



Horstman

Approved By: Larry Humphrey *LH*

Release Date: 12 Dec. 2018

Doc. ID: Q 001 Rev A

Horstman Quality Requirements Document Number Q001 Rev -

Contents

HQR 000 No Requirements2

HQR 001 General Requirements2

HQR 002 Suppliers Quality Control System.....4

HQR 003 Certificates or Compliance/Conformance5

HQR 004 Raw Materials, Certificates of Analysis5

HQR 005 Prototype Submission / Inspection.....5

HQR 006 First Article Inspection.....5

HQR 007 In-process Source Inspection6

HQR 008 Final Acceptance Source Inspection6

HQR 009 Special Process Supplier Approvals.....6

HQR 010 Welding Requirements.....6

HQR 011 Visual Welding Inspection7

HQR 012 Domestic Sources Only7

HQR 013 Sole Source Required for OEM8

HQR 014 Irradiating (Chromate Conversion Coating) Requirements8

HQR 015 Part Specific Quality Plan Applies8

HQR 016 Testing data required.8

HQR 017 Dimensional Inspection Reporting (Lot Inspection).....8

HQR 018 Special Process Certification9

HQR 019 Counterfeit Electronic Parts Detection and Prevention Certification.....9

HQR 020 Safety Data Sheet Required9



Horstman

Approved By: Larry Humphrey

Release Date: 12 Dec. 2018

Doc. ID: Q 001 Rev A

HQR 000 No Requirements

Horstman has no requirements for this item/process.

HQR 001 General Requirements

1. Unless otherwise specified in the Purchase Order, the following general requirements apply to all Purchase Orders.
2. **Non-conforming Material**
The Supplier does not have MRB (Material Review Board) authority to disposition non-conforming parts/material on built-to-print jobs other than to "Return To Vendor (RTV)", or "Scrap" to blueprint requirements. A request to "Repair", "Rework", or "Use-As-Is (UAI)" must be presented to the Horstman Quality Department for approval before action is taken.
3. **Unauthorized Repairs**
Without Horstman's documented approval, the Supplier may not repair by welding, brazing, soldering or adhesives, any damaged or non-conforming parts found due to faulty fabrication.
4. **Changes in Approved Processes, Materials, or Procedures**
Supplier shall not change any process, material, or procedure without prior Horstman approval if such process, material, or procedure was originally approved by Horstman. Any changes must be approved by Horstman, in writing, prior to the change incorporation. A revised purchase order, or drawing /specification revision may constitute change authorization. Materials or components received that are not as specified may be considered as counterfeit and rejected.
5. **Re-submittals**
Articles rejected by Horstman and subsequently re-submitted to Horstman shall be clearly and properly identified as re-submitted articles. The Suppliers shipping document shall contain as a minimum, a statement that articles are either replacement or reworked articles and shall also make reference to Horstman's "Nonconforming Material Report" (NCR) number.
6. **Submittal of Production Parts**
When the Purchase Order requires Horstman's acceptance of a "First Article", the Supplier shall not submit parts from a production run for Horstman inspection prior to Horstman's acceptance of said first article.



Horstman

Approved By: Larry Humphrey

Release Date: 12 Dec. 2018

Doc. ID: Q 001 Rev A

7. Notification of Facility Changes

The Supplier shall not relocate any production, manufacturing and/or processing facilities during performance of the Purchase Order, without promptly notifying and affording Horstman the opportunity to examine said facilities for compliance with Product Assurance Requirements, including any necessary approvals.

8. Responsibility for Conformance

Neither surveillance, inspection, and/or tests made by Horstman or its representatives at either the Supplier's or Horstman's facility, nor the Supplier's compliance with all applicable Product Assurance Requirements shall relieve the Supplier of the responsibility to furnish articles which confirm to the requirements of the Purchase Order.

9. Documentation

Horstman may refuse to accept items delivered under the Purchase Order if the Supplier fails to submit the Bill of Lading/Shipper, Certification of Conformance (C of C), documentation, test data, or reports specified in the Purchase Order. Furthermore, no invoice shall be approved for payment without Certification of Conformance, documentation, test data, or reports specified in the Purchase Order. The Supplier shall include all certification, documentation, test data and reports when parts are submitted to Horstman. Supplier shall retain all related quality records for a minimum of five years, unless a longer retention period is specified on the Purchase Order or Drawing. Supplier will ensure sub-tier suppliers record retention period meets all the above requirements.

10. Certificate of Compliance Audit

Certifications furnished under the terms of the Purchase Order shall be supported by inspection, test records, and data, etc., and are subject to audit by Horstman.

11. Lot Sampling

Horstman reserves the right to sample IAW ANSI/ASQ Z1.4 or equivalent sampling plan for the acceptance or rejection of articles or parts from the supplier.

12. Corrective Action Requests

When a quality problem exists, Horstman may request corrective action from the Supplier. Corrective action requests response time is indicated in total days to reply and should include the following information: Analysis of the root cause of the problem, action taken to correct the root cause, and action taken to prevent any reoccurrence of the root cause.

13. Access to Facilities

The Supplier must identify, without disclosing proprietary information, the intended use in performance of the Purchase Order of an item, material, component or process with respect to which access by Horstman for the purpose of quality assurance by inspection, test, or process surveillance is proposed to be



restricted. Said identification shall be made in writing to Horstman along with Supplier's quotation or offer to Horstman prior to the award of the Purchase Order. The written identification shall state generally the basis for said proposed restricted access, (example would be proprietary information), and shall include a proposed method of quality/inspection by Horstman which the Supplier considers acceptable. The absence of such written identification is a representation by the Supplier that all items; materials, components, and processes are subject to inspection, test, surveillance at all places and at reasonable times prior to acceptance. If said written notification is given, the Supplier agrees to negotiate promptly and in good faith with Horstman for agreement arrangement for such inspection, test, and surveillance.

14. Calibration Requirements

The Supplier shall maintain a calibration system to assure that all inspection, measuring, and test equipment used to determine compliance with drawings and specifications are calibrated to standards traceable to national or industry accepted standards.

15. Waivers

Any supplier that feels that a HQR may not be applicable can submit a request for waiver. The waiver must include the HQR code the waiver is for, the Horstman purchase order number, and a clear indication of the need for the waiver. Each part affected by the quality code must be listed individually on the waiver including part number, description, and quantity. Only one waiver per requested HQR Code may be submitted. This waiver must be submitted to the Horstman Director of Quality for approval. An approved waiver must be in force before parts can be shipped to or accepted by Horstman.

16. Material Deficiencies, Shortages and/or Damage

The materials delivered by all suppliers at a minimum will be reviewed by receiving personnel to ensure correct material was delivered in accordance with Horstman Purchase Order and Bill of Lading/Shipper provided by the Supplier. Additionally, all materials are to be reviewed by Horstman Receiving Personnel for count and damage assessment to ensure appropriate quantities have been received. In the event of material's being noticeably short and/or damaged at the time of delivery the material may be refused with notification to supplier and/or shipper for action (compensation, replacement or rework as applicable).

HQR 002 Suppliers Quality Control System

The Supplier shall maintain a quality system that complies with the requirements of the Purchase Order and is capable of assuring conformance to documentation, inspection, tests, and /or reports specified in the Purchase Order. Supplier will be certified to an accepted and recognized quality standard (example: ISO 9001:2015, AS9100) by an outside third party, listed on Horstman customers approved supplier list in good standing, or listed on Horstman's approved supplier list in good standing.



Horstman

Approved By: Larry Humphrey

Release Date: 12 Dec. 2018

Doc. ID: Q 001 Rev A

HQR 003 Certificates or Compliance/Conformance

A certificate of compliance/conformance is required to provide objective quality evidence of specific characteristics of the material supplied as indicated on the drawing, specification, or purchase order (e.g. test results, heat treatment, surface finish, material, standard specification). Valid certifications shall clearly identify the manufacturer or supplier of the certified characteristic, shall contain enough information to identify the C of C with the item or material supplied, shall reference the purchase order number, model number, or Horstman job number, and be signed by a supplier quality assurance representative and/or company executive identified by specific titles.

HQR 004 Raw Materials, Certificates of Analysis

A. Suppliers of raw material directly to Horstman shall provide a Certificate of Analysis to the Material Specification and heat/lot number traceable to the shipment. Trace-ability to the material certification shall be demonstrated on the raw material by the following manner:

- a. When possible, all material shall have the original mill stamp referencing the certificate of analysis.
- b. If the raw material shipment is separated so that each material requiring a unique certificate is bundled or palletized together, there shall be a unique number on the bundle or pallet that is referenced on the shipper and Certificate of Analysis. This number may be:
 1. The heat or lot number assigned by the material manufacturer.
 2. A unique inventory or tracking number assigned by the supplier.
- c. If the raw material shipment is not separated so that each material requiring a unique certificate is bundled or palletized together, there shall be a unique number on each piece of material that is referenced on the shipper and the Certificate of Analysis. This number may be:
 1. The heat or lot number assigned by the material manufacturer.
 2. A unique inventory or tracking number assigned by the supplier.

B. Suppliers who fabricate parts made from raw materials not provided by Horstman shall provide a Certificate of Analysis indicating conformance to the material specification and the part number(s) for which the materials were utilized for each shipment.

HQR 005 Prototype Submission / Inspection

The Supplier shall provide a detailed inspection report(s) (utilizing an AS9102 type of format) containing a record of the actual conformance on 100% of all characteristics and notes on the drawing(s) on all parts ordered. The inspection report will include an un-numbered characteristic for "final visual acceptance".

HQR 006 First Article Inspection

On the first initial product run, subsequent to design change incorporation, the Supplier shall perform, document (utilizing an AS9102 type of format), and deliver a comprehensive inspection of one component (randomly selected from the lot by the supplier at some point during production or inspection) to assure conformance with all drawing and specification requirements. This requires accountability for 100% of all characteristics and notes on the drawing(s) and any other quality requirements that are communicated. The inspection report will



Horstman

Approved By: Larry Humphrey

Release Date: 12 Dec. 2018

Doc. ID: Q 001 Rev A

include an un-numbered characteristic for "final visual acceptance". The report shall clearly report

A new First Article shall be required when:

- A significant design or process change has been made that affects the original first article configuration and is applicable only to those characteristics affected by the change, or;
- The item has not been manufactured for a period of 12 months, or;
- A change in facilities utilized to produce the article has taken place.

HQR 007 In-process Source Inspection

Inspection by a Horstman Quality Representative is required at the Supplier's facility prior to special processing such as plating, passivation, painting, etc. The Supplier shall notify Horstman Quality to arrange for a mutually agreed time and date. The Supplier shall provide the latest revision to the Purchase Order, amendments, blueprints, applicable inspection records and documentation, and any inspection equipment needed for the Horstman Quality Representative to perform any dimensional inspections.

HQR 008 Final Acceptance Source Inspection

Final acceptance by a Horstman Quality Representative is required at the Supplier's facility prior to the shipment of any product to Horstman. The Supplier shall notify Horstman Quality to arrange for a mutually agreed date and time. The Supplier shall provide the latest revision of the Purchase Order, amendments, blueprints, applicable inspection records and documentation, and any inspection equipment needed for the Horstman Quality Representative to perform any dimensional inspections.

HQR 009 Special Process Supplier Approvals

The Supplier shall notify Horstman Quality if any special sub-tier processors are utilized. Notification shall include the name, phone number, and the location of the processor. Special Processes are considered to be, but not limited to, welding, soldering, plating, painting, etc. Supplier will assure all relevant Purchase Order requirements are flowed down to their sub-tier suppliers. The Suppliers sub-tier suppliers are responsible to comply with the same specifications and requirements specified on the Purchase Order. Supplier shall only use special process suppliers approved by Horstman.

HQR 010 Welding Requirements

Welding procedures, welders, and weld inspectors shall be qualified in accordance with the welding code referenced in the drawing or specification. The use of any welding codes or specification not referenced by the applicable drawings must be approved by Horstman prior to production. The Supplier shall be prepared to show, by records, that successful welds can be made for the material type, joint types, material thickness, and welding positions required while using the Supplier's facility, equipment, and personnel. Horstman will expect to have access to or copies of all the following documentation:



Horstman

Approved By: Larry Humphrey

Release Date: 12 Dec. 2018

Doc. ID: Q 001 Rev A

- Welding Procedure Specification (WPS)
- Procedure Qualification Record (PQR)
- Welder's Qualification
- Data on filler metal certification
- Data on shielding gas certification
- Letter of appointment and a Jaeger/Snellin Vision Test less than 1 year old for those inspectors on staff not holding a valid AWS credential for SCWI/CWI/CAWI
- A written report of visual inspection, in the contractor's format, covering all welds and meeting the requirements of the applicable code.

Minimum qualifications and visual inspections are as follows:

- AWS D1.1 2015 [Steel] – Section 6.1.4, 6.6.1, & C6
- AWS D1.2 2014 [Aluminum] – Section 5.1.3, 5.6.1, & C5
- AWS D1.3 2018 [Sheet Steel] – Section 6.1.1
- AWS D9.1 2018 [Sheet Metal] – Section 6
- ASW D17.1 2010 [Aerospace] – Section 6.1.2, 6.1.3, 6.3, & C5.21

HQR 011 Visual Welding Inspection

Supplier must have (on staff or under subcontract) a competent person to provide all visual welding inspection (including fit-up, in-process, and final fabrication/erection inspections) required for this work. Supplier must submit the credentials of this competent person showing qualification (to AWS QCI Standard for AWS Certification of Welding Inspectors or equivalent) along with a report of visual weld inspections conducted and the results thereof.

Specifically:

- "Competent person" means a person holding an active, valid American Welding Society CWI (or SCWI/CAWI) credential.
- "or equivalent" means a valid credential-in-force from a 3rd party regulatory body or industry/trade association relevant to an alternate welding code that is accepted by Horstman.

It is NOT sufficient to appoint a Contractors inspector meeting only the minimum AWS Code standards for qualification (by asserting a Contractor-accepted combination of education, training, and experience).

HQR 012 Domestic Sources Only

In order to provide complete trace-ability, the parts supplied on this purchase order shall be procured only from domestic sources located in the United States of America. The vendor may supply parts made in his factories located in North American Free Trade Association (NAFTA) nations, as long as complete, traceable product data is established, maintained, and accurate for certification of all materials and processes.



Horstman

Approved By: Larry Humphrey

Release Date: 12 Dec. 2018

Doc. ID: Q 001 Rev A

HQR 013 Sole Source Required for OEM

The part numbers for items supplied on this purchase order contain identifying information for a particular Original Equipment Manufacturer (OEM). Suppliers may obtain the parts from any authorized distributor of that OEM, but no substitutions of source are allowed. Identical part numbers are necessary, but are not sufficient evidence to prove the OEM source.

HQR 014 Irradiating (Chromate Conversion Coating) Requirements

Horstman considers chromate conversion to be a "special process" that requires the use of approved suppliers. Confirm you are an approved supplier before beginning or accepting any purchase order with this requirement. Horstman approved supplier is satisfied by one of the following:

- Horstman will audit your or your sub-tier supplier's facility for compliance to Military Standard.
- Use a Raytheon, Northrop-Grumman, Lockheed-Martin, or Boeing, approved supplier in good standing.
- Use a NADCAP approved supplier in good standing.

HQR 015 Part Specific Quality Plan Applies

The Supplier shall follow the provisions of the part-specific Quality Plan that shall accompany the purchase order. The Quality Plan will include those characteristics that will require extra attention, monitoring, and/or reporting during your manufacturing process and verification/assurance processes.

HQR 016 Testing data required.

The Supplier shall provide a copy of the acceptance test and/or performance test results for each unit purchased on the purchase order.

HQR 017 Dimensional Inspection Reporting (Lot Inspection)

The Supplier shall provide a detailed inspection report(s) utilizing an AS9102 type of format, containing a record of the range of measurements, according to an industry-accepted sampling plan. The report will account for all characteristics and notes on the drawing(s). The Supplier's Sampling plan should be indicated on the report, as well as a narrative about how the Supplier determines the minor/major/critical features, how that affects sample sizes, and when it will be utilizing 100% verifications. The inspection report will include an un-numbered characteristic for "final visual acceptance".



Horstman

Approved By: Larry Humphrey

Release Date: 12 Dec. 2018

Doc. ID: Q 001 Rev A

HQR 018 Special Process Certification

Suppliers shall provide a Certificate of Analysis indicating conformance to all special process specifications/requirements identified on the drawing or Purchase Order (e.g. heat treat, MPI, anodizing, plating, coating, etc.) and the part number(s) for which the materials were utilized for each shipment.

HQR 019 Counterfeit Electronic Parts Detection and Prevention Certification

Suppliers shall provide a Certificate or Certifying statement for all electronics and/or electronic assemblies that they only utilize approved suppliers or manufacturers with established codes as specified under 48 CFR 252.246.7007 paragraph a for each shipment:

- Parts provided were procured from an authorized aftermarket manufacturer that fabricates a part under a contract with, or with the express written authority of the original component manufacturer based on the original component manufacturer's designs, formulas and/or specifications.
- It is an authorized supplier defined as a supplier, distributor, or an aftermarket manufacturer with a contractual arrangement with, or the express written authority of the original manufacturer or current design activity to buy, stock, repackage, sell or distribute the part.
- It is a contract manufacturer meaning that it is a company that produces goods under contract for another company under the label or brand name of that company.
- It is a contractor-approved supplier whereby it does not have a contractual agreement with the original component manufacturer for a transaction, but has been identified as trustworthy by a contractor or subcontractor.

HQR 020 Safety Data Sheet Required

Suppliers shall provide a Safety Data Sheet (SDS) for any chemical, solvent, solution, cleaning agent or coating in the following conditions:

- First time delivery of new material
- Change in formulation
- Change in manufacturer
- Any regulatory change within the industry
- At the convenience of Horstman, Inc.

All SDS documents are to be collected at the time of receipt by Receiving and placed into the central SDS Document Folder.