



**MPC Supplier Requirements Manual**

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**Revision C**

MINIATURE PRECISION COMPONENTS, INC.

150 Wisconsin Street • PO Box 1901 • Walworth WI • 53184

Ph 262/ 275-5791 • Fax 262/ 275-0186

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## **1.0 CONTROL RESPONSIBILITY**

Miniature Precision Components (MPC) Supplier Quality Department, hereafter referred to as Supplier Quality (SQ), has the responsibility to maintain this manual.

**The manual is available online at [www.mpc-inc.com](http://www.mpc-inc.com) and will be updated from time to time by MPC. In addition to this, an email will be sent out to all suppliers when revisions are made. It will be sent return receipt to insure all suppliers have received the updates. The return receipt will signify you are: 1) in receipt of the manual; 2) responsibility for destroying previous issues; 3) you agree to follow requirements; and 4) in the event you don't agree with our requirements we need a letter of disagreement sent to the Supplier Quality.**

In the event that a conflict arises between the requirements detailed in this document and any other MPC/APS document, the supplier should immediately notify Supplier Quality, who will assume the responsibility to resolve these issues.

## **1.2 PROPRIETARY INFORMATION SHARING**

This manual, all specifications, technical data, and engineering drawings/CAD files are considered confidential. Suppliers are required to treat all information provided by MPC with strict business confidence. Disclosure to third parties, in any form, without written authorization from MPC is prohibited; with the exception of third party registrar access during a QMS registration audit.

## **1.3 PURPOSE**

The purpose of this document is to communicate obligations owed by suppliers to MPC. These obligations may be specifically defined here or in the form of a named reference that provides further detail.

All communication will be in English (American) whether verbally or written. Methods of communication used are telephone, email or EDI (Electronic Data Interchange).

### **1.3.1 Scope**

This manual applies to suppliers of production components and materials (**herein also referred to as product**) that are used in the production and packaging process at MPC.

MPC's goal is to build long term business relationships with suppliers who demonstrate ability and commitment in meeting MPC requirements, IATF16949-2016/ISO9001-2015 Quality System Requirements, deliver on-time and are competitively priced.

No portion of this manual is intended to imply that MPC will accept anything other than **100% defect free product**.

## **1.4 QUALITY SYSTEMS REQUIREMENTS & EVALUATION**

### **1.4.1 QMS Standards**

Suppliers are required to implement a quality system that meets the requirements of IATF16949-2016 and/or ISO9001-2015 (minus servicing element and customer specific requirements.)

To obtain the Quality Systems Requirements and other related manuals see Section 1.17 of this manual.

Suppliers that are not certified to IATF16949: 2016 must comply with **Minimum Automotive Quality Management System Requirements (MAQMSR)** for Sub-Tier Suppliers. These requirements can be found on the IATF webpage at <http://www.iatfglobaloversight.org/oem-requirements/customer-specific-requirements/>.

#### **1.4.2 Quality System Evaluation**

Accreditation to IATF 16949 as evidenced by certification through a third-party IATF-recognized certification body is preferred. If not certified to IATF 16949, certification to ISO 9001 through a third-party certification body is desired. If the supplier is not certified to either ISO 9001 or IATF 16949, then compliance to ISO 9001 must be shown through an MPC (2<sup>nd</sup> party) audit. Note that the ultimate objective for all suppliers should be to achieve certification to IATF 16949.

Note: MPC reserves the right to perform quality systems audits of any supplier.

#### **1.4.3 MPC Specific Requirements**

All suppliers submitting quotes are required to use the MPC online quote system or MPC's "Request for Quote Form" (Form # PR009, Page 1) and provide a signed feasibility (Form # PR009, Page 2). If the quote feasibility is not available, purchase order issuance will require purchasing management authorization.

All suppliers shall have a system to review MPC Purchase Orders, Releases, and Quotes that, at a minimum, is capable of:

1. Reviewing of all contracts, purchase orders, prints, and releases to ensure complete understanding of all quality and delivery requirements.

2. Notifying MPC purchasing within 48 hours of receipt of any purchase order or release if there is any problems with the purchase order or release or if any of the quality or delivery requirements cannot be met.

## **1.5. ADVANCED PRODUCT QUALITY PLANNING**

Suppliers will participate in the MPC Advanced Product Quality Planning (APQP) team process.

### **1.5.1 Preliminary Conference**

In order to better communicate needs and concerns, MPC may require a preliminary conference at an MPC site. At MPC's option, these conferences may also be held at the supplier location or via conference call. MPC Supplier Quality or Purchasing may arrange for such preliminary conferences.

These conferences normally include a representative from MPC Purchasing, Product Engineering, and Quality Assurance.

Typical conference topics can include, but are not limited to:

- Identification of significant product / process characteristic(s)
- Design / tooling issues
- Preliminary control plan
- Packaging / labeling requirements
- Gaging issues
- Enhancements to product



### **1.5.2 Process Failure Mode and Effect Analysis (PFMEA)**

A complete and detailed PFMEA must be created and maintained by supplier for all product. Copies are to be available upon request. The PFMEA is to be revised any time a process changes or when a new failure mode has been discovered.

All Significant Characteristics (SC) must be included on the PFMEA.

### **1.5.3 Control Plan**

A control plan is mandatory for all products supplied and shall be submitted to MPC Quality Assurance with the PPAP package. A control plan review prior to PPAP may be required by MPC Supplier Quality. The AIAG Control Plan format is required.

All Significant Characteristics (SC) must be included on the control plan.

### **1.5.4 Pass Through Characteristic Management**

Pass through characteristics (PTCs) of a product are those characteristics with potential fit or function issues that will not get detected within the assembly process at MPC or at our customer's plant.

Proper fit assures that mating parts will assemble properly when required.

Proper function assures that the product is 100% functional over its entire operating range.

Any component with fit or function issues that are not tested, measured or verified as PTCs must follow the following process:

-The supplier shall list all potential fit or function issues for the component.

-Assess whether each issue WILL BE, MAY BE or WILL NOT BE detected for fit or function at MPC or our customer's plant.

-Any MAY or WILL NOT BE detected issues will be PTCs.

-The Process FMEA and Control Plans must identify and adequately address the PTCs.

### **1.5.5 Capacity Analysis**

The capacity analysis will verify that the results of the supplier's actual manufacturing process meet the requirements for on-going quality, quoted tooling, and production equipment capacity.

The capacity analysis process includes the following phases:

1. Capacity Planning - Is to be completed at time of quote. The expectation is to have at planning phase OEE (surrogate) > OEE (Required) based on average and max annual/weekly demand.
2. Capacity Evaluation (Phase 0) - This evaluation is being performed during the first trial runs at supplier's process. The expectation is the supplier to have demonstrated  $OEE \geq OEE$  (Required) based on average and max annual/weekly demand.
3. Capacity Verification (Phase 3) – This is to be done at the time of PPAP submission.

MPC requires capacity verification as part of the supplier's PPAP submission. At a minimum, this will be through completion of the required capacity analysis form. MPC also reserves the right to do an on-site capacity verification through participation in a phase 3 run.

During capacity verification phase, production tools must be in place and process shall run at full speed, utilizing regular production conditions, direct and indirect personnel and support systems. The capacity verification form with all the information has to be available to MPC's SQE (Supplier Quality Engineer) one week before the run is carried out.

MPC requires that average volume be met with a standard operating pattern as follows.

8 hour / shifts

3 shifts / day

5 days / week

48 weeks / year

Supplier will be also be required to meet a max annual volume per quote. The sixth day of the week is used to meet the max volume.

Alternate operating pattern maybe considered if capacity verification is acceptable, and MPC Supplier Quality provides approval.

## **1.6 PRODUCTION PART APPROVAL PROCESS (PPAP)**

Unless otherwise approved or dictated by MPC SQE (Supplier Quality Engineer), sample submission must be in accordance with the PPAP level III and any additional requirements defined in this section. Initial and annual PPAP must be provided by raw material suppliers per AIAG PPAP Manual.

- 1) Supplier will submit NAFTA Certificate of Origin (COO) form with PPAP package, and is also responsible for providing MPC with an updated COO on an annual basis. Supplier will submit the annually updated COO to MPC on January 1<sup>st</sup> of each year.

- 2) Supplier will also submit to MPC a Conflict Minerals Conflict-Free Sourcing Initiative (CFSI) Conflict Minerals Reporting Template (CMRT) with the PPAP package, and update the report annually with each updated report due on June 1<sup>st</sup> of each year.

**Note: IMDS reports are required and must be completed prior to any new PPAP submission. PPAP submissions will be rejected if the reports are not completed.**

**\*\*There are a small number of MPC customers who do not require IMDS. In these cases an IMDS report will not be required.**

### **1.6.1 Preparation of PPAP Samples**

Requirements for PPAP samples are:

1. Samples must be manufactured by the production site seeking approval
2. Each sample containing a minimum of three hundred (300) process cycles.
3. In the case of multiple cavities, representation from each cavity will be required.
4. Each submitted sample sequentially serialized to include section/cavity number, if applicable.
5. All necessary inspection performed to determine conformance with drawings, specifications, requirements / notes documented on MPC blueprint.
6. Certifications used to indicate acceptance contain actual test results that show that the product meet all requirements including chemical, physical, and metallurgical requirements.
7. Tooling pictures of Customer owned tooling. All customer owned tooling must be tagged and photographed per requirements included in the PPAP request package from Purchasing. This must be completed prior to receiving PPAP approval and payment for tooling.

8. Testing performed is acceptable providing:

A. If the test report is from a third party lab, the lab must be accredited to ISO/IEC 17025 or

B. If the test report is from an internal lab, the laboratory scope of accreditation is included in the supplier's QMS (Quality Management System) registration.

\*Note-in all cases the test methods performed must fall under the laboratory's scope of accreditation.

Any required testing or inspection that cannot, or is not, performed by the supplier that is procured from a qualified source must include test reports dated and signed by the laboratory responsible for the testing.

If previously agreed upon, special testing or inspection may be performed by MPC. MPC's lab is capable of conducting testing as an A2LA ISO 17025 accredited lab. Included in its scope are environmental cycling, (including thermal, humidity, and "altitude") leak/flow testing, compression/tension testing, vibration cycling, torque testing, and pressure/vacuum cycling.

This scope of testing is available as a service to MPC suppliers, as well as MPC customers for a nominal fee. The standard procedure for sourcing a testing project to MPC's lab involves an initial quotation which includes a cost and lead time. All testing specifications must be reviewed by the lab during this quotation process for feasibility. The cost quoted includes man hours, equipment hours, and a written laboratory report documenting the test results.

## 1.6.2 Sample Submission

For each part number supplied to MPC the following information must be provided along with the AIAG PPAP as applicable.

### **NOTE: MPC REQUIRES 2 MASTER PARTS TO ACCOMPANY PPAP**

If discrepancies have been noted during preparation of the sample, contact Supplier Quality for further instructions.

PPAP submission and samples are to be:

- 1.) Identified with Yellow PPAP Sample Label.
- 2.) Delivered to address specified on MPC PPAP Packet
- 3.) Directed to “ATTENTION SUPPLIER QUALITY DEPARTMENT.”

If advised in advance by Supplier Quality, sample submission verification may take place at the supplier’s facility (PPAP level V). Required measurement devices, technical personnel and certifications must be available for proper submission package disposition.

Full PPAP approval is contingent on receipt and acceptance of tool/tag pictures and final tool invoice will not be paid until PPAP is approved by MPC’s Supplier Quality Engineer or Designee.

**Note: MPC does not pay for incoming freight on PPAP packages from the supplier; we only pay the freight for production product that is agreed by MPC to be delivered FCA/FOB supplier’s location.**

### **1.6.3 Annual Revalidation**

Production components supplied to MPC are required to be revalidated annually after the initial submission date. In some cases certain commodities, identified by MPC, may be exempt from PPAP and annual revalidation. Please contact Supplier Quality if you have any questions. Suppliers have the responsibility for ensuring annual revalidations and PPAP submissions are completed in a timely manner.

PPAP tardiness could affect supplier ratings as well as have potential financial repercussions.

The revalidation process will be fundamentally identical to the initial submission with the following exceptions:

- Actual samples are not to be submitted.
- At a minimum, PPAP revalidation will include AIAG warrant, dimensional, material certification, Control Plan, Process Flow, PFMEA, and capability analysis as required.
- Layout samples must be retained at the supplier's facility for one year or until next submission.
- In the reason for submission field, check "Other" and specify "Annual Revalidation" on the PSW (Part Submission Warrant).

### **1.6.4 Product and Process Changes**

Product and process changes must be **preapproved prior to implementing the change**. Supplier must complete MPC Supplier Change Request (SCR) form-QA281 and submit to MPC Supplier Quality. MPC Supplier Quality may request an action plan (detailed time line, inventory bank plan, special identification, etc.) to assure the supply is protected. An approved SCR must be received by the supplier prior to initiating the change.

All approved changes will require a new Level III PPAP Submission unless modified or waived by MPC Supplier Quality.

Change(s) include, but is not limited to, change to:

- Process
- Design
- Drawing
- Tooling
- Dimensional
- Sub Supplier
- Material

## **1.7 GAGES**

Unless otherwise stated, Supplier gage control systems shall meet or exceed the requirements of the AIAG MEASUREMENT SYSTEM ANALYSIS (MSA) MANUAL and the Technical Specification IATF16949-2016 or ISO9001-2015.

Reference IATF/ISO Standard

Reference MPC Supplier Standard for Gage R & R (Repeatability and Reproducibility) 1.6.2

### **1.7.1 Gage Control**

Provisions for gages and testing devices (including tooling such as jigs, fixtures, templates, and patterns used as a media for quality control) are the responsibility of the supplier, unless otherwise negotiated.



### **1.7.2 Gage Repeatability & Reproducibility (R&R)**

Gage R & R shall be performed on all gages or test devices used to measure product conformance as deemed necessary by MPC Supplier Quality.

If total Gage R&R % is less than 10%, gage method is acceptable for measuring product and producing capability data.

If a gage or test device displays more than 10%, but less than 30% total R&R, the method must be approved by MPC prior to PPAP approval.

A gage or test device with more than 30% total R&R is deemed unacceptable and cannot be used to reliably measure product.

For requirements not listed above see appropriate AIAG Manual, found in references.

## **1.8 STATISTICAL PROCESS CONTROL**

Unless otherwise stated, suppliers Statistical Process Control Systems must meet the requirements of the AIAG Statistical Process Control Manual (SPC) and the Standards IATF16949-2016 or ISO9001-2015.

### **1.8.1 Preliminary Process Capability**

Process potential studies (Pp/Ppk) are required on all dimensions identified as significant characteristics (SCs), as shown on MPC drawings, and/or as determined by preliminary conferences, and/or those specifications that the supplier has identified as SCs.

The minimum capability analysis requirement at PPAP is:

$$SC = Pp/Ppk \geq 1.67$$

The minimum requirement for ongoing control is:

$$SC = Cp/Cpk \geq 1.33$$

Sample size for Pp/Ppk is a minimum of 125 random pieces representative of all cavities.

Customer specific requirements may require larger sample sizes.

Processes for SCs not meeting this capability require 100% inspection.

A quarterly report may be required to demonstrate on-going performance levels for SCs. These reports shall be made available upon request.

If process capability falls below any minimum requirements, a detailed action plan is to be submitted to MPC SQE (Supplier Quality Engineer). The action plan shall include short term corrective action, in addition to plans to achieve the requirement.

For requirements not listed above see appropriate AIAG Manual, found in References.

## **1.9 PRODUCT QUALITY CRITERIA**

### **1.9.1 Pre- Purchase Order Quality Acceptance**

Upon request the potential supplier shall provide examples of capability studies and PPAP submissions of similar products prior to receiving a purchase order.

### **1.9.2 Acceptance Criteria**

Acceptance criteria for all defined quality requirements is **zero defects**. Any nonconformance found will result in a rejection. If it becomes known that non-conforming product may have been inadvertently shipped, Supplier Quality must be notified **immediately**.

**The supplier is responsible for all additional expense incurred due to shipment of non-conforming product.**

### **1.9.3 Inspection / Testing of Lots**

Prior to shipment, the supplier is responsible for performance of all required inspection and testing of lots (lot defined in 1.10.1 below), to substantiate product conformance to drawing, specification and contract requirements.

Inspection & test records for all significant tests shall be provided upon request.

Certificate of Conformance (C of C) or Certificate of Analysis (C of A) must be provided upon request.

Certificate of Analysis of Raw Materials must be emailed 24 hours prior to receipt of material or the material may be rejected. In all cases the supplier will be responsible for any incurred shipping costs prior to certificate submittal.

## **1.10 CORRECTIVE ACTION**

When MPC notifies the supplier of non-conforming or defective product, immediate action must be taken. Certified stock must be shipped to cover current requirements or the supplier must certify product currently at MPC through a third party approved by MPC, at the suppliers' expense. Supplier will provide a purchase order to the third party with the documented sort instructions.

All costs incurred due to quality issues (e.g. plant and/or machine down time at MPC and/or at MPC's customer, and/or sort charges, and/or excess freight incurred by MPC and/or MPC's customer) are the responsibility of the supplier. The chargeback will generate a debit which will be issued to the supplier.

Prompt and positive action must be taken to isolate and correct any condition which could result in the manufacture or shipment of product that is non-conforming. Additional inspection for the non-conforming characteristics must be implemented pending corrective action and must remain in effect until adequate capability is re-established.

Supplier must submit an initial written report to MPC within 24 hours of supplier first discovering the non-conformity or defect or after receiving notice from MPC of the non-conformity or defect, whichever occurs first. The initial report must contain the following:

- A. Identification/acknowledgment of the problem.
  
- B. Identification of the supplier contact who will handle the problem and team members.

C. Containment actions taken by supplier to prevent any further non-conforming product from reaching MPC (containment to include product at MPC and in transit product).

D. Supplier Location: This section addresses the inventory of affected products at the supplier's location.

E. In-transit: Report any products that were in transit to MPC at the time of notification or discovery.

F. In-process: This section addresses effected products that are being manufactured at the time of notification.

Within ten (10) business after supplier submits its initial report, supplier must submit to MPC a complete CAR (8D format). If a complete 8D cannot be submitted within the ten day time frame, then, within this ten day time frame, a detailed action plan is required with assigned responsibility and due dates for each action item with the exception of the following: (Ford Body and Assembly & Nissan) - these detailed action plans will be required within three (3) business days of supplier submitting its initial report. Additional responses and follow up by supplier may also be required.

As requested, the supplier will be expected to attend meetings on corrective actions at an MPC designated site when necessary.

Corrective actions should follow the 8D problem solving methodology.

Training in the 8D problem solving process is available from MPC. Contact your MPC supplier quality department for more information.

## **1.11 COMMUNICATION AND COMMERCIAL**

It is our belief that one of the important keys for a successful supplier-customer relationship is effective communication. This manual is to provide our suppliers and potential suppliers information of MPC standards and expectations for a successful supplier-customer relationship.

Supplier **communications** regarding commercial issues must go through MPC Purchasing. The supplier's purchasing contact must be copied on all documentation.

### **1.11.1 RFQ (Request for Quote)**

The bidder must understand that the agreed to price will be utilized for the purpose of production and service products. Any awarded business will be at the agreed to price for the life of the product including service. All program pricing is firm for production plus 15 years of service products.

Failure to complete, and return the feasibility form will constitute noncompliance with the RFQ.

Any product that has GD&T specified on the print requires a quote for gages.

### **1.11.2 Supplier Selection**

MPC uses a multi-discipline approach in selecting supplier(s).

The disciplines involved in making decisions are, Purchasing, Engineering, Quality, Manufacturing, and Logistics.

Existing Suppliers: Current suppliers will remain on the bid list if they meet the requirements in all of the following areas:

- Quality
- Costing and Competitive Price
- Delivery/Service
- Customer Impact – meeting continue service, delivery and quality requirements to avoid any customer disruptions.
- PPAP Performance (accuracy and punctuality of new and revalidated submissions)
- 3<sup>rd</sup> party certification, preferably to IATF 16949, or ISO 9001 as a minimum

New Supplier(s) Selection: One or more methods will be used to assess the supplier's capability. The assessment and final selection will be determined by the approval team consisting of: Purchasing, Quality, and Engineering, who will utilize and assess the following:

- Quality System Assessments
- Performance in the six key areas indicated above

### **1.11.3 Costing**

Supplier Cost Performance will be based on:

- Competitiveness; Material, Labor, Packaging, Tooling and Timing (Delivery)
- Payment terms and conditions
- Cost Reduction Programs
- Joint Continuous Improvement participation (Value Analysis/Value Engineering).
- Strength of supplier rebate programs

#### **1.11.4 Delivery**

Supplier Delivery Performance will be based on:

- Compliance to MPC's releases.
- Packaging and labeling per vendor portal/EDI requirements to support manufacturing operations.
- Number of expedited shipments.

**MPC requires 100% on-time delivery.**

The on-time window is defined as + 2 days prior to, and 0 days after, the scheduled receipt date.

All cost incurred due to late delivery (e.g., MPC's or MPC's customer's plant and/or line or machine down time, and /or excess freight incurred by MPC or MPC's customer) is the responsibility of the supplier. Delivery performance is tracked and corrective action may be issued for less than 100% delivery performance.

MPC reserves the right to refuse or return, without prior authorization, product which exceeds the total release quantity for the current week. Exceptions to this rule are agreed upon (i) standard package quantities, or (ii) minimum release quantities or (iii) if supplier otherwise receives written approval from MPC Purchasing. Except as agreed to by MPC, all other over shipments may generate a debit to the supplier per product number along with a Corrective Action.



\*Suppliers will fill MPC's weekly release schedules and have an action plan in place to handle any increases that may occur. MPC requires each supplier to maintain a two week firm fabrication build requirements per MPC releases on their shelves in case of increase to release schedules. If the supplier has a long lead-time, a plan must be developed with MPC Purchasing to insure supply continuity.

MPC Purchasing must be immediately notified if you discover any deviation to MPC requirements.

### **Inbound Routing Guide**

This guide (printed on the release) lists the criteria to be followed when making collect shipments to MPC. Deviations from this routing guide can result in excess freight charge backs to your company.

Your company will receive a MPC supplier route guide which lists the approved carriers that must be used when shipping collect to a MPC facility.

- ✓ **Your company will be assigned a specific day of the week as your ship day.** This ship day must be adhered to when shipping to MPC. Multiple shipments made in the same week without MPC authorization will result in excess freight debits to your company.
- ✓ **Multiple orders shipping the same day, to the same location, must be shipped on one bill of lading.** Multiple orders shipped the same day on multiple bills of lading will result in a debit to your company for excess freight costs.
- ✓ **The correct NMFC (National Motor Freight Classification) item number must be listed on the bill of lading for less than truckload shipments.** Items rated a higher class due to incorrect NMFC item numbers will result in a debit to your company for excess freight costs.

- ✓ **Expedited shipments and shipments in violation of the standard delivery schedule must be authorized prior to shipment and the MPC PTA (Premium Transportation Authorization) number MUST be referenced on the bill of lading or way bill and other pertinent paperwork.** Any expedited or non standard shipment that is not covered by a valid MPC PTA will result in a debit to your company for the **FULL** freight costs incurred by MPC.

Unless otherwise specified, MPC will be responsible for freight for all standard shipments to any MPC location.

Prepaid & add freight charges will not be permitted or paid by MPC without written advance authorization by MPC. COD freight charges are not accepted.

When expediting a shipment, use of premium transportation must be approved by the Fleet/Logistics Supervisor at MPC prior to the shipment. You should receive a PTA for approved shipments.

The supplier is responsible for proper freight description, classification and freight class to be listed on their BOL.

This routing guide pertains to shipments within the United States, Canada and Mexico only.

MPC further reserves the right to debit the supplier for all additional freight charges and administration charges incurred resulting from the supplier failing to comply with the routing guidelines.

## **Mode Types**

### **Parcel Shipments – Weight Range 1-150lbs**

1. For suppliers shipping with a total shipment weight of 1-150lbs., please ship via UPS Ground. If the product can be palletized see LTL instructions below.

### **LTL (Less than Truckload) – Weight Range 151-4999lbs, and less than 14**

#### **lineal feet:**

1. If you have directions from MPC to contact a specific shipper/3PL (CH Robinson, R&L Carriers etc.), please follow those directions.
2. Wisconsin/Illinois Suppliers shipping to Janesville Distribution Center, please contact A&B Freight Line, Inc., at 1-800-231-2235, 815-874-4700 or email at [dispatch@aandbfreight.com](mailto:dispatch@aandbfreight.com).
3. *For all other states* shipping to Janesville, Morrison, or Nogales Distribution Centers, please contact CH Robinson at 810-341-7088, Katie Souders or email [Katie.Souders@chrobinson.com](mailto:Katie.Souders@chrobinson.com). Her team email is: [mpc@chrobinson.com](mailto:mpc@chrobinson.com).

### **Full Truckload (TL) – Weight Range 5000lbs to 43,500lbs, Exceeds 14 lineal feet of the trailer, class 200 or higher:**

1. If you have directions from MPC to contact a specific shipper/3PL, CH Robinson or PGL Logistics, please follow those directions.
2. Contact Tom Lewandowski at MPC for any shipment exceeding 4999 lbs. if normal mode is NOT already Truckload (TL) at 262-275-5791 ext. 5012 or email [tlewandowski@mpc-inc.com](mailto:tlewandowski@mpc-inc.com), for freight routing.

These instructions are applicable to the following MPC locations:

- Walworth, WI
- Prairie Du Chien, WI
- Richland Center, WI
- Nogales, AZ
- Morrison, TN
- Janesville, WI

Also reference your release for shipping instructions.

### **1.11.5 Contingency Planning**

#### **Allocation of Resources:**

Supplier has to ensure that resources are allocated in such a way as to ensure a supply of products to MPC.

Supplier is obliged to permanently keep, without additional compensation, an appropriate stock on hand exceeding the quantity currently to be delivered. This stock has to be ensured at any time including periods of maintenance.

Supplier has to inform MPC about any planned maintenance periods six (6) months in advance.

#### **Relocation of Production Site:**

In order to prevent bottlenecks, supplier is required to give MPC at least twelve (12) months advance notice of any production relocation plans and to notify MPC of the actions proposed to ensure supplies during relocation.

#### **Emergency Plans:**

Supplier is required to draw up and distribute within its organization an emergency plan for the eventuality of disturbances affecting its logistics and/or production processes and the continuous supply of products to MPC.

Disturbances may include for example:

- Relocation of tools and machinery
- Damage or delays in shipment
- Customs issues
- Non-conformities
- Tool/equipment/machinery breakage
- Facilities/utilities failures
- Disturbances in supplies from sub suppliers
- Computer/network (IT) problems
- Other events (strikes, accidents, flooding, hurricanes, fire, earth quake, social unrest, etc.)

Supplier is required to develop, define and implement emergency procedures to ensure smooth supplies to MPC even in the event of such disturbances. Upon request of MPC, supplier will present the emergency procedures to MPC.

In the event of any of the disturbances listed above, supplier must promptly notify MPC in order to ensure timely, effective liaison and adequate supplies to MPC.

Supplier is requested to designate contact persons who shall be available at all times (i.e. also weekends and outside normal business hours) to deal with emergencies such as quality problems with the products supplied causing imminent production hold-ups at MPC. Supplier must notify MPC of the names of these contacts.

#### **1.11.6 Material Traceability System**

The supplier must ensure the product will meet both the procedural and material requirements on an ongoing basis including:

- Making production lots traceable
- Date produced
- Packaging must protect product from damage during transportation and storage; plus clearly identified. (Reference 1.10.2)
- Product part number

### **1.11.7 EDI (Electronic Data Interchange)**

All MPC suppliers are required to use EDI (830 and 856) or Vendor Portal (Planning releases will still be sent by email) to receive their releases unless otherwise approved by your buyer.

### **1.11.8 Supplier Rating Criteria**

The Supplier Rating process presents the criteria that will be used by MPC to rate the performance of our production suppliers and make new and ongoing sourcing decisions.

#### **Purpose**

The purpose of the rating process is to enable MPC to:

- Recognize Top Class Performance
- Identify opportunities for Continuous Improvement
- Promote Improved Communications
- Measure Supplier Performance to assist in Ongoing Sourcing Decisions

#### **Supplier Classifications**

To participate a supplier must comply with MPC's expectations. Performance to these expectations will result in the following classifications.

##### **Preferred Supplier**

All MPC suppliers should make every effort to become a preferred source. Being a preferred source means that your company will be considered before other suppliers for New Product Development and new business.

### Good Standing Supplier

Good Standing Suppliers - A Good Standing Supplier status means that your company adequately meets our requirements, but improvements are needed.

### New Business Hold Supplier

Corrective actions will be opened for conditionally approved suppliers and further review will be completed by MPC Supplier Quality to determine if a subcontractor audit is needed. An Action Plan is required from the Supplier outlining steps to be taken for improvement. Without improvement, conditionally approved suppliers may be de-sourced.

### Focus Supplier

Focus supplier can be de-sourced upon customer approval. Usage of a Focus Supplier will require Supplier Quality approval for new and continuation of existing business. Supplier must develop and implement a quality improvement plan to restore sourcing status.

Any supplier who does not agree with their rating should respond, in writing, to Supplier Quality within 30 days of receipt. State your concern and provide all supporting documentation. MPC will consider and respond to all claims.

## **1.11.9 MINORITY SOURCING AND BUSINESS DEVELOPMENT POLICY**

It is our corporate policy to maintain a proactive Minority Sourcing and Business Development program. Our goal is to use certified Minority Business Enterprises (MBEs) where it provides value. MPC will also mentor and otherwise develop and promote MBEs.

MPC's Purchasing Department will continually search for and develop Minority Business Enterprises which we feel are, or can be, valid suppliers. MBEs have the same requirements as any other supplier with respect to quality, price, delivery, and service. These requirements are detailed in MPC's Supplier Manual. We will maintain a list of approved MBEs which we will have quote both new opportunities and existing business.

MPC strongly encourages our suppliers to have their own Minority Sourcing and Business Development Program.

## **1.12 PRODUCT IDENTIFICATION - PACKAGING - LABELING - SHIPPING**

### **1.12.1 Lot Control**

Suppliers are required to maintain identification of individual lots.

Any special agreements must be documented in the control plan and approved by MPC Supplier Quality Dept.

A lot is defined as a quantity of products expected to be homogeneous in all significant attributes as produced by the same production process. Lot size shall normally represent products produced during a specific operating period. Various commodities and/or production shipment commodities and/or production rates shall be a determining factor in establishing lot size, which shall be agreed upon prior to first production shipment.

The lot number **must** appear on the outside of each carton, container, bag, gaylord, etc. shipped.



### 1.12.2 Labeling Identification

Product is to be identified with an identification label (hand written information **is not** acceptable). Unless otherwise agreed, use of bar code shipping and package identification labels specified in the Shipping/Product Identification Label Standard, AIAG B-10, are required.

Each shipping/product identification label shall include the bar coded purchase order number applicable to that box/lot.

In order to support the automatic reading of the bar code symbols, labels should be located on the front of the container and not covering up any supplier labels as specified in the Shipping/Product Identification Label Standard, AIAG B-10. See diagram below.

Vendor Portal Label to be placed on the front of the box in the upper left hand corner.



All shipments made to MPC's locations must be labeled according to MPC specification. Failure to meet specifications may result in a Corrective Action, negative supplier rating, and/or a debit determined by MPC.

### 1.12.3 Bar Code Specifications

#### Size

The recommended label size for shipments to MPC is 4.0 in. (102 mm) high by 6.0 in. (152 mm) wide.

## **Bar Code Symbology**

Bar codes shall be the 3-Of-9 type and shall conform to the “Bar Code Symbology Standard for 3-Of-9 Bar Codes” published by the Automotive Industry Action Group (AIAG-B-1-1984).

The four (4) characters (\$, /, +, %) of the 3-of-9 symbology shall not be used on the Shipping/Product Identification label.

The bar heights shall be a minimum of 0.5 in. (13 mm). For each bar code symbol, the average width of the narrow elements shall be within the range of .013 to .017 inches. The ratio of the nominal width of the wide elements to the nominal width of the narrow elements shall be 3:1, with an allowable range of 2.8:1 to 3.2:1. There shall be a gap of at least .25 in. (7 mm) between any bar code and any vertical lines. Check digits shall not be in the bar codes.

## **Data Area Characteristics**

The supplier number, serial number and purchase order number shall be included on each label in the designated data areas and shall be displayed in both human readable characters and bar code symbols. The product description, date manufactured, packing slip #, lot #, division and supplier free area (optional) shall be included on each label in the designated areas and shall be displayed in human readable characters.

## **Data Area and Titles**

There are eleven data areas for each label. Each data area shall be separated by thin lines and shall contain its title in the upper left hand corner. Outer borderlines are not required.

## **Data Identifier Codes**

A data identifier code in the first position following the start code of the bar code symbol shall be used to identify the information to follow. This character is not to be included in the human readable line, but is shown in human readable characters under the title for the appropriate data area.

Using additional bar code symbols on shipping packages is not encouraged, but may be appropriate in some circumstances. To prevent reading wrong data into the system, and to differentiate among all bar code symbols, any added bar code symbols placed on the Shipping/Product Identification label shall use data identifiers. Any bar code symbol placed elsewhere on a Shipping package should contain a data identifier.

The following identifier codes are assigned for the different types of data

### **V Supplier Number**

### **S Unique Serial Number – Shipping/Product Identification label**

### **K Purchase Order Number**

## **Product Number Area**

The human readable product number characters shall be bold and minimum 0.75 inches high.

The MPC product number is defined as the item number and revision level concatenated using a “.” (Period).

Example MPC product number

MPC item number = CS40131

MPC revision level = B

MPC product number = CS40131.B (displayed on the label)

### **Quantity**

Carton quantity displayed using 2 digit decimal and comma separated thousands values.

### **Supplier Number Area**

The maximum length anticipated for the supplier number is six (6) characters plus the data identifier (V).

### **Serial Number Area**

The maximum length of the serial number shall be eight alphanumeric characters plus the data identifier (S). If sending EDI 856 ASN's you will be required to prefix your serial number with a one or two digit alpha identifier. This two digit alpha identifier will be provided to the supplier by MPC.

The serial number shall be a unique number assigned by the supplier. Suppliers shall **avoid repeating serial numbers within any calendar year.**

Each Shipping container or pack having a Shipping/Product Identification label shall have a unique serial number. In this way each container, regardless of content or destination, can be differentiated from others.

### **Purchase Order Number Area**

The maximum length anticipated for the purchase order on the IQMS system is five (5) numeric characters with designated suffix plus the data identifier.

Example: 2018-01

### **Special Data Area**

**Product Description -** The product name shall be the official MPC description.

**Date Manufactured-** The date the product was manufactured for shipment shall be indicated to show month, day, and year.

**Division-** The division listed on the PO

**Packing Slip# -** Packing Slip # A unique number identifying the shipment.

**Lot#-** See above description **1.12.1**

**Supplier Free Area** Area for additional supplier information (supplier product # etc.)

Customer Part <b>CS40131.B</b>		
Quantity 2,500.00	PO Number (K) 65864-01 	Division DDC
Supplier (V) F1130 	Description M6 X 1 BLIND THREADED INSERT	Packing Slip # 13672
Serial (S) F1123456 	Date 04/11/2013	Lot # 12345
Supplier Free Area		

#### **1.12.4 Supplier Product Launch Containment Process**

**Supplier Responsibility:** The Supplier shall do the following:

- A. Establish a verification process that contains the following elements:
  - 1. Identification of the staff person responsible for ensuring the development and implementation of the verification process.

2. Development of a Pre-Launch Control Plan consisting of additional controls, inspection audits, and testing to identify non-conformances during the production process. Depending on the dominant factor of the production process (set-up, machinery, fixture, tooling, operator, material/components, preventative maintenance, climate) additional controls shall include:

Off-line, separate and independent check from the normal production process whenever possible

Mandatory 100% inspection for all pre-production and pilot products shipped

100% inspection of first two production shipments

Increased frequency/sample size of receiving, process and/or shipping inspections after pre-production and pilot

Mandated sub-supplier containment and or sub-supplier support/audits

Addition of inspection/control items

Increased verification of label accuracy

Enhanced process controls such as error proofing

Error proofing validation through introduction of known defects

4. Data to be saved at the supplier and can be audited at any time by MPC personnel.
5. Immediate implementation of containment and irreversible corrective action when non-conformances are discovered.

**EXIT CRITERIA: Supplier will be eligible to exit the supplier launch containment process after meeting the criteria listed below. If the supplier is unable to meet the exit criteria or the supplier's launch containment process plan continues to identify non-conformances, the supplier shall continue the necessary containment measures to insulate the Customer Plant until the quality concerns have been resolved to the satisfaction of Supplier, MPC and the Customer and the Supplier's Production Control Plan is validated.**

- A. Ship the number of pieces or for the duration specified by the procuring division with no discrepancies detected by the supplier launch containment process Control Plan and with no customer plant problem reports (CAR's) and supplier can self-exit from the supplier launch containment process.
- B. If the supplier does not meet self-exit criteria above, then to exit the supplier launch containment process the Customer Plant must close all problem reports.
- C. If the supplier launch containment process plan continues to identify non-conformances, the supplier launch containment process plan must be kept in place until process controls and capabilities have proven effective and the Production Control Plan is validated.
- D. If the supplier launch containment process was self-initiated, the supplier can suspend the supplier launch containment process if they meet the exit parameters (quantity or duration).
- E. If the customer mandated the supplier launch containment process, the supplier must notify the customer, provide evidence upon request and receive customer approval prior to exiting the supplier launch containment process.

### **1.12.5 Packaging**

**Note: Current suppliers using returnables will continue using them. If you can supply products in returnable containers, please contact your buyer to discuss this option.**

All product quotations are to assume expendable packaging as separate line item.

Containers designed to allow handling by hand shall not exceed 40 pounds (18kg) maximum weight, even if palletized.

Unique packaging requirements dictated by a product (e.g. excessive part oiliness, rust prevention, weight or fragility) should be specified in the quote and all other appropriate documents. Any special required packaging should be quoted as a separate line item.

All cartons of a specific product number are to be shipped on the same pallet(s), unless doing so causes quality, damage or safety concerns; or, if small quantities allow room for additional cartons of another product number. Pallets of mixed products must be identified as such.

Suitable reinforced tape or spot gluing are the only acceptable methods for carton closure. Staples are acceptable for bottom construction only, with prior approval.



### 1.12.6 Pallets

Policy regarding all product shipped on pallets. We expect all suppliers to use the following pallets when shipping to MPC:

**45" x 48"- 4 way pallets**

**6 top boards and 3 bottom boards**

**Maximum weight – 2469 lbs.**

**Print available**

**30" x 32"- 2 way pallets**

**6 top boards and 3 bottom boards**

**Maximum weight – 2838 lbs.**

**Print available**

**Pallet Specifications:            ¾" wing –4 sides**

**Nails/ no staples**

**4-way entry**

Note: The only exceptions to this requirement are shipments that require a higher weight rated pallet or if product is dimensionally too large. See weight restrictions above.

All purchased materials used in product manufacture must conform to all governmental, international, safety and environmental regulations as they apply.

**\* If MPC shipping point is Nogales, AZ, the pallet must be heat treated per ISPM15 regulations.**

### **1.12.8 Supplier Debits**

To ensure shipping/receiving integrity of product, MPC will be initiating a charge policy for continuous errors. The supplier must make every effort to correct the issues in a timely manner. If not corrected a charge will be issued for each occurrence.

These issues would include the following:

Documentation	No ASN
Documentation	Incomplete ASN/Late ASN
Documentation	Wrong QTY
Documentation	Wrong PO
Documentation	Wrong Rev Level
Documentation	No Packing Slip
Documentation	No Division on Label
Documentation	Duplicated Serial Numbers
Shipment	Freight comingled throughout shipment
Shipment	Over/Under Shipment to Order

### **1.13 SDS (Safety Data Sheet)**

Regulatory compliance; all purchased products or materials in product manufacture shall satisfy all current regulatory requirements applicable to the country of manufacture and sale such as environmental, electrical, electromagnetic and safety. Supplier is responsible for providing to buyer the necessary documentation on government and safety compliance that will affect the acquisition, transportation, and handling of materials purchased.

#### 1.14 **IMDS REPORTING (International Material Data System)**

The automotive OEM's are addressing the European Union's End of Vehicle Life Directive by asking the Tier 1 suppliers to compile and report material composition data. This directive is intended to prevent waste from end of life vehicles and promote the collection and reuse, and recycling of components in order to protect the environment.

The approach the OEM's have taken is to require Tier 1 to cascade this requirement down to their suppliers. As a supplier to MPC you will be required to satisfy this requirement. All IMDS reports must be completed prior to any new PPAP submission. PPAP submissions will be rejected if the reports are not completed. To comply, you will need to reference a complete bill of material. These items must be broken down to their individual components/ingredients items, until you have materials that either match the substances listed at the IMDS website, or have identified the basic material as a purchased item. If you purchase an item or semi-components from another supplier, it is your responsibility to have that supplier do the same and enter the information into IMDS for you to use with your information.

You will need to access the IMDS website at [www.mdsystem.com](http://www.mdsystem.com). Please visit the "Public Pages" and "Systems" areas for information regarding IMDS. The person responsible for the entering of this data will need to register your company with IMDS. The use of this system is free and will allow for manual uploading of data. There is an upload program available for a fee if desired. The recipient address to send us the information is "**Miniature Precision Components**" ID# 1869. Please enter all the information with reference to MPC Product #'s. All supplied processed materials, product and semi components to MPC are to be posted whether or not they contain restricted/reportable substances. IMDS assures us that their security devices prevent the viewing of proprietary ingredients if they are marked "confidential."

Compliance to IMDS is required, unless a specific MPC customer does not require IMDS reporting.

For issues regarding this facet of reporting please contact the individuals below or IMDS directly for clarification.

If you have any questions regarding this requirement please contact Quyên Bành at (262-275-5791) ext. 2617 or [qbanh@mpc-inc.com](mailto:qbanh@mpc-inc.com).

## **1.15 CHEMICAL AND SUBSTANCE REQUIREMENTS**

### **1.15.1 RoHS (Restriction of Hazardous Substances)**

RoHS originated in the EU (European Union) and restricts the use of specific hazardous materials. All applicable products in the EU market must demonstrate RoHS compliance.

### **1.15.2 REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals)**

REACH also originated in the EU (European Union) and addresses the use of certain chemical substances. Based on customer requirements, evidence of compliance to the REACH program requirements will be required.

## **1.16 MPC's SUPPLIER ENVIRONMENTAL EXPECTATIONS**

ISO14001 is a body of the International Environmental Standards developed by the International Organization for Standardization that specifies requirements for an environmental management system. In December 2001, Miniature Precision Components, Inc. received ISO14001 certification.

An important part of being an ISO14001 organization is to insure that our suppliers understand our environmental expectations of them. We expect our suppliers to have a good Environmental Management System and we encourage the pursuit of ISO14001 certification. We want our suppliers to recognize the benefits to the environment, opportunity for cost savings through elimination of waste and its importance to your future status as a supplier.

#### **1.17 SPECIAL SERVICE PROVIDER REQUIREMENTS**

For MPC suppliers of the products affected by the special processes below, suppliers shall determine applicability and effectiveness of their various processes using the assessment numbers given. The assessments are published by AIAG and all assessments shall be performed annually. When submitting evidence of the assessment, the supplier shall submit the full assessment to MPC.

If a source is a sub-supplier (e.g. second tier, third tier) to MPC, then the direct supplier to MPC is responsible for ensuring that the applicable assessment be performed. The sub-supplier's assessment shall be submitted by supplier to MPC and the supplier shall ensure that reassessments are performed annually and submitted to MPC.

The following assessments shall be performed as applicable:

- CQI-9 Special Process: Heat Treat 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

NOTE: Special attention shall be given to the assessor qualifications found in the assessment guides. Evidence of assessor qualifications may be requested by MPC.

## 1.18 REFERENCES

The following publications are required to complete the requirements established in this manual.

AIAG Manuals (Copies may be obtained from AIAG at 248-358-3003 or aiag.org)

- CQI-9 Special Process: Heat Treat 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-19 Sub-tier Supplier Management Process Guideline
- CQI-20 and CQI-21 Effective Problem Solving Guides
- CQI-23 Special Process: Molding System Assessment

Global Materials Management Operations Guide Lines / Logistics Evaluation (MMOG/LE)

Quality Management System Requirements per IATF16949-2016 or ISO9001-2015

Minimum Automotive Quality Management System Requirements (MAQMSR)

Advanced Product Quality Planning and Control Plan (APQP)

Statistical Process Control (SPC)

Measurement System Analysis (MSA)

Production Part Approval Process (PPAP)

Potential Failure Mode and Effects Analysis (FMEA)

Shipping/Products Identification Label Standard (AIAG Manual section B-10)

Quality System Assessment (QSA)

AIAG offers training sessions on many of the above and other related subjects.

## Document Change Sheet

**Date:** February 24, 2015

**Revision:** A

**Description of Changes:** Format change throughout the document. Added cover page and document change sheet.

1.8.1 Removed 3 sentences from paragraph 11

1.8.3 Revised paragraph 1

1.10.1 Revised paragraph 2

1.10.2 Revised paragraphs 3 and 4 and added diagram

1.10.5 Removed sentence from paragraph 6

1.11.1 Removed paragraph 5

1.11.2 Revised Existing Supplier(s) Selection key area(s)

1.11.3 Revised Supplier Cost Performance key points

1.11.4 Revised Supplier Delivery Performance key points, Revised paragraph 7, 14 and 15 of Inbound Routing Guide

1.11.6 Removed sentence

1.11.7 Revised paragraph 2, Revised Rating System: Section 2 Delivery

1.12 Revised Paragraph 1, Revised Sub-Paragraph E and removed Sub-paragraphs G and H, Revised Paragraph 7

1.17 Added Corrective Actions

**Date:** January 2, 2017

**Revision:** B

**Description of Changes:**

**Format and content changes throughout the document due to new quality standards**

**Date:** January 1, 2018

**Revision:** C

**Description of Changes:**

**Added MAQMSR requirement and reference**

1.4.2 Updated Quality System requirements for suppliers

1.5.5 Clarified capacity analysis requirements

1.14 Changed IMDS Support Contact

1.15 Add Chemical and Substance Requirements for EU (RoHS and REACH)

**END OF DOCUMENT**