



eVOQUA

WATER TECHNOLOGIES

Supplier Quality Manual

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1.0 Introduction

In any organization we are only as strong as our weakest link. In Evoqua Water Technologies' (EWT) drive to be the recognized world leader in water and environmental systems and services, it is essential that our Suppliers be "best in class" and meet all the standards, requirements, and expectations of the EWT "Supplier Quality" program.

The customer's increasing expectation for quality, reliability, lower costs, and increased service levels is placing new demands on organizations that strive to compete successfully in today's market place. Evoqua Water Technologies (EWT) is committed to producing high quality, reliable, cost effective products that provide customer value, are shipped on time, and contribute to a better environment.

EWT believes suppliers are our partners and is committed to the development of a close working relationship with its Suppliers. We strive to develop stable, long-term relationships with Suppliers who are responsive to our requests, maintain high quality, and provide increasing value to EWT and its customers.

The primary objectives of our Supplier Quality Program are to enhance the Suppliers' awareness of our quality program requirements; to assist in the resolution of any problems that may develop, and to assist in the implementation of preventative measures.

This manual has been developed to ensure communication and understanding of EWT expectations, and to ensure that all materials and services furnished to EWT comply with all contract/purchase order requirements, drawing specifications, required quality standards, and applicable Federal and environmental standards. This requires that each Supplier have a quality system that ensures compliance to all EWT requirements. EWT's Supplier Quality program describes fundamentals that must be in place in each Supplier's quality system to provide the foundation for being a consistent quality Supplier.

While there are many types of control and reporting procedures, it is important for each Supplier to select the optimum procedures for the supplier's particular applications. Any questions related to planning and documentation considerations should be reviewed with EWT Supplier Quality personnel. Each Supplier is responsible for building on these fundamental principles to produce an effective quality control system.

The design and operation of the Supplier's system to control and improve their performances are essential elements of continuing status as an acceptable EWT Supplier. The bottom line is

SUPPLIERS ARE FULLY RESPONSIBLE FOR THE QUALITY OF THE PRODUCT THEY PROVIDE

The concepts included in the EWT Supplier Quality program are designed to assist Suppliers in promoting never-ending improvement in quality and productivity that will mutually benefit both the Suppliers and EWT.

The principles outlined in this manual support the Suppliers ability to provide the quality products necessary for our mutual success and to satisfy the increasing expectations of our customers.

2.0 Purpose

This manual works in conjunction with standard purchase order terms and conditions to communicate minimum expectations regarding order acceptance, delivery, and quality assurance processes required of all suppliers of purchased goods and services.

EWT intends to do business with suppliers who are best able to consistently complete orders in accordance with all order specifications, provide competitive pricing of goods, and adhere to the practices described by this manual.

The purpose of this document is to communicate the processes to ensure that all members of our supply base understand and meet expectations. The guidelines set forth in this Supplier Quality Manual apply to parts, materials, and services purchased by EWT. However, the relationship between EWT and the supplier is defined by the provisions, terms and conditions of the EWT Purchase Order or, where applicable, the contract with the supplier.

Neither compliance by the supplier with the guidelines of this manual, nor acceptance or approval by EWT of the supplier's parts or materials, will relieve the supplier of any of the obligations or liabilities stated in the applicable Purchase Order or contract.

3.0 Scope

This document applies to all suppliers of EWT designed product or Supplier designed for sole supply to EWT (excludes catalog items).

4.0 Quality System Requirements

Suppliers are strongly encouraged to use section I of QS-9000 or ISO 9000 as the basis for their quality system development. At this time EWT does not require suppliers to obtain registration.

As a Supplier to EWT, you must maintain a quality assurance system which is adequate to detect and prevent shipment of nonconforming Goods or Services. Evoqua reserves the right to evaluate the adequacy of the Supplier's quality assurance system. Upon request, the supplier will provide Evoqua with appropriate quality assurance documentation, manuals or certifications.

In order for EWT to maintain a high level of customer satisfaction, we depend on the quality of the product received from our suppliers. EWT expects our suppliers to provide defect free product and services.

Communication is very important to the success of our relationship. Therefore, if there are questions, or assistance is needed, please feel free to contact the EWT Quality representative (for technical, engineering or quality related issues) or buyer (for commercial issues). In order for us to be successful, you must be successful as well.

Control of Sub-tier Suppliers

It is expected that suppliers ensure any purchased products or services meet the requirements of an EWT Purchase Order and conforms with the specifications and requirements defined by EWT, where applicable. The requirements for sub-tier suppliers (your suppliers) must meet EWT requirements. It is the Suppliers responsibility to ensure all EWT requirements are met. This includes the requirements contained within this document. It is EWT supplier's responsibility to ensure the sub-tier supplier provides a stable and controlled process. Moreover, it is the responsibility of the EWT supplier to ensure all products and processes are in control and all products shipped to EWT conforms to all of the purchase order requirements (which include the requirements listed within this document).

Each Supplier must establish procedures to carry out this responsibility using one or both of the methods listed below:

- By receipt from Sub-Suppliers of satisfactory statistical certification indicating statistical control and statistical capability to EWT Engineering specifications.
- By performing (or purchasing) the required inspection and testing at adequate frequencies to assure conformance to EWT specifications.
- By ensuring that corrective action requests received are addressed with any of the suppliers' sub-suppliers that were involved with the nonconformance.

5.0 Definitions

- **EWT design** - Product designed by EWT engineering. The control of the design is with EWT. Any product designed by a supplier and sold exclusively to EWT is considered in this category
- **Supplier design** - Product designed and manufactured by a supplier of EWT and may be sold to other companies other than EWT.
- **Quality Planning** - Documentation identifying specific quality inspection and test requirements for a product (Typically by part number).
- **Inspection and Test Procedure** - A document identifying all quality requirements for a project or purchase order.

6.0 Goals

Customers are raising the expectations for suppliers every day. Quality is expected and now extends beyond the actual product or service procured. It includes processes such as invoicing, quality of paperwork, method of delivery and the professionalism of the people involved. The purpose of this supplier program is to improve quality and delivery for both product and information by improving the level of communication between EWT and its suppliers.

The primary expectation is to receive product(s) or service(s) which meets or exceeds EWT requirements with zero defects every time. EWT will monitor this expectation through the supplier scorecard. A Supplier must show continuous improvement through implementation of corrective action if this expectation is not met.

Elimination of the need to perform receiving or source inspection is another expectation of the Supplier Program. It is the responsibility of the supplier to ensure ALL product and services are 100% in compliance with all characteristics, dimensions, notes, and appropriate specifications listed on the print or on any other documentation (such as purchase order, letters, quotes, etc.).

Quality extends far beyond the product you provide. All interfaces with EWT require zero defects. The supplier must ensure all documentation requirements are met including proper quantities, part number(s), purchase order number, project number, are all listed on your documentation, as applicable (as further described below).

7.0 Approved Suppliers

Production parts, materials, processes and services will only be purchased from approved suppliers. EWT evaluates and selects suppliers based on their ability to supply product and services in accordance with specified requirements.

8.0 Supplier Assessments

QUALIFICATION

A new supplier is required to either complete a self-assessment survey or will receive an in-plant assessment. The assessment addresses areas of the supplier's quality system and ability to meet EWT quality requirements. Although not required, EWT recommends each supplier attain registration to an industry acceptable quality standard (such as ISO 9001, TS 1649, etc).

For new suppliers, once the survey is reviewed and accepted, the supplier is available for purchasing activity. A written corrective action may be requested if survey findings are significant.

In-plant Assessments

With prior notification EWT may conduct Quality System assessment at the supplier's facilities. The goal of the assessment is to understand suppliers' capabilities and quality systems and identify continuous improvement opportunities.

Current suppliers may receive an in-plant assessment if there are ongoing quality problems or may be scheduled on a re-occurring basis.

Tool moves to a different suppliers manufacturing facility may require a Quality System assessment of the new facility. Suppliers are prohibited from moving EWT owned tooling without prior notification and approval from EWT Sourcing.

New Suppliers

EWT Purchasing and Supplier Quality evaluates all new Suppliers. All new Suppliers must submit the following items:

- Supplier Quality Assessment
- Supplier Quality Agreement
- Financial Statements
- Dunn & Bradstreet rating
- Confidentiality Agreement

After the above information has been received, EWT reviews the information and makes one of the following determinations:

- Supplier is approved or conditionally approved
- Schedule an on-site survey
- Request additional information from the Supplier (if needed)

- Eliminate the potential Supplier from further consideration

Existing Supplier Evaluation Method

EWT evaluates suppliers on a periodic basis; however, suppliers are continually monitored. Evaluation areas include:

- Quality Systems
- Product Quality Performance
- Delivery Performance
- 1st Article Rejections
- Corrective Actions
- Deviation request

The Supplier's evaluation will determine the category that they will be placed in.

- Approved – These Suppliers are given priority in sourcing decisions for new business
- Conditional – These Suppliers require the Purchasing Manager's approval for new sourcing decisions.
- Rejected – Cannot purchase from this supplier, will need to review long term partnership. If a supplier is rejected, the supplier may request for time to correct the reasons for rejection and request a re-assessment.
- Special – Suppliers that supply proprietary product (e.g. specialized commodity)

9.0 Inspection Requirements

When verification of characteristics is required for submission to EWT, you must use the EWT Supplier Inspection Form for submittal documentation. Instructions for the documents use are included within the worksheet. When specific inspection criteria is not specified by EWT, the supplier must establish and conform to an internal inspection plan to ensure at a minimum the product meets all of the requirements. The supplier must maintain records of inspection activity. Variable data records are preferred to attribute data records.

EWT requires your organization develop and implement a thorough inspection program. This program should typically include the areas of receiving inspection, in-process inspection, final inspection and a first article inspection process. Specific inspection requirements may be required and will be communicated as Quality Plans and specifications. Examples of this planning would include Inspection and Test Procedures (ITP's) or Quality Logs.

Inspection Results

Total compliance to all requirements, specifications, and notes is required. **Do not ship product to EWT or directly to their customers if the product is not in full compliance.**

In the event a nonconformance is noted, a deviation form must be submitted as directed in "deviations" section.

Suppliers are required to maintain all inspection results (objective evidence of compliance to specifications) for a period of 7 years.

10.0 First Article Submission Process

Suppliers may be required to obtain approval for mass production parts prior to shipment through the First Article Approval process. The purpose of the First Article Approval process is to verify that a supplier's production process is capable of producing parts to meet EWT specifications.

When required, Suppliers will conduct a First Article production run and produce parts utilizing normal production equipment, tooling and processes that would be used as in mass production. The Supplier will then submit sample parts from this First Article Production run for approval by EWT (this may be waived based on the size, weight or cost of the part).

First Article due dates will be determined and communicated to suppliers via the purchase order. First Article submissions shall be sent to the EWT Buyer responsible for creating the purchase order unless otherwise instructed.

Suppliers shall submit First Article samples for new parts or changes to existing parts, processes, drawings, manufacturing locations, sub-contractors, or materials. If the product size becomes a limiting factor, submission of a sample part may be waived.

First Articles are required for the following:

- New part being ordered for the first time
- Existing part ordered from new source.
- Design change to the current part (only inspection for the change is required)
- Part that is purchased for Engineering which will be used for production in the future
- New tool
- Tool repair

EXCEPTION TO FAI REQUIREMENT: Off the shelf product (such as product purchased from a distributor) or structural fabrications are exempt from the FAI requirement.

If EWT accepts a 1st article using the supplier supplied data and if it is discovered at a later date that the parts do not meet the EWT specification, our acceptance of the 1st article does not alleviate the supplier from future responsibility.

The following items are required as part of a First Article submission:

- **Warrant**

Completed warrant document.

- **Drawings and Specifications**

Each part drawing along with referenced specifications must be submitted with each First Article. Each dimension, characteristic, note, etc, must be numbered (in bubbles). The numbers must be transferred to the inspection documentation.

- **Dimensional Results**

Submit the Supplier Inspection form with all dimensional results.

A one piece dimensional layout is required for each mold, cavity, die, fabrication, weldment and production line that produces a part.

Results must be provided for all dimensions, notes and other specifications on the part drawing.

- **Material Certifications**

Provide evidence of compliance to material specifications through material and performance test results. Chemical and physical material information must be provided.

List specific material chemistry and material physical results (such as Si 0.7 – 1.0). Each First Article submission must be accompanied by a Material Certification report if required.

- **Documentation**
 - Bubble numbered engineering drawing
 - Bubble numbered material specification
 - Supplier Inspection form
 - Warrant

- **Process Capability Studies**

Process Capability Studies are to be completed for all critical to quality characteristics identified on the EWT engineering drawing. Results must indicate $CpK \geq 1.33$.

- **Samples**

Suppliers may be required to submit up to 5 sample parts with each First Article Submission. Samples from tooling should be submitted for each mold and cavity.

Each sample part must have a tag indicating it is a First Article sample. The tag must include part number, revision level, date parts were produced, and cavity number.

When directed/approved by EWT, Suppliers may be able to submit one First Article submission for a family of parts.

No First Articles should be submitted to EWT if any dimensions or test results do not meet part drawing requirements. Supplier shall make every attempt to implement corrective action for any out of spec condition. Suppliers shall contact EWT if they are unable to meet part drawing. EWT will then inform suppliers on required course of action.

Continuous rejections for a 1st article may prompt the Supplier to lose future business.

11.0 Gage Control and Calibration

Suppliers' must maintain gages and other measuring and testing devices as necessary, to provide for adequate process control through a calibration program. Suppliers' must develop and implement a documented plan to verify the accuracy of the devices at sufficiently frequent intervals to ensure continued accuracy.

All measuring and test equipment, including production tools and fixtures used as a medium of inspection, shall be calibrated to measurement standards and be traceable to NIST (National Institute of Standards and Technology) or other applicable standards. Control records are to be maintained listing gage location, date of calibration, results of the last calibration, and the date of the next scheduled calibration.

Anytime a EWT fixture, tool or gage is damaged (such as dropped), the gage will need to be re-calibrated or at a minimum, verified the device performs as designed.

12.0 Temporary Deviation

In the rare case, should the supplier discover items or materials that do not conform to the engineering drawing, specifications, contract or appropriate standards, and the suppliers believes the items are functional and fit for use; the supplier may request a deviation. This deviation must be **requested and approved by EWT Engineering prior to any shipment of product.** Deviations are submitted to the EWT Buyer. A deviation request can be used for requesting a process deviation.

Any deviation must be approved prior to shipping the non-conforming material to a EWT facility or EWT customer location. EWT approval will be based on how deviations might impact the form, fit and function of the parts.

A request for a deviation may be for a specific quantity of parts, a specific date range, or a range of serial numbers, etc. Regardless, **A DEVIATION CANNOT BE PERMANENT.**

13.0 Process Controls

All manufacturing processes must be controlled. The level of control is determined by the product, process, and any special EWT customer requirements. In particular, special processes such as welding, plating, heat-treating, galvanizing, painting, etc., must receive a higher level of control. Questions to be asked to verify the process is conducted under controlled conditions are:

- Is there a standard specification that relates to this process (such as AWS D1.1, ASME Section IX, ASTM 997, etc.)?
- Are there internal procedures covering the standard(s)?
- Do the procedures indicate the controls utilized?
- Is qualification testing required and completed for the operators?
- Is the process monitored?
- Is the monitoring equipment calibrated?

Suppliers producing EWT designed product should utilize a product book to capture all process information (from customer to sub tier supplier) regarding the manufacturing of the product. See attachment #1 for information to include in the Product Book.

Welding:

Unless specified via the engineering drawing, specific quality planning (ITP), all welding is to be conducted in accordance with the following:

- ASME Boiler Pressure Vessel IX for pressure vessels which includes ASME B31.3 process piping and ASME B31.1 pressure piping
- AWS D1.1 or D1.3 for carbon steel

- AWS D1.6 for stainless steel

All welds must be verified to and conform at a minimum to AWS D1.1. unless specified on the engineering drawings.

14.0 Tooling

When a tool (die cast tool, stamping tool, molded rubber/plastic tool) has reached its estimated life and the supplier is requesting a new tool, the Supplier must submit sample part(s) to Purchasing for review along with an explanation identifying the areas that are causing the tool repair or replacement or repair. If the tool is used to produce castings then a casting and a machining sample will be required.

When a new tool is produced, the Supplier must identify the tool with the following information: EWT part number, month and year of completion, EWT Asset Tag number and Purchase Order number. Upon completion of the tool, the Supplier must submit pictures showing the required identification along with the required 1st article from the first production parts produced off of the new tool.

15.0 Engineering Change Notice (ECN)

Should a supplier wish to make a permanent change to a part or drawing the supplier must contact the EWT buyer to initiate the Engineering Change Notice (ECN).

16.0 Design Control

For EWT controlled designs, review and approval of changes by EWT Engineering is required prior to shipment. Ideally, this review and approval are completed before any changes are realized in the product. Follow the deviation process if the product does not conform to the specifications.

For Supplier controlled designs, EWT requires notification prior to order fulfillment of any changes to the product. This includes any changes to material, dimensional or physical properties of the product. Regardless of magnitude of these changes, EWT requires the supplier notify EWT early enough to allow EWT adequate time to review the changes. Any questions for design changes must be reviewed with the EWT Engineering Manager.

17.0 Inspection Guideline

Special instructions may accompany purchase orders. These instructions may detail changes to a part or special requirements for a project. If there are no special inspection requirements, the supplier is still responsible for inspecting the product to ensure the product fully complies with all of the requirements. Therefore, parts must receive verification prior to shipping to EWT. The verification activity must be appropriate to the product provided.

NOTE: Inspection by EWT or a EWT representative does not release the supplier from responsibility for any non-conforming conditions discovered at EWT facility, or EWT customer.

Suppliers are required to maintain all inspection results (objective evidence of compliance to specifications) for a period of 7 years.

18.0 Quality Sampling Plan Requirements

Because 100% inspection or verification is impractical, a sampling plan should be followed. Unless otherwise specified on the Purchase Order, all shipments of product to EWT must be inspected to a C=0 Sampling Plan (see attachment #2).

Critical to quality characteristics require 1.0 AQL.

Standard characteristics require 4.0 AQL.

19.0 Problem Resolution

Suppliers' will be notified of nonconforming material and may be requested for authorization to return to supplier (RTS), scrap or rework the material in reference. A debit memo may be issued against the Supplier's account for all returned/scrapped material. The Supplier is responsible for freight charges associated with the return of discrepant material and non-conformance issues may be reflected in the Supplier's quality rating.

19.1 Defective Material

Containment - Upon discovery of material rejection at a EWT manufacturing site, end-customer site, or sub-supplier facility, you will be notified (phone, fax, e-mail).

The supplier is responsible for immediate containment activity of the material. The suppliers on-hand and in-process material must be contained (prevented from shipping to EWT or their customer) and be inspected for the reported defect. Any other defect noted in this containment process will require the supplier to either rework or remake the product prior to shipment to EWT facilities or EWT customer locations. Sub-tier suppliers affected by the defect must follow the same guidelines.

The rejected shipments may be returned to the supplier, when feasible, at the supplier's expense for correction. If return is not feasible, the supplier will have the option of correcting the condition on-site or EWT will provide a third party inspection and/or rework personnel at the supplier's expense.

Should additional nonconforming items be received during the time the 100% inspection is in process, the supplier will provide on-site screening of the material during production until the system is clear and until only delivered material conforms to specifications.

EWT reserves the right to sort and charge for suspect material to avoid shutdown of its production lines.

If recurring issues are detected, a high dollar or lead time issue occurs or the Buyer determines it is necessary, a corrective action will be sent to the Supplier.

19.2 Cost Recovery

Suppliers may be responsible for costs associated with EWT or EWT's customers receiving defective material. Costs may include, but are not limited to:

- Sorting costs of suspect material
- Rework costs
- Customer Charges
- Scrap
- Overtime
- Laboratory Testing
- Premium Freight

All costs will be debited from the suppliers account. Upon notification of the intent to debit, suppliers will have 10 days to appeal the charges. If there is no response from the supplier, EWT will consider this lack of response as acceptance of the charges.

19.3 Corrective Action

For all non-compliances as notified by EWT, the supplier is to take some form of corrective action. Visibility to EWT is extremely important at this point. By definition, Corrective Action is the action taken to resolve a problem or nonconforming condition that affects the quality of the products and services and taking the necessary steps to prevent its future occurrence.

Any request for a formal written corrective action received from EWT requires the following steps be completed to address all aspects of the corrective action:

- (1) Containment Action: Verify all work in process (WIP), finished goods, material in transit and sub-tier supplier product in process at the sub-tier supplier does not exhibit the same condition as reported by EWT or their customer.
- (2) Perform a root cause analysis. Determine what caused the non-compliance condition.
- (3) Take the appropriate corrective action to prevent the problem from occurring again.
- (4) Verify the effectiveness of the action taken. Physically review new product, WIP, and future product over time to ensure the action taken did in fact correct the problem.

Requirements for addressing corrective action are as follows:

- (1) **Provide a written corrective action response on the containment action taken within 48 hours of notification on non-compliance** unless noted on the corrective action request.
- (2) Take the appropriate corrective action and verify the effectiveness of the action taken at a minimum within two (2) weeks, by the next production run, or the next shipment to EWT.

It is the supplier's responsibility to verify the effectiveness of the corrective action taken. You are responsible to pass on these requirements to your suppliers when necessary.

The EWT CAR is the preferred document. If a supplier wishes to use their CAR form, the document must contain at a minimum the same information as the EWT CAR form and must reflect the appropriate CAR information provided by EWT.

Lack of response or exceeding the due date without requesting an extension through EWT Supplier Quality may have a negative impact on future supplier relationships.

The prime objective of corrective action is to eliminate the recurrence of non-conformance by identification and correction of the causes and contributing factors. This plan shall be prevention oriented and must provide for follow-up to assure that the action was timely and effective. To that end, the corrective action system must be a documented structured problem solving approach. Minimum requirements of this system must include/address the following elements:

- Problem definition (who, what, when, where, how, and how many)
- Problem investigation and evaluation to determine root cause.
- Recording results of the investigation/evaluation.
- Evaluation, determination, and implementation of action(s) to eliminate the root cause and prevent recurrence.
- Verifying implementation of the action(s) taken.
- Application of controls to ensure effectiveness of action(s) taken.
- Verifying the effectiveness of actions(s) taken.
- Recording results of actions taken.

Approval and closure of responses will be at the discretion of EWT. All corrective actions will remain open until problem-solving requirements are met. If corrective actions are open for an extended period of time or there are more than 3 corrective actions past due without response or notification of delay, the supplier status on the approved supplier list will be re-evaluated by EWT.

20.0 Supplier Development

EWT will provide assistance to suppliers having trouble meeting performance levels and specifications set by EWT. Suppliers may request development activity or provide assistance with problem resolution, or may be directed into development activity by EWT Quality or SQM. EWT will assist in:

- Resolution of critical issues
- Assist suppliers with improvement activities
- Work with potential suppliers to improve capabilities
- Conduct specific training when a need has been identified.

21.0 Project Specific Quality Planning

Quality planning may be created for specific EWT projects. Communication of specific quality requirements will be provided via the purchase order or an attachment to the purchase order.

22.0 Source Inspection

Periodically, EWT may require source inspection (either by 3rd party inspection service or by an EWT employee) of product prior to shipment from the suppliers' facility. Due to scheduling issues, the supplier must work very closely with the EWT buyer to schedule the source inspection in advance.

NOTE: Inspection by EWT or their representative does not release the supplier from responsibility for any non-conforming conditions (such as with workmanship, material or other requirements of the purchase order) discovered at either EWT, their representative or customer. Reference: EWT purchase order terms and condition.

23.0 Delivery and Logistics Requirements

Suppliers are expected to achieve 100% on time delivery. If a supplier will be unable to deliver product by the required due date it is the supplier responsibility to notify EWT prior to the required due date and arrange for expedited shipping instructions.

The due date on the EWT purchase order is the date the product is expected to arrive at the destination specified on the purchase order. The supplier is responsible to account for transit time to meet the expected delivery date for EWT that is reflected on the purchase order.

Suppliers are subject to site-specific requirements by purchase orders, such as delivery hours, product identification requirements, bar-codes, packaging requirements, or tagging requirements for parts, etc. See individual purchase orders for further details.

Delivery has two key areas: On-time delivery to EWT and the shipping process. Both are important because a Quality made product arriving at an improper time, damaged or incorrectly identified, can create additional costs to EWT and to EWT's customers.

Suppliers are expected to provide the resources and systems to insure EWT with consistent on-time delivery.

The shipping process involves several areas: packaging, labeling, handling, and shipping. The Supplier is expected to establish and maintain a material handling system that minimizes the potential for damage throughout all operations.

24.0 Packaging Requirements

It is the suppliers' responsibility to ensure product is packaged, loaded, and secured on trucks appropriately to prevent damage. Therefore, it is the suppliers' responsibility to ensure the product packaging is adequate to protect the product throughout the selected mode of transportation (such as UPS, LTL, etc) and arrive without damage. All product provided to EWT must meet all of the requirements provided in the Supplier Product Identification, Packing List, and Packaging Requirements document.

All packaging used by a supplier, including but not limited to skid bases, banding, stretch wrap must be of a nature as to prevent injury to the person handling the product and to the product itself.

A packing list shall be included with each box or package shipment unless instructed otherwise by EWT Purchasing. All product provided to EWT must meet all of the requirements provided in the Supplier Product Identification, Packing List, and Packaging Requirements document..

24.1 Standard of Packaging

Unless specifically agreed in advance by EWT:

Product should be secured on the pallets by using stretch wrap, which must extend to include the corners of the pallet. Banding may be used however the supplier must take precaution to prevent direct banding-to-product contact.

- All cartons / cases should be of a size and total weight (box weight is not to exceed 50 pounds each) to facilitate handling and be robust enough to provide safe packaging of the contents,
- All cartons / cases must be a fully enclosed case, sealed with adhesive or tape to avoid inadvertent opening,
- Open top cartons / cases, where the product is not secured, are not acceptable.
- Shrink wrapped product is accepted (for domestic shipments only) providing that the product is secure from theft and damage.
- If an article has a specific orientation this must be clearly identified on the outside of the shipping unit.
- Imported product must be completely crated with all wood ISPM certified.
- Product shipped on skids must be adequately supported with a structurally sound base, built to withstand the movement and transportation of the product in a manner safe to the product and to the person moving the product.

The supplier should label the exterior of the pallet/crate with the appropriate instructions, for example "do not stack" or "fragile".

25.0 Product Identification

All product provided to EWT must be clearly identified using the criteria defined in the Supplier Product Identification, Packing List, and Packaging Requirements document. Because product can be shipped to a EWT facility, shipped direct to a EWT customer or shipped to an export consolidator, it is imperative to follow these requirements. Failure to meet the identification requirements delays shipments to EWT customers, and requires an excessive amount of EWT

labor to correct. This causes confusion and frustration at the construction site with attempts to identify product received. Any deviation from the product identification information on the packing list may result in a delay of processing any documentation and could result in a delay of payment.

There must be a three-way match for documentation. The information on EWT purchase order must match the information on the packing list and invoice.

Each occurrence of product that does not conform to the product identification requirements may result in the issue of a defective material report being generated.

26.0 Dangerous Goods

Any hazardous goods that need to be transported under DEQ regulations must be notified in advance to EWT.

EWT will not collect pallets that need to be carried under DEQ regulations.

27.0 Supplier Quality Performance Rating

On a monthly basis, Supplier performance data will be monitored. The data used to monitor a supplier reflects the number of parts rejected and on time delivery.

When material is found to be defective, the Supplier will be notified with the reason for rejection and disposition.

On a quarterly basis, the Supplier Manager will provide selected Supplier's with a report containing the following information:

- Year-to-date performance
- On-Time Delivery

Overall Supplier Rating

- Excellent – Those Suppliers attaining a point total of 135 or more.
- Acceptable – Those Suppliers attaining a point total of 115 to 134.
- Conditionally Acceptable - Those Suppliers attaining a point total is 105 to 114. Procurement will normally initiate action to assist the Supplier in an Action Plan to improve the rating.
- Unsatisfactory - Those Suppliers attaining a point total of less than 104. Procurement will be required to take the necessary action to assist the Supplier in an Action Plan or to initiate re-sourcing of parts.

28.0 Delivery

Product must be provided by the required date specified on the EWT purchase order. Any shipment or last shipment or partial arriving at a EWT production facility after the PO "required date" is considered late.

All product must be delivered on time. The date each supplier is held accountable is shown on the purchase order and is labeled as the 'delivery date'. If the delivery date is changed, the supplier should receive an updated purchase order indicating the new delivery date. Early shipments just as late shipments are not acceptable. Any changes to the delivery date must be approved by EWT purchasing and followed up with a change to the purchase order.

ATTACHMENT 1: PRODUCT BOOK

Any EWT designed or Supplier designed under the direction of EWT product (and not sold to another company) for all repetitive product requires a Product Book. This book is to provide a complete picture of the manufacturing process from the quote process until EWT customer installation.

The Product Book becomes a deliverable upon request by EWT. Initially, if the Product Book does not exist, an implementation milestone plan is acceptable; however, the supplier must have the book completed and implemented within 90 days of receipt of this Supplier Manual.

The Product Book must be under document control. Any changes to the Product Book require the change documented, and recorded within the process book.

Minimum Product Book requirements (order is not important):

1. Table of contents
2. Process flow diagram
 - a. Include from quote to shipment of product
 - b. Each major area (such as quality, manufacturing, sales, etc.) must have a separate flowchart
 - c. List process changes
3. First article inspection results with approval documents
4. Process Control plan
5. FMEA
 - a. Process FMEA
 - b. Product FMEA
6. Fishbone diagram (AKA cause-and-effect diagram, Ishikawa diagram)
7. Manufacturing product flow diagram (include floor layout) if product is moved from one location to another (not required if product is produced on one bench)
8. Drawings
 - a. EWT drawings
 - b. Supplier drawings (if applicable)
9. Material specifications
 - a. All material used in manufacturing of the product
 - b. Material supplier with complete contact information
10. EWT specific quality requirements
 - a. Procedures
 - b. Specifications
 - c. Inspection and test plans
11. Internal inspection requirements
 - a. What characteristics or visual requirements are inspected and AQL level
 - b. How to inspect, what to look for visually, visual and dimensional characteristics
 - c. What testing is performed and how is it performed using what equipment-testing procedures
 - d. Calibration schedule for all equipment used in process
 - e. Internal inspection documentation/forms to use
 - f. Reaction plan for out of control situations or rejected material
12. List of what inspection and testing data is recorded (attribute and variable) and how to interpret (50,000 foot level for entire process – from raw material to end customer). Graphically display inspection and testing results (for larger orders)
 - a. Supplier material test reports (track major characteristics)
 - b. In process results and findings-include traceability to corrective action taken and process changes
 - c. Inspection results
 - d. Customer feedback
 - e. Manufacturing yield data (charts)
 - f. List of problems (customer and production), action taken (include dates)
 - i. Customer complaints, track against shipments
 - ii. Corrective actions taken –history
 - iii. Documented effectiveness of corrective action taken and dates
13. Manufacturing process audit plan
 - a. Schedule of audits

- b. What to look for
 - c. When audits conducted
 - d. Forms used
 - e. Audit results
14. Packaging requirements and documented procedures
- a. Crates/boxes/pallets
 - b. Tie down requirements / limitations for trucks (when applicable-such as fabrications)
 - c. Product identification
 - i. Parts
 - ii. Boxes
 - iii. Crates
 - iv. pallets
15. Mold maintenance requirements – Note: Applies to EWT owned molds. Supplier is required to have a mold maintenance program for the suppliers owned molds.
- a. History of all maintenance
 - i. List all machines used to manufacture product (not hand tools)
 - 1. presses
 - 2. molding machines
 - 3. shears
 - 4. punch press
 - 5. etc.
 - b. Provide the levels of maintenance performed
 - c. Provide the schedule of maintenance on all machines
 - d. Customer requirements for maintenance
 - e. Comparison of customer mold maintenance requirements to supplier internal maintenance requirements
 - i. Describe and justify deviations from customers requirements
16. Other chapters determined by supplier can be included
17. Revision record
- a. Revision dates
 - b. Revision description
 - c. Approval

ATTACHMENT 2: C=0 Sampling Plan

LOT SIZE	AQL						
	0.65	1.0	1.5	2.5	4.0	6.5	10.0
	SAMPLE SIZE						
2 - 8	*	*	8	5	3	2	2
9 - 15	*	13	8	5	3	2	2
16 - 25	20	13	8	5	3	3	2
26 - 50	20	13	8	5	5	5	2
51 - 90	20	13	8	7	6	5	4
91 - 150	20	13	12	11	7	6	5
151 - 280	20	20	19	13	10	7	6
281 - 500	47	29	21	16	11	9	7
501 - 1200	47	34	27	19	15	11	8
1201 - 3200	53	42	35	23	18	13	9
3201 - 10,000	68	50	38	29	22	15	9
10,001 - 35,000	77	60	46	35	29	15	9
35,001 - 150,000	96	74	56	40	29	15	9
150,001-500,000	476	90	64	40	29	15	9
500,001 & over	556	102	64	40	29	15	9