



# **Daikin Applied Supplier Quality Manual**

**Revision: 06**

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## 1.0 Preface

A good relationship with suppliers is important to the future of Daikin Applied and its suppliers. This manual is designed to describe the quality requirements that Daikin Applied expects from each supplier and to describe the general procedures it uses to assure the quality of purchased production materials (defined as any material that goes into our end product). This manual is also provided to assist suppliers in meeting the terms of our purchase orders, engineering drawings and specifications. It is not intended to replace or supersede them.

## 2.0 Scope

This document applies to all sources supplying production material to Daikin Applied. All material purchased by Daikin Applied shall be fit for purpose and designed, produced, controlled, inspected and tested in accordance with the applicable blueprints and specifications.

The supplier shall provide and maintain an inspection system which will assure that all materials provided conform to the purchase order requirements, whether manufactured or processed by the supplier or procured from subcontractors and suppliers. These suppliers shall perform, or have performed, the inspection and tests required to substantiate product conformance to the drawings, specifications, and purchase order requirements.

The supplier system for control of product quality shall be available for review by our representative prior to the initiation of production and throughout the life of the purchase orders and agreements. Suppliers are encouraged to use statistical methods to assure adequate process control and product quality. These techniques provide the means for minimizing the possibility of building and shipping defects and if used properly leading to improved quality and productivity. The supplier may use statistical methods which are generally accepted in the automotive assembly industry.

## 3.0 Requirements

### 3.1 Supplier Survey

At Daikin Applied's discretion, inspections may be made of a supplier's facilities. Arrangements with suppliers for the proposed inspection will be made through the appropriate purchasing or supply chain management function. Normally, a survey of a supplier's facility will be made to determine if the organization's procedures, processes, etc. are applied in a manner that will assure the quality of the product. Supplier surveys may be initiated at any time, but generally prior to placement of new

business or when a new order is placed for material that differs significantly from material or production previously purchased from the supplier. After completion of the survey, Daikin Applied will inform the supplier of the survey results. An additional survey may be scheduled if a corrective action gap closure plan is required. The rating considers quality, capability, facilities, and technical support available.

Daikin Applied may require the completion and return of a self-assessment questionnaire that will be sent to the prospective or current supplier. The questionnaire will be evaluated for compatibility to the future plans of the company in meeting its customer expectations and may be forwarded to a customer. If a concern exists or the supplier is not approved by the Daikin Applied customer, an inspection will be scheduled to get a first hand look of the supplier facility.

### **3.2 On-Site Audit**

Daikin Applied reserves the right to perform periodic appraisals of a supplier's quality system, audit the supplier's quality records, and perform source inspection of product ready for shipment. On such occasions the supplier personnel documentation, gauging, and test facilities are expected to be made available as required

### **3.3 Drawing Interpretation**

It is the supplier's responsibility to furnish Daikin Applied materials that are current to engineering drawings and specifications in the purchase orders and agreements. Suppliers are responsible for comprehending the drawing requirements. If any questionable areas appear to exist, the supplier is to contact Daikin Applied purchasing for clarification immediately. Drawing clarifications are to be resolved before production tooling is finalized and production parts are made. Producing to red lined drawing, initialed changes or verbal, handwritten or email directives is not permitted.

### **3.4 Statistical Process Control (S.P.C.)**

All purchased parts will be reviewed by Daikin Applied's quality control and engineering departments to determine the need for S.P.C. Characteristics designated as Key Characteristics may be identified on the print by a diamond symbol (or end use customer designation). These characteristics must be controlled using statistical methods. Identification of Key Characteristics does not remove the requirement of suppliers to also conform to all other specifications and requirements.

Evidence of this control is to be sent to the Quality Manager at the using plant on a monthly basis (or as agreed upon with Daikin Applied quality). Where shipments are more than one month apart the information should be sent with each shipment.

If studies show a process is not capable (Cpk less than 1.0), the supplier must schedule a meeting with Daikin Applied quality and engineering departments to determine what actions are necessary to make the process stable and capable.

It is desirable to achieve a minimum Cpk of at least 1.33 to demonstrate confidence in the process. All suppliers are encouraged to achieve or surpass this goal.

### **3.5 Reliability**

Suppliers must acknowledge that they understand the application by Daikin Applied of their products, materials and services and that they are fit for such purpose. Suppliers assure Daikin Applied that these products, materials and services will last without failure for the time specified by the supplier or as superseded by purchase order or supplier agreements. Failure is defined as inability of the supplied part, material or service to provide its full, intended function in the intended application. Suppliers warrant that end of life wear out failure or premature failure of their produce will be safe. Documentation of design performance and life test validation will be retained for examination by Daikin Applied.

### **4.0 Fitness for Use**

Daikin Applied expects your full support in areas such as continuous improvement in product quality and reliability, inventory management, cost reduction, cost avoidance, technical applications, in-warranty and out-of-warranty failure analysis.

Daikin Applied recognizes you as the expert in the materials or components that you provide. Daikin Applied also understands that design specifications, of and by their very nature, are imperfect documents – they can't possibly specify every detail, critical or not, of an item's geometry, function, use patterns in the field, etc.

Recognizing this, Daikin Applied has adopted a philosophy of "fitness for use". Simply put, this means that, if for some unexpected or previously unknown reason, materials or components fail to deliver the service that we, or our end customers expect, then, even if the material or components meet the current written specifications, they are unfit for use and will be rejected by Daikin Applied.

### **5.0 Charge Backs**

Quality defects found at the Daikin Applied plants usually cause costs to be incurred to contain, detect root cause, correct, for line down time, or send back the product. It is also understood that from time-to-time our Suppliers go through extraordinary measures to assist us (expedites, ECO changes, new products,...) and that is recognized and appreciated. However, if we do see repeat quality offenders a potential to charge-back (debit) these costs will occur if the trend continues.

## 6.0 Initial Samples

Suppliers are not to rely on Daikin Applied receiving inspection to determine the acceptability of their material. The supplier is responsible to perform inspection on initial samples and make whatever corrections are required to bring the parts within specified tolerances prior to shipping to Daikin Applied's facility, unless prior written authorization has been received through purchasing.

The supplier shall submit initial samples from production tooling and setup prior to production. Where multiple tools, mold cavities, or patterns are used, samples from each shall be submitted. Sample quantities, special procedures, and forms for shipping instructions, will be provided by Daikin Applied's purchasing department. Regular production shipments shall be made only after the supplier has received written approval from the applicable Daikin Applied Quality Assurance Department.

Before submitting samples, the supplier shall submit a PPAP to the applicable Daikin Applied Quality Assurance and Engineering Departments. The PPAP must include a Process Flow Diagram, a Process FMEA, Inspection Plans, and Control Points in the process. The PPAP must be reviewed and approved by the applicable Quality Assurance and Engineering Departments before full sample approval can be given.

When samples are submitted they should be accompanied by a complete layout inspection report showing the actual SPC data for key characteristics found during sample inspection. This report should be inclusive of, but not limited to:

1. Physical and chemical analysis, and/or material certification showing conformance to the material specifications.
2. A machine or process capability study for any designated key characteristics in accordance with the A.I.A.G. (Automotive Industry Action Group), Statistical Process Controls and Measurements manual, Second Edition, March 1995. This is the technical reference used by Daikin Applied for such studies. Minimum acceptable parameters for such a study shall be subgroups not larger than five and a total run not less than fifty pieces.
3. Test results on any parts requiring special testing per the blueprint or drawing specifications, such as paint, tensile, durability, salt spray, and any other applicable test. Re-submission and approval of samples are required prior to production shipments of any of the following:
  1. New process implemented.
  2. Significant changes in current process.
  3. Change in manufacturing location.
  4. Change in sub-contractor.
  5. A change of design.

Daikin Applied requires at least 60 days of advance notice prior to the implementation of any of the changes noted above. It is the supplier's responsibility to advise Daikin Applied via a recognized Production Part Approval Process (PPAP) when such changes are anticipated. Full compliance to the PPAP process may not be necessary based on the significance of the change, in which case suppliers are to have this confirmed in writing by Daikin Applied. Specific requirements for each PPAP approval will be furnished by Daikin Applied upon request.

If the supplier lacks the facilities required to perform complete dimensional inspection laboratory analysis and test, they may make arrangements for these to be accomplished by an outside facility that is both reputable and reliable. If the supplier needs assistance in accomplishing the required inspection and testing, they should contact Daikin Applied's Purchasing Department for guidance.

## **7.0 Drawing and Change Control**

The supplier must maintain the latest engineering drawings and specifications, authorized through Daikin Applied's purchasing department, and insure the necessary engineering documents are available at the time and place of the supplier's inspection and testing. The supplier must insure that obsolete information is removed from all points of use and either destroyed or identified to prevent misuse of the obsolete information. All changes must have Daikin Applied's written approval prior to being incorporated into production. Suppliers must protect Daikin Applied documents including drawings, specifications, reports etc. from access to third parties, especially current known or likely competitors.

## **8.0 Non-Conforming Material**

In the event a supplier is unable to provide parts within the limits of the blueprint or engineering specifications, they are required to notify Daikin Applied's purchasing department with a written request for deviation to ship non-conforming material. Defective material cannot be shipped without prior written authorization from the Daikin Applied Quality Assurance Manager, who must document this authorization on a formal deviation notice in accordance with Daikin Applied internal procedures.

## **9.0 Measuring and Test Equipment**

The supplier must provide and maintain adequate gages and other measuring and testing devices in the quantities necessary to assure that the supplier conforms to the requirements of blueprint and engineering specifications. The devices must be checked by the supplier at sufficient intervals to insure continued accuracy and updated to reflect any appropriate engineering changes. The supplier must prepare and maintain a written procedure for the maintenance and calibration of such equipment and maintain for review by Daikin Applied evidence of acceptable gage repeatability and reliability.

## 10.0 Control of Processes

Suppliers must have a quality system capable of controlling the quality of parts being processed which should include:

1. Inspection instructions for each operation performed which identify characteristics being controlled
2. Type of gage or equipment used to check parts
3. Frequency of inspection with quality authorization prior to movement to the next operation.
4. Documentation on Key Processes and Key Functional Characteristics.
5. Gage R & R studies performed at agreed upon intervals

## 11.0 Control of In-Process Material

The supplier must have sufficient provision in his system to be able to track material in any form, non-conforming or acceptable. The supplier must provide for sufficient identification so as to not confuse non-conforming material with acceptable material. This may include a segregation area for material for that is suspected of being defective or non-conforming. It is required that a tagging system be developed that would not only make it difficult for the mixing of non-conforming material with acceptable material but also be helpful in the maintenance of the integrity of the lot control code that may apply. The supplier must also maintain records, as discussed, in the on-going part acceptance section later in this specification. The supplier will also be required to maintain lot control by assuring that the Daikin Applied lot tickets are carried through each operation with the parts being processed.

## 12.0 Final Inspection

The supplier must have a quality assurance system that defines final inspection to be performed on all parts prior to shipment. The inspection instructions should include characteristics to be checked, method of check, and frequency of check. The final inspection instructions system must contain a tagging system prior to shipment. All containers should be identified with shipping labels that show part number, quantity, date inspected, lot/date code, and supplier identification. Where possible, the supplier will clearly identify which parts have been put through the final inspection process either by physically marking them or identifying them by serial number or another clear and acceptable means.

## 13.0 Certification

Certification giving complete chemical, physical, or special test requirement per blueprint drawings and specifications must be forwarded to the receiving plant's quality department as noted in the purchase order. The frequency will be as required in the purchase order.



## 14.0 Record Retention

For each Daikin Applied part number the supplier shall maintain a file consisting of the following items:

1. Purchase Order
2. Inspection Reports
3. Part drawing to the correct engineering change level
4. All specifications and documents referenced on the part drawing, purchase order and this manual
5. Any deviation requests authorized by McQuay

The Supplier must have a system to ensure that McQuay Document Control receives all revised drawings and specifications where the supplier has Design Authority.

## 15.0 Rework, Re-conditioning, and Salvage Procedure

Any rework, re-conditioning, or salvage being performed by the supplier that would leave the part in a condition different than that specified by the blueprint specification requires written approval by Daikin Applied's quality assurance department prior to implementation. The request must include a copy of the written instructions, which defines the overall process to be used to rework, re-conditioning, or salvage the material. There must be a clearly defined method of identification of the material to distinguish it from normal material, and an estimate of the quantity of parts affected. This information, along with a written request, should be sent to the purchasing department of Daikin Applied.

In no instance shall the supplier rework, re-condition, or salvage parts and ship them without written authorization from the purchasing department of the receiving plant. Any parts shipped prior to obtaining the written authorization will be rejected and returned to the supplier at their expense, and any costs incurred by Daikin Applied due to processing parts that have unauthorized salvage, re-conditioning, or rework performed will be the responsibility of the supplier.

## 16.0 Disposition of Defective Material

Upon discovery of defective parts mixed within groups of parts received by Daikin Applied, suppliers will be notified and given the option of:

1. Providing replacement parts as needed to maintain our current production schedules.
2. Send their people into our plant to sort out and remedy defective material within our schedule to maintain a flow of material to our customers that will meet their needs.

3. Daikin Applied may sort material in-house with our people at a cost determined by Daikin. Suppliers will be given a reasonable opportunity to review the discrepancies prior to final disposition. All discrepant material found within the receiving plants shall be held for supplier review and disposition on a weekly basis. Each supplier will be given an opportunity to make disposition of the subject material by either scrapping or having it returned to their facility. In the event authorization is not received within seven days, the material will be returned for full credit or replacement plus possible handling charges.

If a rejection occurs the supplier may be put on probation for a period of at least the next three shipments. Special sampling plans may be developed to verify corrective action has been completed and is effective.

## **17.0 On Going Part Acceptance**

The method used by the supplier for ongoing part inspection will be established by the supplier based on the nature and inherent variability of the process and subject to the approval of Daikin Applied quality assurance department. If at any time a process is found to be incapable of meeting the blueprint requirements, a 100% inspection must be instituted until such time that these requirements can be met. On dimensions designated with a critical logo, as in the automotive industry, the supplier must show five sigma capability and maintain SPC records on their processes. The supplier may use any method of Statistical Process Control generally accepted within his industry at the discretion of the Daikin Applied quality department.

Additional requirements for safety parts may be supplied by the Daikin Applied quality department or engineering department, through the purchasing department, and may encompass requirements such as lot control, process capability, engineering tests, destructive or non-destructive testing requirements, visitations by both Daikin Applied and its customers. Full approval of safety components or suppliers will be withheld until all testing, inspection, and evaluations are done by both Daikin Applied and its customers, and have completed one production run after sample approval. This requirement for safety parts should be considered in addition to all other requirements specified within this manual.

## **18.0 Continuous Improvement**

Daikin Applied wishes to develop and use suppliers who demonstrate commitment to never ending improvement. To help in this mandate all suppliers will be required to submit SPC data in the form of Cpk tracking reports on chosen or agreed upon characteristics. This is necessary for Daikin Applied to eventually eliminate the need for receiving inspection and encourage suppliers to eventually become self certified.

## 19.0 The Supplier Selection Process

In selecting new suppliers, the four key areas of the new supplier's processes, listed below, will be evaluated.

1. Quality/Reliability
2. Cost/Productivity/Value
3. Delivery/Cycle Time
4. Engineering

Each supplier or prospective supplier will be reviewed by their performance on delivery, quality, technology leadership, and total cost. Where no history is available a review of the submitted Self Assessment and Supplier Quality On-Site Assessment will be used to assist in the selection process.

Supplier audits and contacts will be directed by the selection team in order to maintain a multidisciplinary and balanced approach to supplier relations.

## 20.0 Supplier Performance Measurement

Select suppliers will be measured and scored in predetermined areas of quality, delivery, collaboration, etc.. For more details on this ongoing performance measurement, please contact the facility to which you will be a supplier.

In the area of quality measurement, a system of measuring Parts Per Million defects recording will be used. While an expected goal for all suppliers should be zero defects, a minimum PPM of 500 will be used as the measurement goal. All suppliers should be prepared to present upon request an improvement plan that will result in their PPM levels being at 500 or below.

## 21.0 Supplier Change Notifications (SCN)

All requests for changes shall be submitted to Daikin Applied Supplier Quality, with a minimum 6 months notice prior to implementation. Such changes may include, but are not limited to changes to general designs, drawings, specs, material, assembly component, equipment/manufacturing locations, tool, or to any production method or process, change in source of supply or manufacturing, assembly or delivery process.

Suppliers should submit the request via Daikin Applied's Supplier Change Notification form, or if a supplier has their own customer change notification format, that is acceptable as well. Based on the information supplied, Daikin Applied will decide if more information is needed, and if a PPAP is required prior to approval. For changes that do not require validation via PPAP, the supplier will be notified of approval via the Supplier Change Notification form. For changes that require PPAP, a signed PPAP will be used as authorization along with the Supplier Change Notification form.

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Failure to comply with these requirements exposes both companies to financial risk and litigation. Suppliers that make unauthorized changes will be responsible for the accumulating expenses associated with the unauthorized change. Additional ramifications may include removal from our system as an approved Supplier.

## 22.0 Environmental Responsibility

Daikin expects from all of its suppliers social responsibility in regards to the environment. This means that as a minimum each supplier will be in compliance with all local and federal laws in regards to the proper handling, treatment, and disposal of those items that are identified as a risk to the environmental. When Daikin Applied makes a request, the suppliers shall provide the necessary information regarding the environment. In case the provided information requires secrecy, please inform Daikin of it beforehand so that Daikin can properly handle the information.

It is also desirable for the supplier to have a systematic approach to environmental controls, such as demonstrated compliance to an environmental standard such as ISO-14000.

## 23.0 Packaging Guidelines

Daikin Applied receives a wide array of products from suppliers, both domestically and internationally. Our production facilities and warehouses are configured according to the products produced at a particular location. The following guidelines are intended to cover all of the Daikin Applied facilities. However, due to the size of the materials provided by some suppliers, exceptions to the guidelines may be made at the discretion of each facility.

- Limit of 50 pounds per carton/package
- Packaging must meet National Motor Freight Classification (NMFC) specifications
- Boxes/packages must be bar coded, according to McQuay specifications
- Items should be properly labeled with the part number, description, quantity and weight
- Recyclable packaging materials – no foam peanuts or other non-recyclable materials
- Plastic banding preferred over metal banding for safety purposes
- Standard pallet sizes – no pallet over 40" x 48" unless required to properly palletize large items
- Gross weight should not exceed 1,000 pounds per pallet
- U.S. manufactured products must include a Manufacturer's Affidavit for each item. This can be done once per year and all items can be included on a single Affidavit

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if shipped from the same origin location. (Copy of a Manufacturer's Affidavit on next page). Submit the Affidavit to:

Logistics Manager  
Daikin  
13600 Industrial Park Blvd.  
Minneapolis, MN 55441

- International shipments – all wood packaging must meet International Plant Protection Convention (IPPC) standards
- The documents for international shipments must include the Country of Origin (COO) of each item (the country of manufacture, not the country where the shipment originated), and the Harmonized Tariff Schedule (HTS) Classification for each item.

Domestic shipments should be made via a Daikin Applied contracted motor carrier. Contact Reo Distribution for guidance: 1-800-285-4997

International shipments should be made via Mohawk Global Logistics or a Mohawk partner agency. Contact Mohawk for guidance: Mohawk – 1-315-552-5440

Daikin contact: Logistics Manager – 763-553-5330

## 24.0 Purchased Material Label Specification


### 24.1 Bar Codes Checklist

Bar Code samples show below with additional specifications following:

- Human readable for Item Number to be 16 font, all others 12 font.
- All Human Readable fonts shall be clear and well defined.
- Bar code symbol average width of the narrow elements shall be no less than .013" (13 Mil) and no more than .020" (20 Mil). 20 Mil is preferred
- Barcode height shall be no less than .25" tall. .4" is preferred
- Ratio of nominal width of wide elements to the nominal width of narrow shall be no less than 2.5:1 and no more than 3:1. 3:1 is preferred
- Both code 39 or 128 symbology are acceptable. Code 128 is preferred
- Label dimension can vary some if supplier has a slightly different standard, more than 25% variation must be approved in advance.
- Adequate spacing between codes is important
- All barcodes must have adequate 'quiet space' before and after the barcode, .25" minimum is required where no other printing is allowed
- Either code 39 or 128 symbology are acceptable
- All boxes must have the box label with quantity in box
  - Daikin Applied Item Number (typically nine numeric digits but may be up to 26 and be alphanumeric; as identified on PO). Should be larger font as noted above
  - Daikin Applied PO (six digits)
  - If applicable, McQuay PO release number
  - Supplier lot ID or serial number or date code
  - Supplier part number optional
  - May include ship to (Daikin Applied site) and ship from (Supplier) sections (note that this should be the inverse of the sample)
  - Provide copies of all either printed on or adhered to Packing List if so directed by Buyer in each location
  - If a box or pallet is mixed load- it clearly needs to be identified.
- All individual parts (not boxes) must be labeled with the small label, to include Daikin Applied item number and lot identifier at a minimum (this is to facilitate traceability, and can be individual serial number, your lot ID, or production date code). Deviations to lot ID will be considered.
  - Size is flexible but must fit on part.
- Bar codes must be of acceptable print quality, meet ANSI Standard X3.182, Grade B or better
- Please submit proof for verification, electronic OK but compress file size.
- Any deviations must be approved in writing

<p>☀ Item Number</p> <p>☀  123456789</p>	<p>☀ Ship to:</p> <p>The Boeing Company 1234 Tenth Street Bismark, ND 99220 Attn: Receiving</p>
<p>☀ PO Number</p> <p>☀  012345</p>	
<p>☀ PO Release number</p> <p> 1234</p>	<p>☀ From:</p> <p>McQuay International 22339 Brown Road Helena, MT 22993</p>
<p>☀ Quantity</p> <p>☀  01234</p>	
<p>☀ Supplier Item Number</p> <p>☀  0123456789</p>	<p>☀ Optional Supplier Number</p> <p>☀  0123456789</p>

Part Number

  
987654321

20 mil code 128

NOTE: This label should also include a lot identifier as noted in specification (for traceability in case of quality recalls etc.... Could be date code, serial number, lot ID, etc....

## 25.0 Revision History

Revision Date	Rev	Change Description
12/14/2017	4	Added section 24.0 for rev history. Clarified sections 1.0 and 2.0 to show that these processes apply to suppliers of production material only.
03/10/2020	5	Section 21 modified for Supplier Change Notifications. Pagination changed
04/16/2020	6	Administrative change to add a requirement for minimum 6 month notice prior to implementation of Supplier Change Notifications.