



**Quality Quartz Engineering
Supplier Requirements
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**Quality Quartz Engineering
Industries
131 Janney Road
Dayton, OH 45404
937.236.3250
www.qqe.com**

Foreword

This manual is intended to supply supplemental requirements to Quality Quartz Engineering suppliers who provide material, and services that ensure Behm's ability to produce products that meet or exceed the expectations of our customers. It does not apply to maintenance, MRO, contracts that do not directly impact the quality of Behm's finished products.

Contractual agreement that binds Quality Quartz Engineering's supplier to comply with these requirements are to be established by letter of intent or included in the terms & conditions found on the Quality Quartz Engineering purchase order.

Any question relative to this manual or its requirements should be directed to Quality Quartz Engineering Purchasing or Quality personnel.

The contents of this manual are deemed to be proprietary to Quality Quartz Engineering Quartz and are not to be copied, distributed or shared without the written consent of Quality Quartz Engineering Management

NOTE: Requirements of this manual are applicable to suppliers of the QQE-Ohio. Other QQE locations may have additional or different requirements.

Joe Browne, Director of Quality,



QMS Requirements

Quality Quartz Engineering prefers suppliers maintain a quality management system that results in compliance to Quality Quartz Engineering requirements as well as enhanced customer satisfaction. Flexibility is employed when requiring registration to recognized quality systems through a 3rd party registration process. The following guidelines will be used to determine registration requirements for suppliers;

<u>Supplier Type</u>	<u>Registration by 3rd Party Req?</u>	<u>Receiving Insp. Performed?</u>	<u>QQE Surveillance requirements</u>
<u>Level I- Critical Suppliers for parts that will affect finished product quality at Behm.</u>	<u>Only if required by P.O. or customer</u>	<u>Where required by internal procedure</u>	<u>If merited by performance or POR changes.</u>
<u>Level II- Parts that could affect Quality Quartz Engineering product quality (packaging, calibration, etc.)</u>	<u>Only if required by P.O. or customer</u>	<u>No</u>	<u>If merited by performance or POR changes.</u>
<u>Level III- Suppliers that have little impact on product quality (MRO, contract labor, etc)</u>	<u>No</u>	<u>No</u>	<u>None</u>
<u>Level IV- low impact suppliers (utilities, etc.)</u>	<u>No</u>	<u>No</u>	<u>None</u>
<u>Level 5 No impact (veh. Maint.)</u>	<u>No</u>	<u>No</u>	<u>None</u>

Administrative Requirements for Suppliers

Suppliers will be required to self assess every 3 years in order to assure that Quality Quartz Engineering Supplier Management personnel have timely contact and business information to facilitate communication between Quality Quartz Engineering and its supply chain. For companies that have 3rd party registration to recognized QMS systems (ISO, AS, TS16949), the self-assessment will be an update of contacts and company statistics. For suppliers NOT

registered, the assessment will include questions about your QMS. Quality Quartz Engineering reserves the right to visit for a verification audit when needed. Conditions that may trigger this verification could include;

1. Deteriorating Quality or Delivery Metrics
2. Quality Quartz Engineering Customer Request
3. Significant changes in personnel or ownership.

A copy of the self assessment is in the Appendix of this document.

Supplier Selection

Vendors to Quality Quartz Engineering Quartz Industries are broken down into four categories:

- Level I: Vendors of product raw materials, and subcontract part processing and inspection.
- Level II: Vendors of support services/materials such as packaging, tooling and calibration.
- Level III: Maintenance services and supplies.
- Level IV: Items such as office supplies, etc.

Different levels of control will be applied to the vendors, based on their assigned level.

- Level I vendors must maintain compliance to or quality system certification to a recognized standard such as ISO9001. Scorecards will be provided to these vendors on a periodic basis to keep the supplier informed regarding their performance to purchase requirements. These vendors can be added or removed from the approved vendor list with the appropriate evaluation and approval. , and with approval from the customers of BQI.
 - Distinction will be made between “subtiers” and “suppliers” to BQI.
 - Subtiers are vendors who provide raw materials or part processing services to parts intended for delivery to the customer. These materials must be produced and services must be performed under controlled conditions, which includes a defined processing method and a formal change control system. Changes to the processing method can not be made without written approval from BQI.
 - Suppliers are vendors of support items such as tooling and equipment.
- Level II vendors should maintain some quality system certification, such as ISO9001. The only exception to this is the calibration sources, which must be either the original equipment manufacturer or a lab certified to ISO17025. These vendors can be added or removed from the approved vendor list with the appropriate evaluation and approval.
- Level III vendors are preferred sourcing based on their history. These vendors can be added or removed from the approved vendor list without any formal review.

- Level IV vendors are under no control and do not appear on the approved vendor list.

The initial release of the approved vendor list will include all current vendors of all materials and services within the guidelines established in section 4.1.

Vendors identified as possibly being added to the approved vendor list will be initially considered based on:

- The ability of the supplier to provide materials/services of the desired quality and delivery requirements.
- Cost
- Customer mandate
- Vendors specified by the customer(s) will be controlled in the same manner as all other supplier of the same level.
- The ability of the supplier to meet the control criteria established.
- Vendors may be added to the list on a conditional basis until such time all of the above criteria is met.

Annually, all Level I vendors will be required to complete a supplier survey to make certain all criteria established in section 4.1 continue to be maintained.

As needed or when possible, on-site visits to the vendors' facilities may be performed.

Any Supplier quality or delivery failure may result in having a corrective action request sent to the offending supplier.

Failures by customer specified vendors may be reported to the customer for use in their evaluation of their preferred vendor list.

Failure by the supplier to respond to any corrective action requests issued may result in removal from the approved vendor list until such time evidence of an effective corrective action plan is provided.

Supplier performance will be reviewed at the management review meetings.

When required or appropriate, critical consumable products will be identified on the approved vendor list to ensure the items listed are purchased from the specified vendor only.

Critical consumables includes all materials consumed in the manufacture of products intended for sale to the customer.

POR Requirements

POR (Process of Record) control is mandatory for Level 1 suppliers and may be required of QQE's Subtiers and Suppliers. Level I vendors will be required to train employees on POR control and submit training records to QQE. POR control for vendors other than Level I will be invoked by ;

1. Purchase order.
2. Long Term Agreement
3. Acknowledged customer requirement (correspondence signed by supplier and kept on file).

If POR control is invoked , the supplier is expected to have written procedures stipulating all relevant processing information required to make a product that;

- Meets Quality Quartz Engineering Specifications
- Does not change over time. Product that trends at one end of a specification window, may not suddenly trend on the opposite side of that window, regardless of conformance to spec.

POR training will be made available by Quality Quartz Engineering and may include discreet forwarded training info or access to web-based training if POR control is expected.

Process changes to suppliers under POR control will be under tighter scrutiny than ordinary suppliers, due to the fact that Quality Quartz Engineering is also under POR control with its customers. All process changes will communicated in writing to Quality Quartz Engineering Quality personnel and agreed to in writing prior to implementing the change.

Measuring and Gage Requirements

It is required that suppliers to Quality Quartz Engineering Quartz use measuring devices that are accurate and traceable back to N.I.S.T. standards.

Gages shall be calibrated at proper intervals following industry practice such as AIAG or NADCAP requirements.

Measuring devices shall exhibit resolution at least TEN TIMES the units used to specify requirements. For instance if the total tolerance is .005, then gages must read at intervals of .0005 or less.

If a gage is found to be significantly out of calibration during use, a plan must be executed to find , contain and remeasure product where that measuring device was deployed.

APPENDIX: