This manual is one of several methods we use to cascade our customer's requirements throughout our supply chain. This manual is designed with the intent to assist our suppliers in understanding the standards, requirements, procedures and systems that should be in place to assure the shipment of defect free, on time parts to Carling Technologies.

Supplier Quality Manual

July 31, 2020

9th Edition

Carling Technologies®
Innovative Designs. Powerful Solutions.

INTRODUCTION

Carling Technologies subscribes to the eight quality management principles, one of which is "Mutually Beneficial Supplier Relationships". As a supplier to Carling Technologies you play an important role in our success and the success of our customers.

Carling Technologies is committed to working with suppliers to ensure customer satisfaction through total conformance to customer expectations. Carling Technologies continually strives to improve the quality of products we supply to our customers. To do this, our suppliers must also strive for continuous improvement.

Carling Technologies will assist our suppliers whenever possible to meet our requirements. The responsibility for quality and on-time delivery, however, remain with the supplier.

Sincerely,

Harold A. Wiegard Vice President Global Quality	Maks Ramsak Vice President, Procurement & Global Supply Chain

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Carling Technologies Mission Statement

With our long history of providing our customers with the best in switches and circuit protection products since 1920, Carling Technologies pledges to continue to lead the industry with total commitment to quality. Quality is to be the controlling factor in the design of our corporate structure, our corporate systems, our products, our tooling, our manufacturing processes, and our customer relations. Our mission is Quality by Design! Our goal is to provide our customers with products of the best possible quality, consistently meeting all specified design parameters.

Purpose

The SQM has been developed and provided to assist suppliers to understand the requirements of Carling Technologies regarding quality and management systems and in meeting the terms of Carling Technologies' purchasing agreement, engineering drawings, and specifications.

Scope

This manual applies to all direct material/service external suppliers, providing Carling Technologies with materials, components, software, products, processing, and related services. This manual applies to indirect material/service suppliers only when a Carling Technologies Purchase Order requires it. The requirements outlined herein are an integral part of Carling Technologies' total requirements.

Communications

Carling Technologies' official language is English. All formal communications with Carling Technologies must be in English. Documents may display the native language when integrated in parallel with the English translation. In this instance, the English translation is the one valid version. A specific Carling Technologies facility may allow exceptions for direct communications meant for that facility only.

Supplier Requirements

Suppliers are responsible for understanding and meeting the requirements of this manual. Failure to meet these requirements may result in the loss of existing and/or future Carling Technologies business, in addition to reimbursement of the cost to Carling Technologies resulting from those failures.

- Suppliers shall adopt the standards of Zero Defects and 100% On Time Delivery to Carling Technologies.
- Suppliers shall understand that any established PPM target is not an Accepted Quality Level but represents an intermediate continuous improvement step toward shipment of components/materials meeting the Zero Defects requirement.

Product Safety Policy

Carling Technologies is committed to product safety. For those applications identified as safety critical, product safety will always be the primary consideration during the product design life cycle, manufacture, marketing, and sales of Carling Technologies' products. In an event that the product supplied is safety critical, Carling Quality will notify the supplier, additional quality clauses may apply that are not covered in this manual".

Corporate Social Responsibility and Ethics

We require our critical Suppliers to, at a minimum, comply with the requirements of the RBA Code of Conduct http://www.responsiblebusiness.org/standards/code-of-conduct/ . We require critical suppliers to have an active Code of Conduct or Ethics Policy that addresses all sections outlined in the RBA Code of Conduct. Carling will notify the critical suppliers directly if the supplier is on the Critical Supplier List.

Environmental, Health and Safety

Protecting the environment and the health and well-being of our employees, neighbors and business partners is a key principle of Carling Technologies. As such, we expect our critical suppliers to also adopt the same principals and we further expect them to work with their suppliers to the same end. We expect our critical suppliers to, at a minimum, comply with the Responsible Business Alliance (RBA) Code of Conduct and we encourage our suppliers to adhere to the current ISO14001 requirements.

Quality Manual

Upon request, the Supplier shall furnish Carling Technologies with a copy of their Quality Management System Manual.

Supplier Approval Process

Carling Technologies requires all Suppliers to be approved prior to the issuance of purchase orders. Carling Technologies must approve all Suppliers, regardless of approvals by customer or other entities. The Supplier selection process for production components begins when Carling Technologies has a requirement for a new material, or Carling Technologies is looking at alternate sources of supply for existing materials, services or products.

The Carling Technologies Supply Chain Group has the ultimate responsibility to identify suitable Suppliers. The procurement group provides a Supplier Quality Survey (QAF-160) to the Supplier. Should there be any deficiencies noted by the Carling Technologies Quality organization, the Quality Manager or designee will communicate these issues to Carling's Supply Chain team and the supplier for resolution. The Global Quality Manager or designee will identify the audit results as follows: "Approved", "Conditionally Approved", or "Disapproved". The Global Quality Manager and the Vice President, Procurement and Global Supply Chain or their designee will determine whether we can proceed with the Supplier with Conditionally Approved status.

***Documentation: QAF-160, Signed SQM, Account set-up form, Bank/ Credit references, ACH and CQI**

Special Processes

This document establishes Carling Technologies' quality requirements for suppliers who design, manufacture or control Heat Treatment, Plating, Coating, Welding, Soldering, Molding and/or Castings Systems. Each supplier of these special processes is required to complete the following AIAG CQI

assessments as part of the QAF-160 or initial validation, and then annually:

- CQI-9 Special Process: Heat Treating System Assessment
- CQI-11 Special Process: Plating System Assessment
- CQI-12 Special Process: Coating System Assessment
- CQI-15 Special Process: Welding System Assessment
- CQI-17 Special Process: Soldering System Assessment
- CQI-23 Special Process: Molding System Assessment
- CQI-27 Special Process: Castings System Assessment

Substance Reporting and Management

The introduction of new/additional restricted and banned substances are ever changing and we expect our suppliers to remain current to the latest requirements. We will periodically audit the materials shipped and we request that the supplier also audit their sub-tiers suppliers for conformance. When applicable Suppliers must certify that the products/materials shipped to Carling are in compliance, and/or submit the applicable documentation as notified by the Carling representative.

We require compliance to the current standards:

- Restriction of Hazardous Substances (RoHS):
  - https://ec.europa.eu/environment/waste/rohs_eee/index_en.htm
- Registration, Evaluation, Authorization and Restriction of Chemicals (REACH):
  - https://www.echa.europa.eu/regulations/reach/understanding-reach
- Safe Drinking Water and Toxic Enforcement Act of 1986 (California Prop 65):
  - https://oehha.ca.gov/proposition-65

Other Substance Reporting:
We may also require compliance to the following banned substances requirements; Canadian Environmental Protection Act, Low Halogen or Halogen Free, Ozone Depleting substances, radioactive substances or asbestos. At times, our customers have their own restricted/banned substance lists. Any customer specific requirements will be communicated via the QAF-800 process and flowed down through this agreement and purchase order requirements.

Substance Management:

- Conflict Minerals (Yearly basis):
  http://www.responsiblemineralsinitiative.org/
- International Material Data System (Carling's IMDS account number 31900):
  - http://www.mdsystem.com/imdsnt/startpage/index.jsp)

Quality and Safety Planning

Sufficient quality planning must be done before mass production to minimize problems after industrialization. This planning may involve the use and/or creation of:

- Design documents
- DFMEA (if supplier is design responsible)
- Equipment, tooling and facility requirements
- Material sourcing and testing
- Process Flow Charts
- PFMEA
- Control Plans
- Initial Process Studies using quality indices such as Ppk or Cpk for important variable characteristics.
- MSA Gauge Studies

- PPAP Submission
- Process Work Instructions
- Process Control condition or set-up sheets
- Training and Qualification of Team Members
- Pilot production runs and analysis
- Others

Safety characteristics shall be controlled with SPC charts and made available to Carling Technologies upon request. Special product and process characteristics will be identified by Carling Technologies in addition to those selected by the Supplier through knowledge of the product and process.

All special characteristics shall be identified in the Control Plan, PFMEA and operator instructions with the Carling Technologies special Symbol. Safety characteristics will be denoted on the drawing by symbol:

An on-site audit is required for all components/materials/services identified as safety critical. Guidelines for quality planning activities should follow the AIAG Advanced Product Quality Planning reference manual.

Documentation and Record Retention

The following quality related data, records and procedures must be retained and kept for the life of the program (including service) plus 1 year:

- Statistical Quality Data
- Inspection and Test Results Data
- All Initial sample data
- Corrective action reports
- Receiving inspection information
- Control Plans / PFMEA / DFMEA / Flowcharts
- Quality procedures and system descriptions
- Written instructions, Test and Lab Instructions
- Test Procedures

These documents must be retained in such a manner that they can be made available to Carling Technologies within 48 hours of request.

Lot Control and Traceability

Carling recommends suppliers to have an effective system of traceability that ensures all delivered product can be traced from a finished product in the final application back to specific lots, sub-components, parts, blanks and raw materials. Lot traceability records must be kept on-hand and be available to Carling Technologies upon request for a period equal to 15 years from the end of production or as indicated by Carling Technologies.

Material Performance Test Data

The supplier is responsible for conducting and submitting all material and performance testing as specified on the print with the PPAP package. If the supplier is not capable of performing all tests, they can contract the service with a qualified source such as the sub-supplier or a third-party laboratory or test facility. Carling recommends that the contracted source shall be an accredited facility (A2LA, ISO 17025).

Statistical Methods

Suppliers are expected to utilize appropriate statistical methods, when required by drawings, for process control, process improvement, evaluation of process capability and other applications. Such statistical methods may include:

- Process Capability studies *(CP, CPK, PPK)*
- Trend Charts
- Pareto Analysis
- SPC charts

The supplier may be asked to provide statistical data to verify process control and capability. This request will come from a Carling Technologies Quality representative. All Safety characteristics must be controlled by SPC data and submitted to a Carling Technologies Quality representative on request. A minimum CPK value of 1.67 must be achieved for all safety identified components. All other features requiring SPC must maintain a minimum 1.33 Cpk, as well as a minimum Ppk 1.67 must be maintained unless otherwise stated in the Standard Specification. All statistical data is subject to be requested at any time (i.e. per shipment, Monthly, Quarterly, etc.).In the event the process is not capable of meeting these Cpk requirements, Carling Technologies may approve shipment provided 100% inspection of the feature is performed and the feature is within specification.

Use of statistical methods mentioned above is fully explained in the AIAG Statistical Process Control (SPC) manual.

Process Controls

The supplier is expected to establish, control and document production methods that will result in products that meet all Carling Technologies requirements.

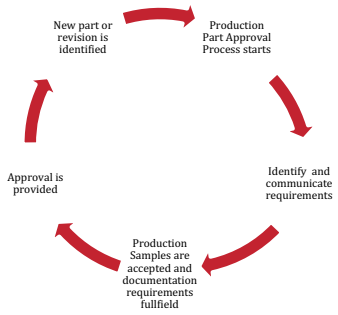
Software Quality Approval Process

When product includes custom created software, the activities for engineering consist of software development via the APQP process. The software shall be developed according to organization-wide processes tailored to the product being developed via the APQP process. The maturity of the software development process is expected to demonstrate the characteristics for repeatable, managed and defined processes. At times, Carling technologies will request evidence of consistently achieving software process maturity. Carling Technologies may require suppliers to be ASPICE Level 2 or 3 certified.

Production Part Approval Process

Suppliers to Carling Technologies may be required to comply with the PPAP submittal procedure and Carling Technologies PPAP approval documented on a PSW prior to shipping production parts. Carling Technologies will provide assistance, if needed. Contact your Carling Technologies Quality representative for the PPAP procedure and guidance or follow guidelines of the AIAG Production Part Approval Process reference manual.

QAF-800 Process



Product and Process Change Approval

The supplier will not make product or process changes or deviations, without prior written authorization from Carling Technologies

Any request for drawing changes, process changes or part deviation must be communicated in writing to the appropriate Carling Technologies buyer via Carling's QAF-670 form. The request should explain in detail; the requested change, the reason for the request, the cost/savings and benefits. This request may include, but is not limited to changes in:

- Manufacturing Location
- Material Processing
- Sequence of Processing, Manufacturing / Process methods
- Bill of Materials (BOM's) and their sources
- Design
- Quality Control Techniques (inspection and test)
- Sub-Suppliers (including Tier 2 and Tier 3)
- Fixtures
- Gages
- Dies
- Tooling
- Packaging Changes
- Rework or any activity not included in the initial PPAP/validation
- RoHS, REACH, SVHCs or other environmental requirements
- Software changes

Continuous Improvement

Carling Technologies strongly encourages its business partners to adopt a continuous improvement strategy. Please remember, any changes to design/product/process/materials that have been previously approved must be approved by the Carling Technologies Quality function prior to implementation. It is advisable to notify Carling Technologies as early in the CIP process as possible to avoid unnecessary delays.

Supplier Score Card

Carling Technologies will utilize a Supplier Score Card to rate its suppliers. The Supplier Score Card is

a comprehensive, cross-functional, evaluation of a supplier's quality performance. This rating is used to develop the supply base and improve the quality of the product supplied. It is also used to determine future business opportunities with a supplier.

The supplier quality performance rating will be generated monthly by Carling Technologies and forwarded to the supplier. Any supplier that has a conditional performance for three consecutive months or is unacceptable is required to submit corrective action and/or will be subject to audit by Carling Technologies. Failure to receive acceptable performance may result in removal of supplier from the approved supplier list.

Suppliers are measured using the following criteria:

- Quality (PPM, Reject Occurrences, Line Disruptions)
- Delivery (OTD)
- Support (SCARs, Quality System)

Quality System

Suppliers of automotive products and services to Carling Technologies will be, at a minimum, registered to the current ISO 9001 standard. In addition, certain products/suppliers must be compliant to the requirements of IATF16949 standard and ideally, be registered.

Certification must be maintained, and any loss of certification or change to certification status, for whatever reason, must be reported to Carling Technologies. Carling Technologies reserves the right to perform Quality System Assessments at any time, with proper notice given to the supplier. Poor Supplier performance could also trigger a Quality System Process audit.

Delivery

Suppliers are expected to achieve 100% on-time delivery (defined as the agreed to delivery date to the specified Carling Technologies facility), in the correct quantity, according to the Purchase Order requirements. Suppliers delivering less than 100% on time may be required to submit a corrective action plan to improve and meet the requirement. Suppliers may be responsible for all costs incurred by Carling Technologies as a result of late shipments. If the supplier is unable to ship product as scheduled, a late shipment notification via E-mail and/or telephone communication must be sent to the suppliers' designated Carling buyer, indicating the reason for the delay and the target date for supplying the product and a corrective action plan. For expedited shipments, due to supplier issues, the supplier will assume responsibilities for the expedited portion of the shipping costs.

Material Rejection and Corrective Actions

If the supplier ships nonconforming products to Carling Technologies, the quality department will place the material on hold and notify the supplier. The initial contact will be by e-mail containing a Supplier Corrective Action Request (SCAR) to the designated supplier contact person. Suppliers are required to use disciplined problem-solving methods to investigate and eliminate the root causes of defective product and implement effective preventive/corrective action. Carling Technologies requires the use of the Carling Technologies SCAR or other similar 8D format. The supplier response must include the following:

- Implementation of Containment Actions
- Implementation of Temporary Corrective Actions
- Determination of Root Cause (five whys for occurrence and five whys for detection)

- Implementation of Permanent Corrective Actions
- Verification of the effectiveness of actions taken

Suppliers are required to initiate containment activities within 2 business days and final corrective action response within 10 business days after SCAR notification. Validation/Verification of the effectiveness of the correction action is required within 30 business days after the SCAR notification.

Carling Technologies may debit the supplier $250 per instance for administrative costs of Material Rejections and SCAR's. Charge-back fees may be imposed on suppliers who are unable to replace, sort or inspect materials that have been agreed to be out of specification should the component/material in question be needed and the supplier cannot replace or sort or inspect the materials.

Supplier Support Requirements to address the following items:

- On-Site Sort and/or Rework with supervision
- Third Party Sort and/or Rework
- Formal Corrective Action Response
- Return Goods Authorization
- Certified Replacement Stock

Counterfeit and Fraudulent Parts Control

Carling Technologies has modeled its Counterfeit and Fraudulent Parts Control process to comply with the SAE Standard AS5553 (Counterfeit Electronic Parts: Avoidance, Detection, Mitigation and Disposition). Carling requires all electronic parts will only be procured directly from the original manufacturer or through a franchised distributor.

Supplier C-TPAT Program Participation

The Customs-Trade Partnership Against Terrorism ("C-TPAT") is a joint United States Customs-business initiative to build cooperative relationships that strengthen overall supply chain and border security to protect against the introduction of terrorists and weapons of mass destruction into the United States. Through this initiative, US Customs asks importers into the United States, such as Carling Technologies, to ensure the integrity of their security practices and communicate security guidelines to their business partners within the supply chain.

As part of the C-TPAT program, Carling Technologies is obligated to develop and implement a program to enhance security throughout our supply chain in accordance with C-TPAT Minimum Security Criteria (MSC) guidelines. In order to meet our responsibility, Carling Technologies may ask you to review the C-TPAT security recommendations appropriate for your business, to respond to a questionnaire designed to assess your conformance to those recommendations, and to agree to address those areas where your company's security program should be improved in order to conform to the recommendations.

We also require our suppliers to ensure that carriers they use are compliant with all sanitization laws and any pallets used are compliant with International Standards For Phytosanitary Measures No. 15 (ISPM-15).

Business Continuity Planning / Disaster Recovery

Suppliers are expected to develop and have available upon request a documented Business Continuity Plan, which would allow for the uninterrupted flow of parts/services to Carling.

Supplier Acknowledgement

We, the undersigned, acknowledge the receipt of this Supplier Quality Manual. We agree to submit our acknowledgement within 2 weeks of receipt.

By acknowledging receipt of this manual, we agree to all of its contents without exceptions or deviations. We also acknowledge acceptance of the contents contained in this Supplier Quality Manual (SQM) when accepting Carling Technologies' purchase orders, notwithstanding any contrary terms in any of our credit applications, invoices or other documents.

We also agree that any exception or deviations shall be submitted and approved by Carling Technologies either in the section noted below or on an official company letterhead document.

_____

Supplier Name/Address

_____

Submitted by Name Title

_____ _____

Signature Date

Exceptions / Deviations Noted below (please reference section where noted exceptions or deviations and why). Add additional sheets as necessary.

Receipt date_____ Carling Buyer Signature _____