Introduction

The purpose of this Supplier Quality Manual is to specify and explain the requirements and procedures that affect the relationship between Carlsen Precision Manufacturing ("Carlsen") and its suppliers, with the goal of ensuring quality and delivery throughout the entire supply chain.

The object is to clearly describe the minimum requirements for doing business with Carlsen. Any additional requirements will be communicated on a case-by-case basis and will be addressed in some other form of documentation.

All communications regarding the requirements and procedures in this document are to be directed to your Carlsen purchasing representative.

Quality Vision

Carlsen's quality vision is to meet and exceed our customers' expectations through excellence in quality. Carlsen's goal is to achieve a clear, competitive advantage through continuous improvement in quality, delivery, service, and cost. This philosophy is expected to be adopted and followed by all members of the supplier chain.

Suppliers are responsible for the quality of their products and will be responsible for and expected to have:

- Zero Defects.
- 100% on-time delivery.
- Immediate responsiveness to quality or delivery issues.
- Continuous improvement by proactively improving the quality, delivery, and value of the product.

To achieve these goals, Carlsen recognizes that it is our responsibility to assist our suppliers in achieving these goals. Carlsen will provide the necessary personnel, data, procedures, or other information to help our suppliers succeed. We recognize that we cannot succeed without a close relationship between us and our suppliers.

Requirements to Become a Carlsen Supplier

1. Tender Requirements

The supplier selection process starts with the definition of the user requirements for the material(s). The following information from the supplier is to be requested as part of the Supplier Questionnaire (DOP3300 – Supplier Spec Communication):

- Name of the product (including formulae and CAS number when available).
- Material specifications.
- Quantity required.

If a supplier cannot meet the quality specifications or quantities, they are disqualified, and the process ends.

2. Quality Management and Security Assessment

The following information from the supplier is to be requested as part of the Supplier Questionnaire (DOP3350 – Supplier Audit):

- Is the supplier part of a registered Quality Management Program? If yes, please provide documentation/status.
- Does the company have a formal Security Program (C-TPAT, PIP, OTHER?) If yes, please provide documentation/status.

If a supplier is not able to produce current documentation of QMS and Security participation, they are disqualified, and the process ends.

3. Product Samples

Supplier to confirm timing of product samples.

4. Documentation

It is a prerequisite to demonstrate that the material provided by a potential supplier meets the specifications as defined. Compliance to the specifications should be verified by analytical testing of a sample. The sample (representative of commercial production) can be pre-shipment sample(s) (with appropriate documentation accompanying the product).

For Metals

- Safety Data Sheets.
- Certificates regarding material gauge, and chemistry.
- Analytical test method.
- Metal Hardness results.
- Tolerances.
- Customer specific document requirements.
- Other (Specific to individual requests.)

5. Risk Assessment

The following information about the supplier is to be assessed as part of the Supplier Questionnaire (DOP3350 – Supplier Audit):

- Financial Risk (Review of public filings, D&B financial solvency, and completion of credit application.)
- Geographical/Political Risk.
- Political Risk Factors (Government Stability, Social Unrest, and Conflict.)
- Economic Risk Factors (Currency Fluctuations, Trade Policies and Sanctions, Economic Stability)
- Environmental Risk Factors (Natural Disaster, Resource Scarcity, Environmental Regulations)

Any material risks identified in this process above an acceptable level deem the supplier disqualified, and the process ends.

6. Initial Quality Assessment

For the initial three shipments received from a new supplier a quality inspection is conducted.

Any material risks identified in this process deem the supplier disqualified, and the process ends.

7. Supplier Code of Conduct

The following information from the supplier is to be requested before being confirmed as a supplier.

- All suppliers must read and sign off on the Supplier Code of Conduct.

If the supplier does not return a signed copy of the code of conduct, they are disqualified, and the process ends.

8. Initial Order

Once all prerequisites are fulfilled, initial orders can be placed. Each of the first three orders will be measured for:

- On-time delivery.
- Conformance to the order parameters.
- Quality standards and benchmarks.

Purchase Orders

Once a purchase order is issued it is a binding contract. Carlsen expects that the acceptance of a purchase order is an acceptance of all conditions and requirements contained within it. Carlsen will not be responsible for any parts that do not meet the requirements of the purchase order.

Deviation Requests

All requests to deviate from requirements should go through the Carlsen purchasing department. The request shall be in writing, with a detailed description of the deviation, including the tolerance and the actual readings. Deviations must be obtained with written approval prior to shipment. The supplier should also include the containment activities, the root cause of the discrepancy, and its corrective action. Deviation approvals should be kept on file.

Supplier Audits

Supplier Audits are to be completed annually and are used to determine the extent of conformity to the supplier agreement and to evaluate the supplier's ability to meet the organization's requirements. Data can be sourced from:

- Quality manual, including procedures, revisions, and list of changes.
- Analysis – inspection yields, resources, internal audits, corrective action statuses, and field failures.
- Tactical and strategic goals, action plans, and objectives.
- Management meetings, performance reviews, goals, action plans, and customer surveys.
- Facility visits and management interviews.
- News releases and public filings.

For an audit to be completed, questions regarding the following areas must be addressed:

Section 1: Quality Assurance

Section 2: Social Health and Safety

Section 3: Environmental

Supplier Ratings

A supplier ratings system has been developed by Carlsen to monitor its supply chain. Ratings will be completed quarterly on a list of suppliers established by the purchasing department. Several factors, such as the quantity of goods delivered, or past supplier ratings will factor into which suppliers are chosen to be rated.

Suppliers will be rated on quality, on-time delivery, and incident resolution management. Other factors may be noted in the rating, such as the response time to RFQs or general customer service. A poor supplier rating could result in the supplier being placed on probation, PO hold, or removed from the approved supplier list.

Continual Improvement

Continual improvement is expected throughout the relationship with Carlsen and its suppliers. To continue to be competitive, Carlsen and its suppliers must be proactive in proposing improvements in processes as well as cost. All improvement ideas should be submitted to the Carlsen purchasing department.

Quality Clauses and Contract Deliverables

101 – Quality Program / System

The supplier shall develop, document, implement, and maintain a quality system that will meet the purchase order requirements. The organization should possess a certification of compliance to the ISO 9001 standard by a registered third-party registrar. If not currently registered, the organization must demonstrate the ability to conform to ISO 9001 requirements. ISO supplier procedures and records should be available to Carlsen for review of the quality standard. Supplier must assure that proprietary information is maintained and disposed of properly.

102 – Calibration System

The supplier shall maintain a gage calibration system that provides evidence of all calibration records, traceable to the National Institute of Standards and Technology (NIST), and available for review.

201 – Non-Conforming Material and Supplier Charge Backs

Upon receiving notification that Carlsen has received suspect or defective material the supplier must implement containment action immediately. All containment actions should be completed within 24 hours. Containment action may include sort and containment at Carlsen facilities. Carlsen will not be responsible for sorting and providing disposition to supplied product. When end customer delivery dates permit, Carlsen will make reasonable efforts to allow the supplier to correct non-conformances. If immediate sort and containment actions are needed, supplier will be notified of time constraints and will assume responsibility for the associated sorting costs.

Regardless of when the shipment was received by Carlsen, when non-conforming material is found at Carlsen's facility, it is the supplier's full responsibility to sort, disposition, and rework, or scrap the material as needed. Suppliers will be notified that there is suspect material and will be given the opportunity to sort and rework at Carlsen. If Carlsen needs to conduct the sort or rework, then Carlsen will charge an hourly rate of $100/hour to recoup any costs associated with the suspect material. A supplier charge back form will be completed that details all costs associated with the sort and rework.

The supplier assumes any responsibility for parts that may need to be shipped back for non-conforming material found at Carlsen or its customer. An RMA number and shipping information will be requested by Carlsen, and the supplier must supply this within 24 hours so suspect material can be removed from the facility as soon as possible.

202 – MRB Authority

Material Review Board (MRB) authority is retained by Carlsen. Any supplier requesting to ship product deviations must procure written authority from Carlsen Quality, Engineering, or Purchasing.

203 – Record Retention

Suppliers shall maintain all records for 7 years after closure of the purchase order unless otherwise specified on the purchase order. All records shall be available to Carlsen when they are requested. Additional copies may be requested by Carlsen at no additional charge.

204 – Sub-Tier Supplier Management

Outsourced material greater than 50% of the purchase order will require the supplier to notify Carlsen of intentions. All quality requirements will need to flow down to the sub-tier supplier. All quality requirements remain the responsibility of the supplier to whom Carlsen issued the purchase order.

301 – Order of Precedence

The order of precedence for documents is as follows:

1. Carlsen purchase orders and attachments of customer specifications.

2. Carlsen-supplied drawings/specifications (may include Carlsen's customer drawings and specifications).

3. Any further specification (Military, ASTM, ISO, ISO DIN, DIN EN, etc.)

302 – Supplier Corrective Action Requests

Carlsen will issue the Supplier Concern Notification (SCN) to the supplier, and the supplier shall acknowledge the complaint within 24 hours of receipt. Upon request, suppliers will need to submit a corrective action as noted in the original Supplier Concern Notification (SCN). The supplier shall reference the SCN number when including root cause analysis and actions taken to prevent further incident. The preferred corrective action tool is the 8D but other quality tools may be used if approval has been attained. Completed corrective actions

shall be submitted within 15 working days. These time frames are standard; however, alternative time frames may be granted but suppliers must attain written permission from Carlsen to change due dates.

When repeated rejects occur for similar root causes the supplier may be required to certify each shipment. Certification may be 100% sort, complete dimensional reports, or some other form of verification that shipped product has seen increased inspection and has been approved. Increased inspection normally lasts for 5 shipments. After 5 good shipments suppliers can return to normal procedures.

303 – Shipping / Packaging

All product shipped to Carlsen must be packaged in a manner to protect from contamination and damage. The supplier is responsible for the condition of the products until the products arrive at Carlsen unless otherwise specified.

Packaging shall also include proper identification. Each container shall be clearly identified with the following: part number, quantity, and date of shipment. Additional information may be requested on the purchase order.

Any package that requires manual lifting shall not exceed 50 lbs.

401 – Material Certifications

A legible and reproducible copy of each certification is required for each shipment. Certifications shall state the exact specification and revision level as stated on the drawing or the purchase order. (If no revision is present, then the latest revision applies.) The certification must also include the country of origin. The supplier shall be responsible to verify that the results are conforming to the drawing specifications. Mill certifications are the preferred and required standard for raw materials. Send certifications to purchasing@larsenhinge.com.

402 – Special Instruction Requirements

Carlsen may require specific requirements that are not previously outlined in these quality narratives. If the Special Instruction Requirements clause is invoked, the instructions will be outlined on the purchase order. The Supplier will be entirely responsible for understanding the special notes/specifications required, and the conformance to the special requirements.

Examples:

- Special process Certification
- Customer change requests
- Miscellaneous and varying terms and conditions