applicable quality control requirements shall be conveyed to Suppliers in every tier. The implementation of such controls shall be subject to surveillance by Buyer.

GOVERNMENT FURNISHED MATERIAL - Federal Acquisition Regulations (FAR45), titled, Government Property in Possession of Contractors, is hereby incorporated and made applicable.

PROCESSING - The Supplier shall establish a system to assure that thermal, chemical, metallurgical, or other critical processes, the control of which cannot be readily determined by inspection of the part, will be performed in accordance with specification requirements in adequate facilities, by competent personnel using proper procedures. Those processes to which Government specifications apply are subject to the applicable requirements regarding certifications or approval by Government agencies. When critical or special processes are performed outside the Supplier's facility, it shall be the Supplier's responsibility to assure proper performance of all such processes through surveys, certification, testing, etc. These processes include welding, X-ray, magnetic particle and fluorescent penetrant inspection, heat-treating, plating, anodizing, etc.

INSPECTION - The Supplier shall perform inspection and/or test on end items covered by the Purchase Order prior to submission to Buyer or prior to delivery. Inspection/test of supplies which cannot be readily examined in the completed products must be performed at the appropriate in-process stages of manufacturing. Adequate records of inspection/tests must be maintained by the Supplier. Any statistical sampling procedures used in final inspection/test may be subject to disapproval by Buyer.

INSPECTION STATUS - The Supplier shall maintain a system for identifying inspection status of supplies. Identification may be accomplished by means of stamps, tags, routing cards, labels, or other control devices. Final acceptance stamps must provide for Supplier identification unless identification is provided on the product by other acceptable means. The Supplier shall be responsible for maintaining procedures for governing the control of inspection stamps and shall, upon request, forward a catalog of such stamps to the Buyer.

MATERIAL REVIEW - The Supplier shall not exercise Material Review authority without written approval by Buyer's Quality Engineering Department. (This applies only to material that is Buyer-designed and/or design controlled to Buyer's specifications.)

1. Requests from Suppliers to Buyer for Material Review authority shall include:
 - a. Material Review procedures including copies of applicable forms, tags and other control media, and a description of their usage.
 - b. A resume of each of the Supplier's Material Review members and alternates, including background, experience, education, etc.
 - c. Evidence of approval of the Supplier's Material members and procedures by the Supplier's cognizant Government Quality Control Representative, if applicable.

2. When the Supplier is approved to effect Material Review action:
 - a. Supplier shall furnish three copies of all Material Review reports to Buyer's Quality Engineering Department via Buyer's Purchasing. One copy of each Material Review action shall be included with the shipment of affected material. These reports shall list in detail the salvage methods utilized, if applicable.
 - b. Final review authority over Supplier's Material Review decisions is retained by Buyer.
 - c. The Supplier shall **not** make substitution of Material Review members for delegate Material Review authority to subcontractors performing work on Buyer parts without advance written authorization from Buyer.
 - d. Supplier Material Review action is not allowed when interchangeability, external configuration, function, service life, safety, reliability, or point of attachment to Buyer assemblies is affected.

PRESERVATION AND PACKAGING - (The following applies only when specific packaging and preservation instructions are not invoked in the Purchase Contract):

1. All material intended for Buyer shall be protected against the usual hazards of corrosion, contamination, deterioration, or their spoilage at the Supplier's facility and in transit.
2. All material intended for Buyer shall be packed with suitable protection so as to prevent damage through handling, during storage at the Supplier's in transit, and during storage at Schmiede before use.
3. All electrostatic sensitive material shall be protectively packaged to avoid damage due to electrostatic discharge.

TOOL AND TEST EQUIPMENT CONTROL (BUYER FURNISHED) -

All tooling and test equipment fabricated by the Supplier at Buyer expense, or supplied by Buyer for Supplier use, shall be considered property of Buyer and/or the procuring government agency. Such tooling and test equipment shall be inspected, calibrated, and controlled as outlined in the following paragraphs. Tool and test equipment controls shall be accomplished by the Supplier with review and approval at buyer's option.

1. All tools and test equipment, unless size or use prohibits, shall be identified with a tag permanently attached which contains the following information:

Property of Schmiede Corporation or Government	Inspection Date
Supplier's Name	Reinspection Due Date
Part Number of Tool/Test Equipment	Calibration Date
	Recalibration Due Date
2. If not otherwise specified, all equipment that is used to determine acceptance of material will be subject to, as a minimum, an initial inspection and calibration, and a reinspection and recalibration every 6 months thereafter.
3. The Supplier shall be responsible for maintaining adequate records of all tooling and test equipment indicating periodic inspections and calibrations. Such records shall be readily available to the Buyer's Quality Engineering Representative and/or the Government Procuring Agency Representative.
4. The Supplier shall have a system which includes written procedures for control of all tooling and test equipment. Procedures shall be in accordance with the controls specified herein.
5. Any tooling or test equipment furnished to the Supplier by Buyer **shall not** be reworked or modified without prior written approval of Buyer.
6. Tooling or test equipment shall be properly maintained and preserved.

MEASURING AND TEST EQUIPMENT CALIBRATION SYSTEM -

The Supplier shall provide and maintain suitable gauges, instruments, and test equipment to measure and test all supplies for conformance to Buyer's requirements. The Supplier shall also provide a system, including written procedures, to assure inspection and evaluation of measuring and test equipment, whether Supplier- owned or supplied by Buyer or another agency. This system shall assure that inherent accuracy of the equipment is comparable with

requirements of units being tested, and that required measurements are adequately performed.

MEASUREMENT STANDARDS CONTROLS - The Supplier's working standards used for calibration of tooling, measuring, and test equipment shall be checked at established intervals against suitable higher level standards which, in turn, will be checked at established intervals by reference to national Bureau of Standards or equivalent certified primary standards. The Supplier shall maintain records or other conclusive evidence that proper control is being provided. Buyer may conduct, in the Supplier's facility, an evaluation of the Supplier's standards, measuring/testing devices, and calibration/maintenance personnel and methods to establish correlation between Buyer's and the Supplier's measurements.

CORRECTIVE ACTION - The Supplier's quality control system shall provide means for ready detection of discrepancies and for prompt and effective corrective action. Corrective action must be positive and specific, including firm effectivity points by serial number, part number, date, or other agreed methods. Corrective action records and information, such as pertinent data on defects and failures, shall be available.

1. The Supplier is responsible for initiation of prompt replies to Buyer Nonconforming Material Reports, and
2. When corrective action is required by the Buyer for Government source-inspected items, the Supplier shall coordinate such action with the Government source inspector at his plant.

AGE CONTROL - The Supplier shall have an approved system of age control for items where acceptability is limited by maximum age. The system shall include a method of identifying the age of such items, and provisions for the rotation of stock.

PROHIBITED PRACTICES - The following acts or practices are typical of those prohibited:

1. Unauthorized Repair - Repairs (by welding, brazing, soldering, or the use of adhesives) of parts damaged or found faulty in the fabrication process; repairing holes in castings, forgings or other materials by plugging or bushing without authorization from Buyer.
2. Unauthorized Processing - Addition, revision, or deletion of thermal, chemical, or electrochemical processes in manufacturing when processes are subject to specification control by Buyer.
3. Disregard of Approvals - Change in any process of quality control procedure that is subject to specific approval by Buyer without proper notification and reapproval.
4. Improper Material Submittal - Submission of material having known defects/problems to Buyer without notification.
5. Improper Material Resubmittal - Resubmission of material to Buyer without material being clearly identified as resubmitted material.

SECTION II

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| CODE 1 | Deleted |
| CODE 2 | The seller shall comply with provisions of "Inspection System Provisions for Aeronautical & Space System Materials, Parts, Components & Services", NHB 5300.4(1c). |
| CODE 3 | Deleted |
| CODE 4 | The seller shall comply with the Quality Assurance Program and Self Audit requirements of MIL-PRF-38535, Appendix A. |

- CODE 5** The supplier shall provide signed & dated PIND test results which shall include the following information:
1) Part number, lot number &/or date code
2) Test specification, method & condition
3) Quantity tested
4) Number of failures at each pass
5) Number of test passes completed
6) PDA calculation, if applicable
PIND testing performed as a part of this purchase order shall be performed by Honeywell SSO approved source.
- CODE 6** Buyer's First Article Configuration Inspection (FACI) is required prior to delivery of the first production unit. This inspection will be accomplished with both supplier & buyer participation on a unit acceptable & ready for shipment. Buyer purchasing is to be notified at least 72 hours in advance of FACI readiness.
- CODE 7** The distributor shall supply certifications of conformance from the manufacturer for all special processes (i.e. - painting, surface finishes, welding, brazing, heating, plating and NDT).
- CODE 8** Raw material used in the fabrication of parts on this order shall be traceable to a physical and chemical analysis (as defined below). Tests shall be performed by a Honeywell approved independent testing laboratory. The tests shall conform to the current material specification lot acceptance tests. A copy of the actual analysis shall accompany each delivery.
- The supplier shall provide a certificate of conformance which includes a statement that parts delivered have been fabricated from material certified by the Honeywell approved independent testing laboratory, and shall list the laboratory by name and report number.
- CHEMICAL TESTING:
Verify material composition (qualitative or quantitative elemental analysis).
Verify finish composition and thickness if applicable.
Verify passivation integrity (stainless steel hardware only).
- PHYSICAL TESTING:
Tensile strength (tensile pull or hardness test with correlation).
- CODE 9** The seller shall comply with provisions of "Calibration System Requirements", MIL-STD-45662.
- CODE 10** A certified, signed statement that material/parts conform to applicable specifications shall accompany shipment and be enclosed with packing slip. Certification must contain the manufacturer's name and must state the specifications that the material/parts conform to (i.e. - MIL-STD, M-SPEC, P-SPEC, etc.)
- CODE 11** Manufacturer shall supply summary reports listing all screening & Quality Conformance Inspection (QCI) tests performed on or covering the components supplied to this order, as specified in the applicable military specification &/or Source Control Drawing (SCD). For periodic tests covering but not performed on the lot shipped, the date of test & lot date code tested shall be shown. Tests involving Percent Defective Allowable (PDA) must show the number of components tested & the number passing, or the calculated PDA for that test. This data may be incorporated into the manufacturer's certificate of conformance.
- CODE 12** A certified, signed statement that material/parts conform to applicable specifications shall accompany shipment and be enclosed with packing slip. Certification must contain the manufacturer's name.
- CODE 13** Certified actual, quantitative chemical and detailed mechanical test reports including material producer's original certificate for raw material shipped to Schmiede and/or used against this purchase order must accompany shipmen and be included with the packing slip. Reports must validate compliance to current raw material procurement specifications as required on the purchase order and be traceable by heat or lot number.
- All material for this purchase order item shall be from the same raw material lot number and from a domestic source
- NOTE: Procurement of any titanium material from Western Titanium, Inc. and affiliates Mach 2 Metals, Integrated Titanium Group I and integrated Titanium Group II is prohibited.
- NOTE: Procurement of any Titanium Material from American Metal Supply is Prohibited.
- CODE 14** The supplier shall provide certifications of conformance for all special processes performed as a part of this purchase order. "Special processes" include but are not limited to: chemical processing, composites, castings, forgings, shot peening, painting/coatings, heat treatment, non-destructive testing, welding/brazing, etc. The certificate of conformance shall list the process specification, revision, and any other documentation/data required by the process specification. "Special processes" performed as a part of this purchase order shall only be performed by current Honeywell-Glendale approved sources. A current list of Honeywell-Glendale Controlled Specifications governing special processes and approved sources are listed in the APSL at "<https://www.supplier.honeywell.com>". If the specification is not listed in the Controlled Specification list on the APSL or if the supplier cannot access the Honeywell-Glendale approved sources website (APSL), contact the Schmiede Buyer for direction.
- The supplier shall monitor the delivery and quality performance of all special process sources used on Schmiede components. Copies of any nonconformance documentation resulting from the use of these special process sources shall be sent to the Schmiede buyer.
- CODE 15** Electrical assembly &/or Inspection personnel performing operations on the material specified by this purchase order shall be certified by the supplier. The supplier's certification requirements are subject to disapproval by the buyer.
- CODE 16** Certified copies of quantitative test results, obtained from all electrical or mechanical tests of each device covered by this purchase order, shall accompany each shipment.
- CODE 17** Sellers of material requiring special processes shall maintain a file of all documents & data, certifications, reports, etc. for the special processes used. Documents & data shall be available for buyer and/or government review.
- CODE 18** The seller shall comply with the Quality Management requirements of MIL-PRF-38535.
- CODE 19** Certificate of Conformance shall specify serial number(s) of supplied PWB's.
- CODE 20** Certified actual, quantitative chemical & detailed mechanical test report including material producer's certificate for raw material shipped to buyer &/or used against this purchase order must accompany shipments & be included with the packing slip. Reports must validate compliance to current raw material procurement specifications as required on the purchase order and be traceable by heat or lot number. Mill cert okay.

CODE 21 Manufacturer shall supply solderability test report covering components supplied on this order per the requirements of MIL-STD-202, Method 208.

CODE 22 Group A & B testing in accordance with MIL-P-55110 shall be performed & data sheets must accompany each shipment. Associated test specimens shall be retained for a period of 2 years.

CODE 23 Packaging - Supplier shall package each printed wiring board (PWB) in the following:(Inner Bag) - Static Shielding Bag, Metal-In ZipTop with an OX strip (Oxidation Arrest Paper Strip) placed inside the Inner Bag. The Inner Bag shall be a Static Shielding Bag, with Metal-In ZipTop material and meet or exceed the electrical and physical requirements of ANSI/ESD S541, EIA 625, and be ANSI/ESD S20.20 program compliant. The Oxidation Arrest Paper Strip (OX strip) shall consist of an activated charcoal impregnated paper. (Outer Bag) – ESD zip lock bubble lined bag with zipper and ESD caution label. The Outer Bag shall be of the following construction: Layer-1 (Outer Layer): An acid and amine free, transparent metalized static shielding layer which meets the requirements of MIL-PRF-81705D, Type III. Zipper and ESD caution label are required. Layer-2 (Bubble Lining): Static dissipative, non-barrier, amine free cushion material meeting the dissipative requirements of federal specification PPP-C-795C, Class 2 and MIL-PRF-81705D, Type II. Layer-3 (Static Layer): Polycarbonate compatible, low out gassing, non corrosive layer that meets the static dissipative requirements of MIL-PRF-8705D, Type II. Source Information - (Inner Bag) – 3M™ Static Shielding Bag Metal-In SCC 1000 ZipTop. (OX strip) - 3M™ Tarni- Shield Protectors. (Outer Bag) - SECO Brand Cushion Pouch Pack, 77-3 Safecell. Other bag and OX strip materials which meet the above requirements may be used with prior approval from Schmiede.

CODE 24 Group A & B testing in accordance with MIL-P-50884 shall be performed & data sheets must accompany each shipment. Associated test specimens shall be retained for a period of 2 years.

CODE 25 A Printed Board, processed with the production units, if available, will be furnished with each new lot shipment for setup and evaluation purposes, at no additional cost. The samples shall be shipped with the order, packaged separately from the production printed boards and clearly identified as "Code 25 Samples". Overage, rejected or scrap printed boards, with external features intact, are acceptable. The samples shall be rendered non-usable for production.

CODE 26 This procurement involves certification critical items or materials. The elements of the certification critical requirement are specified on buyer drawings, specifications, or bulletins. Strict compliance with these requirements is mandatory & subject to audit/surveillance by Honeywell SSO.

CODE 27 During performance on this order, seller quality control or inspection system & manufacturing processes are subject to review, verification & analysis by authorized government representatives. Government inspection or release of product prior to shipment is not required unless seller is otherwise notified. Seller shall provide a copy of this order to its government representative upon government request.

CODE 28 Government inspection (in-process, pre-cap &/or final) is required prior to shipment from the seller's plant. Upon receipt of this order, seller shall promptly notify the government representative who normally services its plant so that appropriate planning can be accomplished for government inspection.

CODE 29 Buyer source inspection is required prior to shipment from seller's plant. Seller shall notify buyer's purchasing department 72 hours in advance of any inspection need.

The seller shall make available to the buyer's Quality representative any necessary specifications, documents, facilities and assistance. Evidence of buyer's Quality representative's certification shall accompany shipment.

CODE 32 Manufacturer shall supply solderability test report covering components supplied on this order per the requirements of MIL-STD-750, Method 2026.

CODE 33 Manufacturer shall supply solderability test report covering components supplied on this order per the requirements of MIL-STD-883, Method 2003.

CODE 34 X-ray (or Radiographic) inspection film of parts must be supplied with each shipment. X-rays must be traceable to the suppliers lot and/or serial numbers of the parts supplied.

CODE 35 For elastomeric material a certified report showing cure date, manufacturer's name, compound number, & the specification this material meets shall be supplied by seller with this shipment.

CODE 36 Calibration measurement processes. Random and systematic errors in any calibration measurement process shall not exceed 25 percent of the tolerance of the parameter being measured. Authorization for exception shall be requested from the buyer.

CODE 37 Article or material measurement processes. Random and systematic errors in any article or material measurement process shall not exceed 10 percent of the tolerance of the article or material characteristic being measured. Authorization for exception shall be requested from the buyer.

CODE 39 Sellers of self-locking or clinch nuts with Class 3B threads shall supply a certified statement that the 3B threads have been gauged in accordance with the requirements of MIL-S-7742 or MIL-S-8879, whichever is applicable. Manufacturer's part number must be on certification.

CODE 41 Plastic or elastomeric materials supplied on this purchase order shall be accompanied by a certified report showing manufacturer's name, material designation, the generic type & the specification to which the material conforms.

CODE 42 Process coupons of the material used for fabrication, which have accompanied the components through the processes, shall be delivered with the finished components. Coupons shall be large enough for analysis & shall be identified (preferably stamped) with the finished component part number, serial number (as applicable) & related process. Coupons shall be supplied for each process performed on this contract, unless limited by the purchase order.

Type	Minimum Coupon Size
Bar & Forging Stock	½" x ½" x 3 ¼"
Sheet & Plate Stock	½" x 6"

CODE 43 Raw material coupon (large enough for analysis) of the material used for fabrication shall be delivered with each finished component. Coupon shall be identified (preferably stamped) with finished component part number & serial number. When raw material can be certified as being identical (from the same lot) only one coupon needs to be supplied per shipment - when authorized by the buyer.

Type	Minimum Coupon Size
Bar & Forging Stock	½" x ½" x 3 ¼"
Sheet & Plate Stock	½" x 6"

CODE 44	Weld sample (large enough for analysis) of the weld joint before & after welding shall be delivered with each finished component. Samples shall be identified (preferably stamped) with finished component part number & serial number (as applicable). When welds can be certified as being identical (from the same lot, operator & equipment), only one weld sample need be supplied per shipment - when authorized by the buyer.	test data which is in compliance with Mil-M-38510 requirements.)
CODE 45	A certificate of conformance which includes data for each weld schedule is required for electron beam welding. Each schedule shall include, as a minimum: table speed, accelerating voltage & beam current, or assigned number of the weld schedule. Supplier shall certify that no deviation from approved schedule was made.	CODE 54 Group B tests shall be performed in accordance with MIL-M-38535 requirements on each inspection lot & attribute test data shall be furnished with each shipment. The test data & the delivered parts shall exhibit the same inspection lot identification code. (If specified in the purchase order, for existing stock, the seller shall supply test data which is in compliance with Mil-M-38510 requirements.)
CODE 46	When material is supplied by buyer, the suppliers Certificate of Conformance shall include a statement that the components (buyer's part number & serial numbers) have been fabricated from material supplied by buyer & shall include the buyer Procurement Shipping Order (PSO) number.	CODE 56 Group C & D periodic tests shall be performed in accordance with MIL-M-38535 requirements. Test data for this microcircuit group per MIL-M-38535 is acceptable & attribute test data shall be furnished with each shipment. (If specified in the purchase order, for existing stock, the seller shall supply test data which is in compliance with Mil-M-38510 requirements.)
CODE 47	Raw material used in the fabrication of parts on this order shall be traceable to a physical & chemical analysis by an independent laboratory. The tests shall conform to the current material specification lot acceptance tests. A copy of the actual analysis shall accompany each delivery. The supplier shall provide a Certificate of Conformance which includes a statement that the parts delivered have been fabricated from material certified by the independent laboratory, & shall list the laboratory by name & report number.	CODE 57 Group C & D periodic tests shall be performed in accordance with MIL-M-38535 requirements. Generic test data as defined in the applicable buyer specification is acceptable & attribute test data shall be furnished with each shipment. (If specified in the purchase order, for existing stock, the seller shall supply test data which is in compliance with Mil-M-38510 requirements.)
CODE 48	All devices for each item on this order shall be from the same lot/date code. If a single lot cannot be provided, the supplier shall notify the HSSO buyer of the quantity of lots required to fill the order. The supplier shall receive written authorization from the HSSO buyer for the specified number of lots. A copy of the HSSO buyer's written authorization shall accompany each shipment of parts. Each lot shall be packaged & identified separately to maintain lot identification & traceability.	CODE 58 All Class I changes to this product and its manufacture must be submitted to SSO for review and buyer's written concurrence prior to shipment.
CODE 49	Buyer's pre-cap source inspection is required on this order. Buyer shall be notified ten days prior to the close-up or sealing of devices supplied against this order so that Precap/Internal Visual inspection can be performed. Evidence of buyer's Quality representative's certification shall accompany shipment.	CODE 59 Parts to be serialized.
CODE 51	Buyer's in-process source inspection is required on this order. Seller shall notify buyer's purchasing department 72 hours in advance of any inspection need. The seller shall make available to the buyer's quality representative any necessary specifications, documents, facilities & assistance. Evidence of buyer's Quality representative's certification shall accompany shipment.	CODE 60 Supplier shall provide a report indicating the following: 1) First article inspection results showing actual mechanical dimensions recorded for all features on one component. 2) 100% inspection of the mechanical dimensions on the remainder of components with the range of actual dimensions recorded.
CODE 52	Buyer's final electrical test source inspection is required on this order. Buyer shall be notified ten days prior to start of final electrical test so that testing may be monitored by Schmiede source inspection. Evidence of buyer's quality representatives certification shall accompany shipment.	CODE 61 All parts for this purchase order item shall be from the same raw material lot number. If a single lot cannot be provided, the parts shall be supplied from a minimum number of lots & each lot shall be packaged & identified separately to maintain lot identification & traceability.
CODE 53	Group A tests shall be performed in accordance with MIL-M-38535 requirements on each inspection lot & attribute test data shall be furnished with each shipment. The test data & the delivered parts shall exhibit the same inspection lot identification code. (If specified in the purchase order, for existing stock, the seller shall supply	CODE 62 Components supplied on this purchase order shall be accompanied by a report showing actual mechanical dimensions recorded for all features from each individual component & shall be identified with the individual components.
		CODE 63 The seller shall supply a minimum of two test coupons, 1" X 1" X 9" or 1" diameter X 9", for each heat number shipped. The minimum size of the test coupons can be 5/8" X 5/8" X 3-1/4" or 5/8" diameter X 3-1/4". The coupons shall have the same processing histories as the end product. For forged or ring rolling products, a prolongation with sufficient size for making those coupons in two different directions is required.
		CODE 64 All material for each item supplied on this purchase order shall be cut from the same heat number.
		CODE 65 A certified, signed statement that material/parts supplied on this purchase order were ultrasonic tested to MIL-S-2154, Type I, Class B or better.
		CODE 66 Buyer's Particle Impact Noise Detection (PIND) testing source inspection is required on this order. Buyer shall be notified ten days prior to PIND testing so that buyer may

	witness the test. Evidence of buyer's Quality representative's certification shall accompany shipment.	CODE 82	The lot date codes of components supplied on this purchase order shall be no older than 2 years at time of shipment. If a lot date code of 2 years or less cannot be provided, the supplier shall perform solderability testing per the applicable MIL-SPEC & provide the solderability test report with shipment.
CODE 67	Buyer's "Screening Tests" source inspection is required on this order. Buyer shall be notified ten days prior to start of "Screening Tests" so that the tests may be witnessed. Evidence of buyer's Quality representative's certification shall accompany shipment.	CODE 85	The supplier shall provide the following information with each lot of material (electronic submittal is preferred): 1. Current package and die qualification test reports and status 2. Electrical parametric data on the individual deliverable parts 3. Lot processing data (traveler) 4. Current demonstrated fit rate and basis 5. Current listing and revision letter/number of critical processing, assembly, test and equipment documentation
CODE 68	All articles shall be burr and sliver free at 6-10X magnification - illuminated. A burr is defined as any sharp projection of metal protruding from the geometric surface defined by the drawing. It is typically caused by a manufacturing process such as machining, drilling or casting, which may be short or long in relation to its thickness and occurs on edges or corners. Slivers are loose or torn pieces of metal rolled into the surface or extending from the surface.	CODE 86	Dust covers, if available, should be installed on connectors and cable assemblies during shipment.
CODE 69	Buyer's Quality representative's report of Final Acceptance shall accompany material shipment.	CODE 88	Schmiede has a requirement to perform In-house Destructive Physical Analysis (DPA) testing of this device. Accordingly, upon successful completion of screening &/or Group A testing, the supplier shall furnish the Schmiede buyer with a list of all serial numbers. A random sample as specified herein shall be selected/identified by Schmiede. These respective numbers shall then be immediately shipped to Schmiede.
CODE 70	Articles must be packaged in individual containers, protected against electrostatic discharge. Each container & outer pack shall be identified as Electrostatic Sensitive.		The supplier shall continue with the production lot in accordance with normal manufacturing procedures & Purchase Order/Schmiede Specification Requirements.
CODE 71	Articles shall be individually or compartmentally packaged; bulk packaging prohibited.		The supplier shall submit a signed certification with the shipment of the DPA test units stating that the submitted units are those that were randomly selected by Schmiede for DPA testing. The certificate shall also identify the Schmiede part number, manufacturer, manufacturer part number, production lot, date code & serial numbers.
CODE 72	Articles shall be individually packaged; compartmentalized or bulk packaging prohibited.		Upon successful completion of the DPA by Schmiede, the buyer shall give formal written authorization to ship the production lot. In no event shall the supplier ship the production units prior to authorization from the buyer. Such formal authorization shall be stated on the packing list &/or Certificate of Conformance.
CODE 73	Articles must be individually or compartmentally packaged & protected against electrostatic discharge. Each container & outer pack shall be identified as Electrostatic Sensitive. If an additional packaging code/requirement is also indicated on this purchase order (i.e. tape and reel, tubes, etc.), that shall be the required method of packaging.	CODE 91	Statistical Process Control shall be implemented & utilized by the supplier in the manufacture of all products identified on this purchase order.
CODE 74	All articles shall be packaged in antistatic zip locked bags with heat sealed edge. As a minimum the following information will be clearly indicated on the exterior of each bag: 1) Part number (Schmiede or Military/Industry) 2) Hardware description (i.e. - 1/4 -20 cap screw) 3) Bag quantity 4) Purchase Order number 5) Name of manufacturer 6) Manufacturer's cage code 7) Manufacturer's lot number and/or date code	CODE 92	In addition to the coupons required for QCI testing, each panel shall have at least one corresponding serialized coupon that shall be submitted to Schmiede with the order. The coupon shall be serialized in such a manner as to be identifiable with the boards from the same panel. If shown on the master drawing, one coupon of the Flex Only portion from each rigid-flex panel shall also be sent. Coupons shall not be packaged in the same bag as the board but may be grouped in a single bag. When supplied, coupons that were used for QCI testing shall be appropriately identified.
CODE 75	The supplier shall assure that material shipped on this Purchase Order is clean and dry and packaged in a manner that will afford adequate protection against corrosion, deterioration and physical damage during shipment to Schmiede.	CODE 93	A copy of the Lot Traveler, showing inspection points & quality control approval shall be submitted. If Schmiede source inspection is invoked on the purchase order, the Lot Traveler shall be submitted for final source inspection & will not require shipment with the order.
CODE 76	Parts/Device Certification is required and must be from the actual manufacturer. A certified, signed statement that parts/devices conform to applicable specifications shall accompany shipment.	CODE 94	Verification Plan. The Supplier shall conduct a complete review of the requirements of this order to ensure all requirements are satisfied through inspection,
CODE 78	Seller & distributor shall comply with the Electrostatic Discharge (ESD) Control Requirements of MIL-STD-1686.		
CODE 80	The date codes marked on components supplied on this purchase order shall be no older than 1 year at time of shipment.		
CODE 81	The date codes marked on components supplied on this purchase order shall be no older than 4 years at time of shipment.		

demonstration, test, analysis, or a combination of these. The Supplier shall provide a Verification Plan to Schmiede for approval a maximum of 30 days after receipt of contract/PO. The intent of this documentation is to show how the Supplier assures compliance of the part/assembly to the requirements contained in the Purchase Order (PO), Statement Of Work (SOW), drawings and specifications. The Verification Plan must be approved prior to the first inspection/test of a deliverable part/assembly. The Verification plan shall contain a Verification Cross Reference Index (VCRI) to identify the verification method of each specified performance and design parameter cross-referenced to the appropriate specification paragraph or drawing feature. The plan shall address all inspection and test methods, and at which process point in the manufacturing cycle the inspection and/or test will occur that will be used to determine item conformance. The plan shall also address the records (and type of format) to be established, and identify deliverable data items.

The Plan shall include the following as a minimum:

1. Verification Cross Reference Index
2. List of Deliverable Analyses
3. List of Deliverable Test Procedures
4. List of Deliverable Inspection Procedures

Verification Methods:

The following definitions shall be used in defining which verification method(s) is(are) being used to verify product conformance.

Inspection: Inspection shall consist of an observation or examination of an item against the applicable documentation to confirm compliance with requirements. Inspection is a method of verification of physical characteristics that determines compliance without the use of special laboratory equipment, procedures, tests support items, or services. Inspection uses standard methods such as visual, gauges, etc., to verify compliance with design requirements. Inspection shall not take precedence over a requirement for performing an analysis, demonstration, or test as may be required by PO, SOW, drawing, or specification requirement.

Demonstration: Demonstration shall consist of making a qualitative basis for compliance with the specified requirement. Demonstration shall be an exhibition of the operability or supportability of an item under intended service-use conditions. These verifications are usually non-repetitive and are oriented almost exclusively toward acquisition of qualitative data. Demonstrations may be accomplished by computer simulation. Visual observation is the primary means of verification.

Analysis: The part/assembly design shall be supported by a formal written analysis demonstrating the ability of the part/assembly to meet the specified requirement. The analysis shall consist of applying empirical/theoretical relationships between conditions, facts, and test data to predict compliance with the specified requirement. The uses of previously acquired test data for verification by similarity of design is permitted unless specifically prohibited by the PO, SOW, drawing, or specification requirement. When compliance is based on analysis by similarity the analysis shall identify justification for similarity comparison.

Test: Test shall consist of making observations or measurements on a quantitative basis for compliance with the specified requirement. An action by which the operability, support ability, performance capability or other specified qualities of an item (e.g., component, piece part, materials, etc.) are verified when subjected to controlled

conditions that are real or simulated. These qualifications may require use of special test equipment and instrumentation to obtain quantitative data for analysis, as well as qualitative data derived from displays and indicators inherent in the item(s) for monitor and control. Test results are compared to requirements.

CODE 95 Quality Assurance/Inspection and Test Plan. The Supplier shall conduct a complete review of the requirements of this order and make provisions for the special controls, processes, inspection and test equipment, fixtures, tooling and skills required for assuring all parts conform to the Purchase Order, Statement Of Work, drawings and specifications requirements. The Supplier shall provide a Quality Assurance/Inspection and Test Plan to Schmiede for approval. The intent of this documentation is to show how the Supplier assures compliance of the part by the manufacturing, inspection and test processes. When a Manufacturing Plan is required it may be combined with the Quality Assurance Assurance/Inspection and Test Plan. The Supplier is encouraged to maximize the use of current Supplier documentation (e.g. Part Tracking Systems, Travelers, Inspection Reports, etc.). The Quality Assurance/Inspection and Test Plan shall be submitted for approval a minimum of 10 working days prior to the first inspection/test. The Supplier shall not ship parts prior to the approval of the Quality Assurance/Inspection and Test Plan by Schmiede.

The Quality Assurance/Inspection and Test Plan shall include the following as a minimum:

- 1) Manufacturing flow chart (or traveler) with identified inspection/test points in their proper sequence, and description of the inspection functions to be performed. Schmiede, Government, and Schmiede Customer inspection/test points shall be identified (as applicable).
- 2) Test Methods and Equipment (Test Procedures where applicable)
- 3) Inspection Methods and Equipment (Inspection Procedures where applicable)
- 4) Pass/Fail Criteria
- 5) Sample QA Inspection/Test Data Sheets (QA Sign-Off Sheets)
- 6) List of Deliverable Items (Hardware, Data, Certificates of Conformance, etc.) This should be correlated to PO line items when there is more than one line item on the PO.

CODE 96 IPC-4101/42 may be used in lieu of MIL-S-13949/10 and MIL-S-13949/13.

CODE 97 The Seller shall develop a Manufacturing Plan that defines the manufacturing processes to be employed in the manufacture of the part/assembly. The Seller is encouraged to maximize the use of current documentation techniques (e.g. Part Tracking Systems, Travelers, etc.). The Manufacturing Plan shall be provided to Schmiede for approval a minimum of 10 working days prior to the start of manufacturing. Manufacturing shall not start until the Manufacturing Plan has been approved, in writing, prior to the start of manufacturing. The Manufacturing Plan shall include the following as a minimum:

- 1) Processing Sequence including a brief description of each main processing step.
- 2) Equipment to be used at each step (e.g. Mill)
- 3) Any subcontracted procurements including the identification of sub-tier suppliers (e.g. parts, processes, etc.)

CODE 98

Manufacturing Readiness Review (MRR). A Manufacturing Readiness Review (MRR) shall be conducted at the subcontractor's facility prior to the start of manufacturing when required by the Purchase Order (PO) or Statement of Work (SOW). The subcontractor shall submit the MRR data package to the Buyer a minimum of 10 days in advance of the scheduled MRR.

MRR Objective. The MRR objective is for the subcontractor to demonstrate the overall production readiness prior to manufacturing, and to ensure that items to be manufactured will meet the requirements of the PO, SOW, engineering drawings and engineering specifications. The subcontractor shall demonstrate that all necessary manufacturing plans, inspection plans, travelers (build documentation), tooling, facilities, and other resources are in place and available to ensure meeting all quality and design requirements within the negotiated program budget and schedule.

MRR Team. The subcontractor MRR team shall consist of representatives from the management and the technical functions. The management functions shall include the contract administrator and responsible project engineer as a minimum. The technical representatives shall include design engineer/representative, manufacturing engineer/representative, and quality engineer/representative as a minimum.

MRR Presentation. The MRR presentation shall address the following items as a minimum:

- 1) Subcontractor Project Team Organization with key personnel identified
- 2) Overall Program Schedule including current MRR status
- 3) Procurement status including all sub-tier suppliers
- 4) Manufacturing milestone schedule
- 5) Action Item Status/Review
- 6) Design Status (as applicable) including current status, trade-offs, producibility studies, lessons learned, etc.
- 7) Detailed Manufacturing Flow Diagram including subcontractor inspection points and recommended Buyer Mandatory Inspection Points (MIP).
- 8) Manufacturing Documentation Status
- 9) Inspection Documentation Status
- 10) Test Documentation Status
- 11) Tooling needs and statuses including drawing status, build status, calibration status, etc.
- 12) Facilities Readiness including layout and capacity (including plant tour during MRR)
- 13) Operators and Inspectors training
- 14) Overall Project Risk Assessment; technical, cost, schedule. Should include any plans to mitigate risks identified.

MRR Data Package. The MRR data package shall include the following as a minimum:

- 1) Copy of MRR presentation
- 2) Any Subcontractor Data Requirements List (SDRL) Items as defined in the PO/SOW

MRR Supporting Documentation. The following documentation, as a minimum, shall be available for review at the MRR:

- 1) Subcontractor Drawings and Specifications (as applicable)
- 2) Traveler(s)/Build Documentation
- 3) Test Procedures (as applicable)
- 4) Inspection Procedures
- 5) Tooling Drawings

CODE 99

Counterfeit Parts Prevention

Counterfeit Parts

For purposes of this clause, Work consists of those parts delivered under this Contract that are the lowest level of separately identifiable items (e.g., articles, components, goods, and assemblies) provided to SchmieDE by the SUPPLIER or SUPPLIER'S sub-tier Supplier's. "Counterfeit Work" means Work that is or contains items intentionally misrepresented as having been designed and/or produced under an approved system or other acceptable method. The term also includes approved Work that has reached a design life limit or has been damaged beyond possible repair prior to delivery, but is intentionally altered and misrepresented as acceptable satisfying express contract requirements.

SUPPLIER agrees that Counterfeit Work will not be intentionally or negligently delivered to SCHMIEDE.

SUPPLIER shall only purchase products to be delivered or incorporated as Work to SCHMIEDE directly from the Original Component Manufacturer (OCM)/Original Equipment Manufacturer (OEM), or through an OCM/OEM authorized distributor chain with part pedigree directly from the OEM. Work shall not be acquired from independent distributors or brokers unless approved in advance in writing by SCHMIEDE.

The SUPPLIER shall verify the direct sub-tier supplier procurement source and associated certifying paperwork. The SUPPLIER's standard incoming inspection methods shall be used to detect potential counterfeit parts and materials.

SUPPLIER shall promptly notify SCHMIEDE with the pertinent facts if SUPPLIER becomes aware or has reason to believe that it has furnished Counterfeit Work. When requested by SCHMIEDE, SUPPLIER shall provide OCM/OEM documentation that authenticates traceability of the affected items to the applicable OCM/OEM.

In the event that Work delivered under this Contract constitutes or includes Counterfeit Work, SUPPLIER shall, at its expense, promptly replace such Counterfeit Work with genuine Work conforming to the requirements of this Contract. Additionally SUPPLIER shall reimburse SCHMIEDE's reasonable costs of removing Counterfeit Work, of reinserting replacement Work, and of any testing necessitated by the reinstallation of Work after Counterfeit Work has been exchanged. The remedies contained in this paragraph are in addition to any remedies SCHMIEDE may have at law, equity or under other provisions of this Contract.

This clause applies in addition to any quality provision, specification, statement of work or other provision included in this Contract addressing the authenticity of Work. To the extent such provisions conflict with this clause, this clause prevails.

SUPPLIER shall provide original component manufacturer/original equipment manufacturer (OCM/OEM) documentation that authenticates traceability of the affected items to the applicable OCM/OEM.

Upon request, the SUPPLIER shall provide as information only the SUPPLIER's Counterfeit Work plan and procurement procedures verifying compliance with this section's requirements.

Data Retention

The SUPPLIER shall retain all SUPPLIER and sub-tier Supplier history records and reports including, but not

limited to, assembly records, test records, anomaly records, procurement traceability and documentation to support readiness events and operations until the end of the contract period of performance plus 12 years.

SUPPLIER shall include this clause or equivalent provisions in all lower first-tier subcontracts, and require that each of the sub-tier supplier flow the same clause to all sub-tier suppliers to prevent the inadvertent use of counterfeit parts and materials for the delivery of items that will be included in or furnished as Work to SCHMIEDE.

CODE 180 The government reserves the right to inspect the work included in this order at the supplier's plant.

CODE 181 Work on this order is subject to inspection & test by NASA or its designated representatives at any time or place. The NASA quality representative who has been delegated the quality assurance functions on this procurement shall be notified immediately upon receipt of this order. NASA or its designated representatives shall also be notified 48 hours in advance of the time articles are ready for inspection or test.

Government inspection (in-process, pre-cap &/or final) is required prior to shipment from the seller's plant.

CODE 191 For use in manned space flight. Materials, manufacturing & workmanship of highest quality standards are essential to astronaut safety.

This information shall be stated on any lower tier RFQ's, RFP's & purchase orders pursuant to this contract.

There will be no change in the design of the part, in the material & processes, in its construction or in the manufacturer's part number after the first acceptable unit has been received by Satellite Systems unless requested &/or approved by Schmiede in writing.

If you are able to supply the desired items with a quality which is higher than that of the items specified or proposed, you are requested to bring this fact to the immediate attention of the Schmiede buyer.

CODE 193 There will be no change in the design of the part, in the material & processes, in its construction or in the manufacturer's part number after the first acceptable unit has been received by Satellite Systems unless requested &/or approved by Schmiede in writing.

CODE 195 This is a DXA2 rated order certified for national defense use. You are required to follow all the provisions of the defense priorities and system regulation (15CFR7GG). Rated orders must be accepted or rejected in writing within five (5) working days after receipt of order. Failure to do so constitutes your acceptance of this order.

CODE 501 Preliminary baseline provided with engineering parts shall be used for fabrication of these parts. Reference preliminary baseline dated ^

CODE 502 Supplier shall provide a copy of the configuration baseline & configuration identification list, which was previously approved by Schmiede SSO, with each shipment. The supplier shall provide a certified, signed statement (may be included as part of the C of C under SSO Code 12) that the materials, processes & parts conform to the applicable Schmiede approved baseline document(s), including baseline date & revision.

CODE 503 Painting or plating thickness tests shall be conducted on the item(s) on this order by the painting or plating supplier.

Painting or plating thickness test data shall be provided with the shipment. If material code 94-G10-78 is used, resistance check per M-spec, M8258799, shall also be performed. If material code 94-G14-78 is used, resistance check per M-spec, M8251332, shall also be performed.

CODE 504 Supplier shall provide the following data:
1) First article inspection
2) 100% critical features
3) 1.5% AQL sample on non-critical
The inspection methods shall be identified in the inspection records.

CODE 505 Buyer shall be notified 10 days prior to start of final room temperature electrical testing so that testing may be monitored by Schmiede's source inspection. Evidence of buyer quality representative's certification shall accompany shipment.

CODE 506 Supplier is not to begin production build until HSSO approves the supplier's baseline.

CODE 507 Parts shall be supplied on tape & reel packaging suitable for use with automatic handling equipment per EIA Standard, EIA-296-E.

CODE 508 Parts shall be supplied in tubes suitable for automatic insertion & with consistent component orientation. Multiple lot numbers/date codes shall not be mixed in the same tube.

CODE 509 Parts shall be supplied on tape & reel packaging for surface mount components for use with automatic pick & place production equipment per EIA Standard, EIA-481-A.

CODE 510 If non-deliverable software is used in the supplier's manufacturing, inspection and/or test processes, the supplier shall evaluate each non-deliverable software item used in the automated manufacturing of deliverable hardware or in the qualification or acceptance of deliverable software or hardware to assure that:
a) Objective evidence exists, prior to its intended use, that it performs required functions.
b) It was placed under internal configuration control prior to its use.

CODE 512 Supplier to provide the following data for each item:
1) The 10-digit harmonized tariff number (not the Schedule B number), if known.
2) Verify that the part is or is not eligible for NAFTA preference.
3) Country of origin.

CODE 513 First article inspection (Code 6) applies to each lot.

CODE 514 "Caution" - Packaging for this part should bear a warning sticker indicating that 'Parts contain beryllium copper. Do not cut or grind without adequate ventilation. Beryllium dust vapors & chemical compounds are extremely toxic if introduced into the lungs.'

CODE 515 Group B tests shall be performed in accordance with Mil-I-38535 requirements. Generic test data is acceptable & attribute test data shall be furnished with each shipment. (If specified in the purchase order, for existing stock, the supplier shall provide test data that is in compliance with Mil-M-38510 requirements.)

CODE 516 The supplier shall provide Certificates of Conformance for all special processes performed as a part of this purchase order.

- CODE 518** Process coupons to be submitted shall be test samples used in qualifying the crimp-contact-conductor combination used for the actual production run. Coupons shall be packaged separately and identified as test samples.
- CODE 519** Group A quality conformance inspection data is required.
- CODE 520** Parts shall be packaged on tape & reel in accordance with engineering bulletin EB8263490.
- CODE 521** Tape & reels shall be enclosed in ESD shielded packaging.
- CODE 522** On-shore assembly & test required.
- CODE 523** Schmiede quality notification required for proposed changes in fabrication, materials, methods, product operating characteristics or processes previously approved and written approval by Schmiede shall be obtained before making the change(s).
- CODE 524** The seller shall comply with Mil-PRF-38534, Appendix A, Quality Assurance Program.
- CODE 525** The seller shall comply with Mil-PRF-19500, Appendix D, Product Assurance Program & manufacturing certification requirements.
- CODE 526** The seller shall comply with Mil-Std-790, Product Assurance Program.
- CODE 527** The seller shall comply with Mil-Std-981, Appendix A, Product Assurance Program requirements.
- CODE 528** All components on a reel shall have the same lot date code. Lot date code shall be referenced on the certificate of conformance.
- CODE 529** Supplier shall use Schmiede assigned serial numbers.
- CODE 530** **Additional requirements per attachment (fill-in with title, i.e. SOW 825XXXX, dated 1-1-97)**
- CODE 532** Buyer shall be notified 10 days prior to start of final room temperature electrical testing so that tests may be witnessed. Evidence of buyer's quality representative's certification shall accompany shipment.
- CODE 533** If Schmiede owned material is authorized for use on this order, supplier shall notify Schmiede buyer in writing, of quantity of material used & quantity of material remaining in Schmiede reserves.
- CODE 535** Machine only. Notes referring to heat treat and impregnation do not apply. Schmiede will heat treat the reservoir material prior to shipment and will impregnate the reservoir after machining is complete.
- CODE 536** Buyer shall be notified 10 days prior to start of final room temperature and hi and low temperature electrical testing so that testing may be monitored by Schmiede's source inspection. High and low temperature testing to be performed to an LTPD of 50, accept on 0 (zero) defects. Evidence of buyer quality representatives certification shall accompany shipment.
- CODE 540** Electrical read & record data is required for all devices supplied under this order. Additionally, a report summarizing the results for screening per Mil-Std-883, Method 5004, & quality conformance testing per Mil-Std-883, Method 5005, all applicable groups, shall be supplied with this order. The reports must be directly traceable to the lot code shipped (coverage data for Groups C & D acceptable), & must list tests performed, method

- specification, quantity/sample tested, acceptance & PDA calculations where required.
- CODE 541** Electrical read & record data is required for all devices supplied under this order. Additionally, a report summarizing the results for screening per Mil-PRF-19500, appendix E, section 5 & quality conformance testing per Mil-PRF-19500, appendix E, section 6, Groups A, B & C shall be supplied with this order. The reports must be directly traceable to the lot code shipped (coverage data for Group C), & must list tests performed, method specification, quantity/sample tested, acceptance & PDA calculations where required.
- CODE 544** Supplier shall supply or maintain the following data:
 - 1) First article inspection
 - 2) 100% critical features - SPC chart format preferred
 - 3) The remaining inspection data defined on the PO &/or drawing & as agreed upon at the FACI meetings shall be maintained by the supplier.The inspection methods shall be identified in the inspection records.
- CODE 550** Supplier shall provide adhesive certification. Certification shall state the adhesive manufacturer and specification.
- CODE 551** Supplier shall provide a completed hardware inspection checklist.
- CODE 555** Supplier Failure Reporting & Corrective Action
 - The supplier shall establish a formal, controlled failure reporting, analysis & corrective action system. Emphasis shall be placed upon detection, analysis & feedback of failure data during the test program to effect positive corrective action which eliminates root causes.
 - This system shall include the reporting of all failures which occur from any initial application of power at the lowest level of assembly through qualification/acceptance testing of deliverable hardware. The failure reporting system shall include positive control of failed items, retrieval of failed/overstressed parts, failed item & part failure analysis, & documentation of all pertinent information relating to each failure.
 - A failure is defined as the occurrence of anomalous performance resulting from any condition which causes the hardware under test to deviate from the performance specified as acceptable by the applicable test procedure or data sheet. This includes all failures isolated to a hi-rel part after assembly into flight hardware regardless of the type of test being performed. All test failures shall be documented & investigated as part of the failure reporting system. This includes (but not limited to) fabrication/operator errors, test equipment failures and test setup errors.
 - Procedures & forms used in support of the supplier's failure reporting system are subject to approval by Schmiede SSO.
 - Failure reporting task responsibility shall be described in the supplier's detailed procedures which clearly provide for timely notification, issuance of reports, processing, & closure of all failure occurrences. Failure reporting & analysis procedures shall clearly stipulate that failure analysis is initiated at the site of failure. Physical conditions prior to failure, sequence of the tests being performed, & symptoms at the time of failure shall be recorded on the reporting forms.

The supplier shall maintain positive control over failed parts & assemblies such that integrity of the failed item is preserved in a manner which allows for an accurate evaluation of the failure cause.

The supplier shall perform detailed part failure analysis on failed parts for which the supplier has primary procurement responsibility. Parameter measurements, tests & dissection shall be performed to the extent necessary to determine cause.

The supplier shall perform a stress analysis to determine if the reliability of the part or assembly is effected.

The supplier shall not perform failure analysis on parts supplied by the buyer. These parts shall be returned to the buyer for failure analysis. These parts may be subjected to electrical measurements by Schmiede as required to identify & verify each failure. The suspect part(s) submitted to Schmiede SSO shall not be disassembled unless approved by Schmiede SSO.

A supplier failure review board shall be established to review the status of all open failure reports & recommend closure for all failure occurrences. A failure report may be recommended for closure when all failure actions have been finalized, failure analysis & corrective action has been clearly defined & the responsible individuals identified, & documentation is ready for closure. The failure review board members shall sign & date the failure reports when all actions are complete.

The failure review board shall include at least one member from the supplier's engineering, reliability & quality assurance organizations.

CODE 556 Failure Reporting & Corrective Action Notification

The suppliers failure reporting system, as described in Code 555, shall include the following minimum provisions for notification & reporting of failures to the buyer & its representatives:

- 1) Establish an agreed upon method for notification to the designated buyer's representative of all failures incidents, regardless of magnitude.
- 2) Notify the Schmiede buyer by fax within 24 hours of failure occurrence. The text shall indicate the failed item part number & serial number, date of failure, test being performed, test specification & paragraph, description of the failure including failed parameters with is/should be data, & preliminary analysis & disposition. A copy of the initial failure report may be used for notification purposes.
- 3) Submit a copy of the failure report to the buyer with five (5) working days of the occurrence of each failure.
- 4) Support telecons between Schmiede SSO & the supplier for the purposes of discussing failure report status & formal closure actions by the supplier.
- 5) Submit a copy of the completed failure report (closure report) following failure review board action, but within 21 days after occurrence of each failure, or prior to shipment of the affected assembly, whichever occurs first. Reports shall include all supporting data and analyses.
- 6) Failure reporting task responsibility shall be described in the suppliers detailed procedures which clearly provide for timely notification, issuance of reports, processing & closure of all failure occurrences.
- 7) The buyer shall be notified of all failure occurrences & shall, along with other Schmiede representatives, have the right to participate in all failure investigation activities.

- 8) The supplier failure review board members shall sign & date all failure reports when all actions are complete & reports are ready for submittal to the buyer for approval & formal closure.

CODE 557 PROHIBITED MATERIALS REQUIREMENTS

Schmiede prohibits the use of the following metals:

- Mercury (in any form)
- Pure Tin (>97% - fused or unfused)
- Unfused tin-lead plate
- Zinc chromate as a finish coat
- Cadmium, selenium or zinc (except as an alloying material or when used internal to hermetically sealed devices)

This prohibition includes, but is not limited to plating, coating or cast materials. This prohibition is applicable to all surfaces, both internal and external to the product, except as noted.

CODE 558 CLASS 1 ODS REQUIREMENTS

Class I Ozone Depleting Substances (ODS) shall not be used in the design, test, manufacture, integration and assembly, handling, transportation, operations, maintenance or disposal of the hardware/components delivered to this order. A certified, signed statement attesting to this shall accompany shipment and be enclosed with packing slip. Certification must contain the manufacturer's name and supplied part number. This certification may be incorporated in the certificate of conformance.

The supplier shall include these requirements in all sub-contracts or purchase orders.

CODE 560 All product acceptance and process monitoring activities shall be performed by a Designated Quality Representative (DQR), per Source Activity Agreement No. DQR-SSO-XXX (SSO buyer shall fill in the appropriate agreement number on the purchase order).

CODE 600 This purchase order covers the acquisition of customer furnished material (CFM).