

THIS DOCUMENT CONTAINS CONFIDENTIAL AND PROPRIETARY INFORMATION.

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|  Specification | | |
| Title: General Supplier Quality Requirements | Specification No. RAI-0115 Revision: 6 | |
| Department: Purchasing Area: Quality | <i>Approved & Released Specification</i> | Implementation Date: 03/21/2017 |
| Type of Document: Quality Procedure | | Review Period - 365 Days |

Product Information:

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|-------------------------|----------------------|--|
| Category: | Product Line: | |
| Part Number: | Revision: | |
| Description: | | |
| Customer Part #: | Engineer: | |

1.0 Product Specification:

Supplier Quality Requirements

This specification establishes the minimum quality system requirements for critical suppliers and service providers to Reading Alloys.

2.0 Special Requirements:

System Requirements

2.1 Quality System:

The Supplier shall have a quality system that meets or exceeds the requirements of ISO 9001, current revision.

Calibration service providers must have a quality system that meets or exceeds the requirements of ISO 17025, current revision, or other suitable standard.

Reading Alloys will retain a current copy of the certificate of compliance issued by an independent accredited certifying body.

2.2 Quality Administration, Competence and Resources:

The Supplier will determine and provide for adequate processes, resources, infrastructure and qualified personnel to support and continually improve the performance of the quality management system and ensure product conformity.

The supplier is responsible to determine the needs for the competence of its personnel and the provide all required training. This requirement includes awareness training on employee involvement and

contribution to conformity to requirements, product safety and the importance of ethical behavior in all functions.

This requirement shall include appropriate records of the education, training, or skills of personnel performing work affecting product quality.

2.3 Quality System Surveillance:

As part of the Supplier Qualification process, a potential Supplier must satisfactorily complete an on-site audit and/or a Reading Alloys Self-Audit Questionnaire. This Audit is reviewed by the Quality Manager of Reading Alloys prior to that Supplier being added to Readings Approved Supplier List.

The Supplier shall allow Reading Alloys, its customers or any relevant regulatory or governmental authority, the right or access to audit its facility, documents, records, systems, processes, or products at any stage of the manufacturing process, including raw material sources. Suppliers will be notified in advance of an audit.

Suppliers deemed critical of the conformity of Reading Alloys aerospace and medical product lines will be monitored via a scorecard process. At a minimum, results of this process will be shared with these suppliers on an annual basis. Inclusion of other suppliers in this process will be at the discretion of the Purchasing Manager, or equivalent, and Quality Manager Reading Alloys.

2.4 Document Control

The Supplier is responsible for maintaining copies of current revisions of applicable Reading Alloys specifications referenced in the purchase order. All initial issues of documents are forwarded by the purchaser to the first-tier Supplier. The Supplier is responsible to communicate the requirements of the specifications to any second or sub tier Suppliers.

The Supplier shall acknowledge, in writing, their acceptance of Reading Alloy's specification. If a Supplier requests an exception to any provision of a specification, a written, signed statement of exception must be forwarded to Reading for approval by Reading Alloy's Purchasing Manager, or equivalent, and Quality Manager.

2.5 Records Management

The Supplier shall maintain data essential to the effective operation of the quality management system. These records shall be available for review by the Reading Alloys, its customers or regulatory or governmental authority.

The Supplier shall have a specified record retention policy. All records generated in the completion of Reading Alloys purchase orders shall be protected from deterioration and maintained for a minimum of 40 years. All records shall be traceable to Reading Alloys purchase orders and the specific material processed.

This records management policy includes all relevant documents supplied by sub-tier Suppliers that apply to material sold to Reading Alloys.

2.6 Process Changes:

Upon acceptance of the first lot of material, the method of manufacture is considered a fixed process. No changes in the method of manufacture shall be made without prior written agreement with Reading Alloys.

These include, but are not limited to changes in, raw material sources, equipment, facility, location, management, ownership or process modifications.

For suppliers with design control of products or services provided to RAI, any changes to design or configuration must result from a controlled, documented design and development process.

2.7 Purchasing requirements:

The Supplier shall maintain adequate processes to insure that purchased material used in the

manufacture of products for Reading Alloys conforms to the requirements listed in the product specification and all other applicable specifications. These processes shall insure that sub-tier suppliers are controlled and monitored and have adequate quality management systems, processes, equipment and qualified personnel to insure product conformity.

It is the Supplier's responsibility to obtain compliance from all sub-tiers associated with the completion of Reading Alloys purchase orders.

Suppliers to Reading Alloys will be responsible to flow applicable requirements from Reading Alloys and its customers to any sub-tiers used to satisfy RAI purchase orders.

2.8 Nonconforming Material and Corrective Actions:

The Supplier shall have a process to identify, segregate and control nonconforming material. The Supplier shall not ship any non-conforming product to Reading Alloys before receiving approval in writing from the Purchasing Manager, or equivalent, and/or Quality Manager. This requirement also pertains to changes in the Material Safety Data Sheet or a deviation from the fixed method of manufacture.

The Supplier shall notify Reading Alloys if any contamination, nonconformity or process/system discrepancy affecting quality of the raw material or supplied service is detected after shipment has been made.

The Supplier shall also have a Corrective Action process to address any discrepancy detected by Reading Alloys on receipt of the shipment or by the Supplier during the course of routine process monitoring, internal audit or continual improvement activity.

This process should be documented and include analysis of trends, review for the effectiveness of actions taken, etc.

The controls for prevention of product and process nonconformances must also include applicable controls for the prevention of the inclusion or use of counterfeit materials in the materials or processing of products/services purchased by RAI.

2.9 Special Product Requirements:

The Supplier shall have controls for the prevention of contamination by High Density Inclusions such as tungsten, tungsten carbide, tungsten ore, ferro-tungsten, free molybdenum, free tantalum, niobium, niobium-tantalum carbide, etc. High Density Inclusions include all materials with densities greater than 7.5 g/cc (0.271 lb/in³) and a melting point greater than 1600° C (2912° F).

Examples of these controls may include but are not limited to: control of light bulbs containing tungsten, elimination of TIG welding on or near any product or processing equipment, processes to exclude High Density Inclusions through screening to a particle size below 0.38mm (0.015 in), etc.

Suppliers must review and sign Reading Alloy's High Density Inclusion Awareness form RA 286-1 S.

2.10 General Product and Documentation Requirements:

Product Identification: Shipments shall be marked clearly and legibly in accordance with applicable regulatory requirements as well as any special requirements listed in the purchase order.

Packaging and Handling: The product shall be prepared for shipment in accordance with commercial practice and in compliance with applicable rules and regulations pertaining to the handling, packaging, marking and transportation of the product to ensure carrier acceptance and safe delivery.

Product Condition: The product shall be homogenous, clean, dry, and free of debris. The product shall be disqualified if it includes or is suspected to include contaminants known to cause high density inclusions in titanium alloys.

Reading Alloys reserves the right to reject material if analysis finds that any product characteristic does not conform to the requirement cited in the applicable specification.

Product Documentation: When specified, a copy of the certificate of analysis, including a statement of

conformance to the appropriate specification, must accompany each shipment. Additional documentation may be required as specified by the purchase order or by regulations in either country of origin and/or destination.

Compliance: Failure to comply with any or these general requirements or any specific requirement of a Reading Alloy's specification may be cause for rejection of material and disqualification of approved Supplier status. Exceptions to any of the requirements of this specification must be approved in writing by Reading Alloys Quality Manager.

Special Processes: When specified, Suppliers & Service Providers for critical materials or processes must be, or utilize, customer-approved Special Process Sources (e.g. GE Yellow Pages, P&W Appendix 36).

Acceptance/verification/test: When specified or applicable, Suppliers & Service Providers for critical materials or processes must conform to RAI-stated requirements for design, test, inspection, verification of products and processes, and use of statistical techniques. This includes the specification of critical and key characteristics.

Any special requirements or provisions for the acceptance and/or release of products or services must be agreed upon between RAI and its suppliers prior to acceptance of purchase orders.

Communication: All suppliers must support and utilize established, reliable and compatible means of interacting with RAI to insure smooth, secure and efficient communication with RAI. These communications may serve as formal records of agreements between the supplier and RAI.

3.0 Safety & Environmental Information:

4.0 Associated Documents:

External Documents

Associated Documents:

RA-286-1 S -- Supplier - High Density Inclusion Awareness

[Click to Open an Associated Document](#)

5.0 Document Revision History:

| | | |
|--|---|---------------------------------------|
| Revision: 6 | Date Created: 09/19/2008 Date of Last Revision: 03/21/2017 | Last Approval Date: 03/21/2017 |
| Document Author: Beth Maiocchi/PA-ROB/Ametek | Document Manager: Christopher Biolchini/PA-ROB/Ametek | |

6.0 Reason for Change:

| Revision: | Sec/Para Changed | Change Made: | Date |
|-----------|------------------|--|----------|
| 1 | N/A | Initial Issue of Document | 06/05/03 |
| 2 | N/A | Revised entire document | 07/21/09 |
| 3 | 2 | Removed references to specific ISO revisions 2.3- revised 2nd sentence 2.4 - revised 1st sentence 2.8 - added notification clause for shipped material found to be nonconforming. | 10/28/09 |
| 4 | 2 | Changed title; Revised 2.1 & 2.10 due to audit finding | 08/27/14 |
| 5 | 2 | 10- added "special processes" and "Acceptance/verification/test" | 03/04/16 |
| 6 | 2 | Updated due to new revision of AS9100. | above |

7.0 Notification List:

PA-ROB-Quality Group
PA-ROB-Purchasing Group

8.0 Approvals:

First Approver's Signature

Name: Wayne Vaupel/PA-ROB/Ametek
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Mar 21, 2017 09:13:12 AM EDT - Approved by: Wayne Vaupel/PA-ROB/Ametek

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Mar 20, 2017 01:30:13 PM EDT - Approved by: Tagge Forrest/PA-ROB/Ametek

Document History Section