

## SCOPE

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This manual is not intended to replace the AIAG reference manuals or other customer specific requirements. Its purpose is to clearly communicate to suppliers Serigraph's expectations about quality system requirements, advanced quality planning, launch management, logistics/materials procedures and production product and process.

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## 1.0 SUPPLIER BASIC QUALITY REQUIREMENTS

In accepting Serigraph's General Terms and Conditions, suppliers agree to participate in Serigraph's supplier quality and development program(s), to comply with all quality requirements and procedures specified by Serigraph, as revised from time to time and those applicable to the supplier's third-party certified management system. In addition, Serigraph shall have the right to enter the supplier's facility at reasonable times to inspect the facility, goods, materials, and any property of Serigraph covered by the contract (Purchase Order). Serigraph's inspection of goods, whether during manufacture, prior to delivery or within a reasonable time after delivery, shall not constitute acceptance of any work-in-progress or finished goods.

All suppliers are expected to supply products to Serigraph with zero defects and in accordance to schedule. Parts shall meet all engineering specification requirements and function with no abnormalities according to intent.

### 1.1 Process Based Quality System Requirements

All suppliers of a) production materials, b) parts, inks, solvents, masking supplying directly to Serigraph shall be certified to ISO 9001: 2015 as a minimum with the goal of conformity to IATF requirements.

Suppliers are actively encouraged to implement an environmental system in compliance with a current valid version of ISO 14001.

## 2.0 POTENTIAL NEW SUPPLIERS

The Serigraph buyer shall verify the supplier is ISO certified. If a new supplier is not ISO certified, a customer waiver is needed in writing for that supplier to be selected. A non-ISO certified supplier must have an audit performed by Serigraph Purchasing and/or Supplier Quality Departments before the supplier can be used. The Serigraph buyer with Supplier Quality shall review all requested information received from the supplier to determine viability. If deemed viable, the Serigraph buyer and Supplier Quality shall perform an on-site audit. Following a successful assessment, the supplier is added to the Serigraph approved supplier list.

**NOTE:** Non-ISO certified suppliers will not be added to the approved supplier list.

Any raw material supplier that is ISO certified will not require a Serigraph audit, it is up to the Purchasing Manager if an audit needs to be performed. Any new supplier that adds value to a Serigraph part will require a Serigraph audit, (ex: molders, spray coaters, etc.). Audits of current suppliers are conducted at a frequency determined by Serigraph's Purchasing and Supplier Quality Departments based on type of product/service provided, its impact on Serigraph's Quality System, past performance in quality and delivery, and the amount of business. If an audit is required, the audits shall be performed to current Quality System Standards certified by Serigraph and any additional checklists which may be developed by Serigraph. Purchasing will work with vendors to achieve IATF 16949 certification or continuous improvement objectives depending on amount of business.

## 2.1 **REQUEST FOR QUOTATION**

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The Serigraph buyer communicates all requests for quotations.

The RFQ package shall include, but not be limited to, a valid drawing (with special characteristics identified, if applicable), associated engineering and technical specifications, general terms and conditions, volume, milestones and any other relevant information that allows the supplier to conduct a feasibility review and generate a quotation package.

Funding is to be identified in the initial quote and subsequent quotes to reflect general tooling maintenance, error occurrence detection (poke yoke, error proofing devices, etc.) and defect outflow prevention to Serigraph. Controls implemented later are the financial responsibility of the supplier.

If tooling replacement is required due to an increase in volume or product life extension then, funding of such tooling is to be negotiated with the Serigraph buyer.

Supplier quotations and relevant supporting data shall be submitted to the Serigraph buyer and must comply with the stated technical specifications, standards, general terms and conditions and Serigraph and/or Serigraph's customers' specific requirements. Any exemptions must be clearly identified and stated, including any changes needed to product and/or process requirements, when submitting a formal quotation.

## 2.2 **NEW BUSINESS AWARD**

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Purchasing and Supplier Quality will review preferred supplier quotations based on technical competence, previous/current quality and logistic delivery performance and commercial viability to determine the optimum total cost supplier.

Only a Serigraph buyer is authorized to sign and issue a Purchase Order. The acknowledgement copy of the Purchase Order must be dated by the supplier and returned to Serigraph Purchasing. Work performed by any supplier without a PO issued by Serigraph Purchasing may be subject to non-payment.

## 3.0 **HIGH IMPACT SUPPLIERS AND/OR PARTS & COMPONENTS**

### 3.1 **SPECIAL CHARACTERISTICS**

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Special characteristics (critical/significant/key) are product and/or process characteristics, which are identified, documented and communicated initially during the APQP planning and definition phase and reviewed in subsequent phases to ensure their continuing suitability. Special characteristics shall,

- comply with Serigraph on Serigraph's customer's specified definitions and symbols on a blueprint, and

- be identified in process control documents including drawings, FMEAs, control plans and operator instructions.

**Critical Characteristic:** Is a product characteristic for which reasonable anticipated variation could significantly affect the products safety or compliance with government regulations and/or safe vehicle/product function (such as: occupant protection, steering control, braking etc.) and is ranked with a severity of 9 or 10 in FMEA (refer to AIAG FMEA manual ranking tables for further guidance). Once stability/capability is established the use of 100% control and/or preventive Poke Yoke is required.

- Serigraph symbol: **CC**

**Significant Characteristic:** Is a product characteristic for which reasonably anticipated variation is likely to significantly affect customer satisfaction with a product (other than safety compliance) such as its fit, function, mounting, appearance and/or the ability to process or manufacture the product is normally ranked with a severity of 5 to 8 in the P-FMEA. The use of statistical techniques is required, to determine process stability/capability of product/process significant characteristics. Once stability/capability is established the use of preventive/ detective Poke Yoke and/or ongoing statistical process control (SPC) is required.

- Serigraph symbol: **SC**

**Key Characteristic:** Is a product or process characteristic (e.g. temperature, pressure, speed, etc.) which has been reduced from a significant characteristic following the P-FMEA analysis, but still requires special process controls e.g. if the severity is 5 to 8 and the occurrence is less than 4. As a minimum, key characteristics should be checked at the start of each shift or tool-run and/or tool change.

### 3.2 PRODUCT/PROCESS STABILITY & CAPABILITY

Critical and significant characteristics must be both stable and capable. Therefore, all special or assignable causes must be identified and acted upon prior to production release. Common causes of part-to-part variation should also be addressed as an aspect of continuous improvement.

Once stability and capability of machine, process and part/component both critical and significant characteristics are demonstrated during a production trial run, the level of control shall be agreed and established in the production control plan, including frequency, method of check, sample size and method of record. If critical and significant characteristics are not stable or capable, a 100% inspection or poke yoke must be installed until both stability and capability is recovered.

Minimum capability index requirements are defined below:

- |                                    |            |            |
|------------------------------------|------------|------------|
| ➤ Critical Characteristics (CC)    | Ppk ≥ 2.00 | Cpk ≥ 1.67 |
| ➤ Significant Characteristics (SC) | Ppk ≥ 1.67 | Cpk ≥ 1.33 |

Note 1: Ppk must be calculated using a minimum of 50 consecutive parts from a production run.

Note 2: Cpk must be calculated using a minimum of 25 sub-groups of 4, monitored and recorded at an adequate frequency to ensure control.

| Capability Index | Spread        | %Defect | PPM     |
|------------------|---------------|---------|---------|
| 0.33             | $\pm 1\sigma$ | 31.74   | 317,400 |
| 0.67             | $\pm 2\sigma$ | 4.56    | 45,600  |
| 1.00             | $\pm 3\sigma$ | 0.27    | 2,700   |
| 1.33             | $\pm 4\sigma$ | 0.006   | 60      |
| 1.67             | $\pm 5\sigma$ | 0.0025  | 25      |
| 2.0              | $\pm 6\sigma$ | 0.0001  | 1       |

The Sigma ( $\sigma$ ) Scale: Probability of Defects

### 3.3 **POTENTIAL FAILURE MODES & EFFECTS ANALYSIS**

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FMEA's shall be prepared and maintained by the supplier and must comply with the guidelines set forth in the AIAG Potential Failure Mode and Effects Analysis reference manual.

**The Process FMEA (P-FMEA):** A structured approach used to deduce potential failure modes at each process step/function of a manufacturing process, allowing prevention and detection controls to be designed in to the manufacturing process and thus, avoiding unnecessary defects and failure costs in production.

During production and during the entire "life" of the product, process-related changes are analyzed and documented in the P-FMEA. The experiences gained are taken into account when developing future processes.

Serigraph reserves the right to participate in supplier P-FMEA's.

**FMEA Corrective Action:** During the development of an FMEA potential corrective actions should be actioned, wherever feasible:

- for CC if detection (D) is  $> 1$
- for any RPN over 120

### 3.4 **CONTROL PLAN**

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Control Plans are formal documented descriptions of the systems installed to control both products and processes. They form an integral part of product quality planning and shall be used by the supplier to communicate special product and process characteristic controls, gauge controls and reaction plans as a minimum.

Serigraph only requires production control plans: A comprehensive description of special characteristics products and process controls, gauge controls and reaction plans that will occur during serial production.

### **3.5 SUPPLIER EQUIPMENT, TOOLS, AND GAUGES**

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Supplier equipment and tooling (i.e. dies, patterns, molds, special tooling etc.) shall be permanently identified with a unique serial/asset number and company name so that the ownership of each piece of equipment, tool and gauge can be readily identified. Contact Serigraph Supplier Quality for any special identification required.

The supplier shall establish and document a preventive and predictive maintenance process for all equipment, tooling and gauging. Preventive and predictive maintenance schedules and records shall be maintained and make available upon request.

Supplier equipment, tools and gauges used in the manufacture of Serigraph products shall not be sold or consigned to another entity without adequate notification and written consent from Serigraph. Mergers, acquisitions or affiliations also require adequate notification to enable Serigraph to verify both the continuity of supply of product and the supplier's quality management system and its effectiveness. In such cases, or in the case of relocation to an alternative supplier location or facility, it is the supplier's responsibility to contact Serigraph regarding potential production part approval process (PPAP) requirements.

### **3.6 SUPPLIER READINESS REVIEW**

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Serigraph Supplier Quality may conduct a supplier readiness review at the supplier's facility prior to PPAP to confirm production readiness. Areas of focus during a supplier readiness review include, but not limited to, capacity analysis and confirmation, product and process controls and supporting documentation, sub-supplier status, training, maintenance and logistic readiness.

Following a supplier readiness review a formal report is issued from Serigraph to the supplier, including any corrective actions required before PPAP submission. Confirmation audits may also be conducted later to verify the supplier's corrective actions.

### **3.7 SUB-SUPPLIER CONTROL**

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Where specified by contract (e.g. drawing, specification etc.), the supplier shall purchase products, materials or services from approved sources. The use of Serigraph and/or Serigraph's customers' designated sources, including equipment, tool and gauging sub-suppliers, does not relieve the supplier of the responsibility for ensuring the quality of purchased products.

The supplier shall establish the inspection or other activities necessary for ensuring that the purchased product meets specified purchase requirements, including regulatory requirements.

Suppliers shall promote sub-supplier monitoring of the performance of their manufacturing processes.

Serigraph reserves the right to visit sub-suppliers.

### **3.8 UL REQUIREMENTS**

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Compliance with code agencies such as Underwriters Laboratories and Canadian Standard Association is the responsibility of the Supplier.

### **3.9 PRODUCT TESTING & INSPECTION**

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Suppliers will do sufficient dimensional checking, operational testing, and inspection to assure materials shipped conformed to specifications. The use of statistical sampling is an acceptable technique so long as the supplier understands its responsibility for conformance of each part to specifications. The inability of the supplier to perform laboratory and/or engineering specifications testing within its own facility does not relieve the supplier of such responsibility. In such cases, testing services must be procured by the supplier from a quality source. Serigraph may ask the supplier to certify parts of materials according to applicable engineering specifications.

### **3.10 ANNUAL RE-QUALIFICATION – FOR VALUE ADD SUPPLIERS**

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Unless waived by Serigraph, the supplier will conduct annual layout inspection (i.e. dimensional, material, and functional testing) for each active part supplied. The annual layouts will be kept on file at the supplier and be made available upon request.

### **3.11 SERIGRAPH SPECIFIC REQUIREMENTS**

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Specific requirements are identified in the purchase order.

## **4.0 PPAP BASIC REQUIREMENTS**

All production part sample submissions shall be in accordance with the AIAG Production Part Approval Process (PPAP) manual – latest revision. In addition, Serigraph or Serigraph's customers' specific requirements may also be required. Level III PPAP, supplied electronically, is the default submission level unless otherwise specified in writing from the relevant Serigraph Supplier Quality.

Supplier PPAP submissions shall include declarations stating that all material, part, component and surface finish meets specified purchase requirements. Individual sub-supplier Part Submission Warrant



(PSW) and/or additional PPAP documentation may be requested as appropriate by the relevant Serigraph Supplier Quality.

PPAP samples shall be clearly identified with the Serigraph PPAP label on each container.

Suppliers to North America shall provide evidence of conformance to NAFTA requirements with each PPAP submission.

Full or interim PPAP approval must be established prior to shipping parts/components to any Serigraph facility for production. Any production shipments received by a Serigraph facility prior to obtaining such approval will result in rejection and scorecard demerits.

#### **4.1 SAMPLE DATES**

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Purchasing will provide the supplier with the required sample date. It is the supplier's responsibility to ensure that sample submission dates are achieved and that samples submitted meet all specific requirements. Part approval is a vital part of the customer-supplier relationship and should not be jeopardized through poor communication. Any anticipated changes or delays in the agreed upon sample due date must be communicated to Purchasing as soon as the potential problem is perceived by the supplier.

#### **4.2 CERTIFICATES OF CONFORMANCE**

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A certificate of conformance shall be maintained on file at the supplier and made readily available to Serigraph upon request. Certificates of conformity may be required to be submitted with each delivery of material/parts/components from the supplier. The certificate of conformance must contain the actual physical test results and/or material analysis of the product being supplied.

#### **4.3 CERTIFICATES OF COMPLIANCE OR ANALYSIS**

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Suppliers will have certificates of compliance available upon request. If required, it will be listed in Specification sheet. A Certification Sheet shall contain the following information:

- Serigraph part number
- Serigraph PO number
- Supplier lot number
- A statement certifying that this lot of material meets customer specifications
- Shelf life
- Manufacturing date

#### **4.4 RELIABILITY VERIFICATION**

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Serigraph may request the supplier to provide documentation that demonstrates the ability of his components to meet specification testing requirements. Serigraph Quality Assurance will

coordinate the test conditions and procedures with the supplier to assure validity of the results. Verification programs are subject to review by Serigraph Quality Assurance personnel.

#### 4.5 **MASTER SAMPLE**

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The supplier shall retain a master sample for the same period as the production part approval records, or

- until a new master sample is produced for the same customer part number for customer approval, or
- where a master sample is required by the design record, Control Plan or inspection criteria, as a reference or standard to be used.

The master sample shall be identified as such, and shall show the customer approval date on the sample. The supplier shall retain a master sample for each position of a multiple cavity die, mold, tool or pattern, or production process unless otherwise specified by the customer.

### 5.0 LAUNCH MANAGEMENT

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To support and ensure proper launches at both Serigraph and Serigraph's customers, the supplier may be required to install new product containment during the pre-production phases and continuing through the first 90 days following start-of-production (SOP). The objective of new product containment is to ensure that any quality issues that may arise are quickly identified, contained, and corrected at the supplier's location and not at a Serigraph receiving location. It also serves to increase the involvement and visibility of the supplier's top management.

#### 5.1 **NEW PRODUCT CONTAINMENT**

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New Product Containment requires a pre-launch control plan that's a significant enhancement to the supplier's production control plan, and which ensures that all products shipped meet Serigraph's expectations. The pre-launch control plan also serves to validate the production control plan.

The pre-launch control plan should take into consideration all known special characteristics of the product as well as potential areas of concern identified during the Production Part Approval Process (PPAP), and should include 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/parts/components, preventive maintenance, environment) additional controls should include, but not be limited to:

- Off-line, separate and independent check from the normal production process.
- 100% inspection for all pre-production and pilot parts shipped.

- Increased frequency/sample size of receiving, process and or shipping inspections.
- Increased verification of label accuracy.
- Error proofing validation through introduction of known defects.

The use of variable or attribute control charts, scatter diagrams or an approved alternative, shall be used to document and record the results of new product containment.

## 5.2 **NEW PRODUCT SAFE LAUNCH EXIT CRITERIA**

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Programs will be removed from new product launch when no non-conformances have been detected by the pre-launch control plan and containment activity for the period stipulated. If the supplier is unable to meet the exit criteria or the supplier's plan continues to identify non-conformances, the supplier shall continue the necessary containment measures to insulate Serigraph up to the time when the quality concerns have been resolved to the satisfaction of Serigraph and the supplier's Production Control Plan is validated.

## 6.0 PACKAGING

If the packaging has not been pre-defined by Serigraph on the PUR, then the supplier shall submit a packaging specification proposal for approval to the relevant Serigraph logistics/materials representative during the Advanced Product Quality Planning process. Following approval, the supplier shall ensure that their products are packaged, handled and transported in a manner that preserves the conformity of their products during internal processing and delivery to Serigraph. Approval of packaging specifications by Serigraph does not relieve the suppliers' responsibility for ensuring that the packaging meets intended usage and preservation requirements.

### 6.1 **SHIPPING & PACKAGING REQUIREMENTS**

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**Shipping and Packaging Requirements:** All materials that are environmentally sensitive to cold and/or hot temperatures must be shipped in such a way to ensure product integrity. In those cases where Serigraph Inc. is responsible for freight, the supplier must notify Serigraph Purchasing that an environmentally sensitive product requires special handling and an approved carrier determined. **Important note:** The minimum and maximum temperature conditions must be notified at the time of shipment. Environmentally sensitive products must be labeled as such with minimum to maximum temperatures clearly included on label. Each container and packing list in each shipment must be plainly marked with the following information:

- Supplier name (label and packing slip)
- Product description (label and packing slip)
- Shipping date (packing slip)
- Manufacturing date (included with lot number)
- Shelf life expiration date (may be determined off lot number)
- Product lot number (label and packing slip)
- Serigraph purchase order number (only required on packing list)

- Serigraph shipping address (only required on packing list)
- Serigraph part number

## **6.2 RETURNABLE CONTAINERS**

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Each program will be managed with an individualized agreement on the expectations of both parties. This includes, but is not limited to: tally count of containers with a disposition point identified, as well as, must be kept in an environmentally controlled area free of contamination.

## **6.3 MARKING**

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Each shipping container must be plainly marked with the following information: supplier name, product description, date, supplier lot number(s), Serigraph purchase order number, Serigraph shipping address and Serigraph's part number.

Each packing list must list all the items listed above, in addition to the following: invoice number (packing slip number or sales order number), manufacture or expiration date with the shelf life by lot number.

For sheeted material, the following is required: quantity of sheets per skid by lot number and total number of sheets and skids shipped. If there is more than one (1) lot number on a skid (maximum of two (2) allowed), separation and identification of lots must be clearly marked. Marking of individual skids of sheet stock must include Serigraph's part number and quantity of sheets; lot number and roll number, if applicable.

For roll material, the following is required: linear footage per roll by lot number (only one (1) lot number per roll), total footage and number of rolls shipped. A maximum of one (1) splice per roll is allowed. Marking of individual roll material must include Serigraph's part number, lot number, linear footage, product description and roll number, if applicable.

## **6.4 IDENTIFICATION & TRACEABILITY**

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The supplier shall identify product by suitable means throughout their internal processes, including manufacturing processes, ensuring traceability to raw material Lot numbers and manufacturing, inspection, and test records.

Serigraph's product identification and traceability (Lot control) must remain intact throughout the suppliers' process. If the product is transferred in to different containers, then all Lot control information must be transferred and maintained.

Serigraph reserves the right to verify the product quality and conformance to specified requirements by using independent test labs. Such inspection does not absolve the suppliers of

the responsibility for the quality or conformance to specification of purchased product established by Serigraph.

## **6.5 FREIGHT DOCUMENTATION**

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All deliveries received by Serigraph must be accompanied by the following documentation:

- Bill of Lading
- Packing Slip
- Commercial Invoice
- NAFTA Certification of Origin
- Any other required documentation

### **6.5.1 DELIVERY NOTE**

Delivery notes must be in duplicate, detail the suppliers name, Serigraph supplier number, date, have an assigned delivery note number and contain the following information for each product delivered: Serigraph part number, description, purchase order number, quantity per container, number of containers and type, total quantity, Net and Gross weight and Lot numbers.

Delivers of multiple products (e.g. a single pallet with several product references) will only be accepted if:

- Prior written permission is given by a relevant Serigraph logistics/materials representative
- Each container on the pallet is clearly labeled
- Each product type is packaged in a separate container
- The delivery note clearly states contents of the palette

**NOTE:** If the supplier does not comply with the above, the delivery may be rejected.

## **6.6 TRANSPORT – SERIGRAPH FUNDED ONLY**

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When the Serigraph issued purchase order notes that Serigraph is liable for the freight, the supplier is responsible for following the following guidelines:

- All shipments under 150 lbs., unless advised otherwise by the buyer, will ship collect with Federal Express ground service.
- C.H. Robinson, Serigraph's contracted third party logistic company, will handle all freight over 150 lbs. The supplier will contact C.H. Robinson directly to set up shipment days/times.
- It is the supplier's responsibility to plan to ensure shipments are called in during the am hours in order to ensure shipments can be coordinated.

Serigraph is responsible for transport implied by the schedule or Kanban call/order. The supplier shall be liable for any excess transport costs incurred due to supply chain problems, which are the responsibility of the supplier.

The supplier is responsible for ensuring that on-time loading is conducted at their premises. Consideration of transit lead-times and due notice to the transport company is also the responsibility of the supplier when a routing order is used.

Serigraph, in conjunction with C.H. Robinson, can track their transport units and inform Serigraph immediately with regard of any irregularities relating to either volume or timing. It is therefore a prerequisite that suppliers to Serigraph can monitor their transport when the terms in the purchase order state materials are purchased delivered.

## **6.7 INCOTERMS**

Incoterms for purchased products are stated in the purchase order. In the instance of an “ex-works” agreement, Serigraph is responsible for transport. Independent from the stated incoterms, it is Serigraph’s expectation that the supplier loads purchased goods at their expense.

## **6.8 FREIGHT INSURANCE**

Freight insurance must be agreed between the supplier and the relevant Serigraph plants.

## **6.9 DELIVERY DISCREPANCIES**

All deliveries must be made in accordance with a Serigraph schedule or Kanban call/order, and the requirements of this manual. Any deviation from a schedule or Kanban call/order must be agreed in writing with the relevant Serigraph logistics/materials representative prior to a delivery being made. Failure to obtain written approval prior to deliver will result in rejection.

## **6.10 STORAGE & INVENTORY**

The supplier shall use an Inventory Management System to optimize inventory turns over time and assure stock rotation, such as “first-in-first-out” (FIFO). Obsolete product shall be controlled in a similar manner to non-conforming product.

## **7.0 SERIGRAPH VENDOR PORTAL**

All vendors doing value add work for Serigraph supplied products will be required to use Serigraph’s Vendor Portal. Serigraph is to provide portal work instructions at time of program launch.

### **7.1 SUPPLIER RATING SCORECARD**

#### **7.1.1 DETERMINING SUPPLIERS RECEIVING REPORT CARDS**

Any supplier with whom Serigraph spends \$100,000 or more will be considered to receive a Report Card from Serigraph. Others may be identified for strategic reasons.

### **7.1.2 SUPPLIER MONTHLY STATUS**

The following data is used in determining the supplier's rating:

- On-Time Delivery Report
- Corrective Actions
- Supplier Corrective Action Report (SCAR) Response Time
- Special Status Customer notification related to quality or delivery issues
- Customer Disruptions at Serigraph and Serigraph customers
- Serigraph Warranty returns due to supplier issue
- Occurrences of Premium Freight

In addition, Purchasing and Supplier Quality review the overall performance of the supply based on a six (6) month basis to establish those suppliers that have not met the Serigraph scorecard minimum requirement. Suppliers not maintaining this minimum Serigraph corporate requirement will be subject to escalation to New Business Hold.

Premium Freight will be monitored monthly and if a supplier has 3 or more Premium Freight Shipments in a month, the purchasing buyer will review and determine a cause.

### **7.1.3 BREAKDOWN OF INDIVIDUAL RATINGS**

#### **On-Time Delivery (OTD)**

- 98-100% OTD, correct quantity and location = 4 points
- 95-97.99% OTD, correct quantity and location = 2 points
- Less than 95% OTD, correct quantity and location = 0 points

Formula to be used: Number of late shipments divided by month's receipts.

(Example: a supplier had one late shipment in one month, we had forty receipts:  $1 \div 40 = 0.025 \times 100 = 2.5 - 100 = 97.5$ , score of 2.)

**NOTE:** Receipt of product five (5) days early or two (2) days late is the window used to determine if shipment is on time. For tooling suppliers on time delivery will be based on the physical delivery of the final tool to Serigraph against the last line item on the purchase order.

#### **Corrective Actions**

- 0 – 0.99% in month = 4 points
- More than 1% in month = 0 points

Formula to be used: Number of SCAR's divided by month's receipts. (Example: a supplier had two corrective actions in one month, we had forty receipts:  $2 \div 40 = 0.5$  x 100 = 5%, score of 0.)

**NOTE:** More than one CA for the same defect in twelve (12) consecutive months or any product fails in the field will result in a score of zero (0) for three (3) months. This will roll over from previous years. CA for Supplier Late Deliveries will be issued based on a systemic issue, systemic being a minimum of two consecutive months of less than 95% or one month less than 90%. CA for Supplier Early Deliveries will be reviewed and decided upon by Purchasing Director. CA for Tooling Suppliers will be issued if tool is deemed unacceptable by the engineering team.

### SCAR Response Time for Delivery and Quality

Requirement: 24 hr. initial response, 14 days closed corrective action (unless notified Serigraph Supplier Quality of extended time needed to close)

- On time response = 4 points
- Late = 0 points

**NOTE:** Response days based on business days, not calendar days. Any SCAR will be carried on the report card for a six (6) month period.

### Customer Disruptions

- No customer disruptions = 4 points
- Disruption reported = 0 points

### Serigraph Rating System

- Acceptable Supplier = 3.5-4 points
- Supplier Needs Improvement = 3.4-2.5 points
- New Business Hold Suppliers = < 2.5 points

Acceptable Supplier: Conduct and grant business with supplier as warranted.

Supplier Needs Improvement: Conduct business with supplier as necessary and award business as to not disrupt Serigraph Inc. and its customers. Supplier will be notified by Serigraph's Purchasing Department with a warning letter being sent to the supplier, along with their report card, when they fall into this category. When the supplier is in this category for three consecutive months, Purchasing will follow up with the supplier on performance improvement and written action plan from supplier.

New Business Hold: A supplier may be disqualified for any of the following reasons:



- Having three (3) occurrences of the same non-conformance on a Serigraph part number or similar product/type within twelve (12) months. Exceptions must be approved by VP of Manufacturing or Purchasing Manager.
- Failure to regain conformance and implement corrective action within the agreed upon time frame in the event of a non-conformance.
- Having six (6) consecutive months with a performance rating lower than 2.5 points. Exceptions must be approved by Director of Purchasing.

Serigraph Purchasing will notify the supplier via report card and New Business Hold letter. Supplier will be put on a New Business Hold in the third consecutive month of falling below acceptable requirements.

Suppliers who are on New Business Hold will not be eligible to quote new projects. (exceptions will be made based on overriding business needs and will require approval from SQM and Procurement Manager).

Supplier will be removed from New Business Hold after returning to Supplier Acceptable list for three (3) consecutive months. Or Supplier will be phased out if performance to corrective action is unacceptable.

Existing product will remain at the supplier until alternative source is identified or Serigraph customer requires change. If part number is only available through disqualified supplier, the VP of Manufacturing or Purchasing Manager can approve future purchases from said supplier.

## 8.0 NON-CONFORMING PRODUCT

All handling, packaging, labeling, delivery and technical rejections are transmitted to the supplier via Serigraph's C.A. and Debit process.

### 8.1 SHIPMENT OF NON-CONFORMING PARTS

Suppliers must obtain written permission from both the Purchasing and Quality Assurance Departments PRIOR TO SHIPMENT of the non-conforming parts or materials. Serigraph reserves the right to return any non-conforming parts even though initial written permission was received.

### 8.2 EMERGENCY RESPONSE ACTION

Following the receipt of a supplier rejection at a Serigraph facility, the supplier must notify Serigraph within 24hrs with the details of the first 100% certified delivery, including, but not limited

to, the delivery note number, quality, method of identification (product and packaging), means of transport (premium freight) and estimated time of arrival.

### 8.3 **CONTAINMENT LEVEL I**

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Suppliers shall implement Containment Level I immediately upon receiving notification from Serigraph of rejection. The goal of Containment Level I is to cleanse the entire supply system of any non-conforming material and shield Serigraph from receiving any additional defective product. The supplier is required to quarantine and sort all potential non-conforming products within their facility, at their sub-suppliers, in transit and at Serigraph and/or Serigraph's customers' facilities.

#### **Containment Level I Guideline:**

- Containment areas must be off-line and have a well-defined process flow, including clearly identified areas for incoming and outgoing material.
- Containment areas must be clean, equipped and well illuminated.
- Acceptance standards and containment instructions must be clearly documented with Boundary samples available, if required.
- Personnel performing containment must be trained.
- Results of the containment shall be recorded and reviewed for necessary corrective actions.

Exit criteria for Containment Level I shall be agreed with Serigraph Supplier Quality and shall include as a minimum, an agreed pre-determined quality level for the next three consecutive production runs and/or deliveries following rejection. Containment must not be removed before a permanent corrective action has been validated.

### 8.4 **CONTAINMENT LEVEL II**

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Containment Level II is defined as the implementation of additional controls by an impartial third-party selected by Serigraph at the expense of the supplier. Containment Level II is enacted when a supplier's Containment Level I activity fails to shield Serigraph from receipt of non-conforming material.

Serigraph Supplier Quality or Purchasing determines if Containment Level II is required.

The Containment Level II letter shall detail the specific non-conformance and required supplier actions, including inspection and exit criteria. The supplier is responsible for confirming receipt of the Containment Level II letter by signing and returning a copy of the letter to Serigraph Supplier Quality or Purchasing.

Serigraph plant assigns a sorting agency (third-party) to perform the Containment Level II activities. The supplier's input on the company used will be considered in the decision-making process.

Serigraph Supplier Quality will define the required checks and facilitate the definition of the exit criteria.

The third-party agency is responsible for performing the containment activity in accordance with pre-defined inspection criteria and recording methods. Records of the containment shall be provided by the third-party agency to both the supplier and the Serigraph plant quality manager.

Serigraph will direct who issues the purchase order to the third-party agency and the supplier is liable for payment of all costs associated. Initiation of Containment Level II does not relieve the supplier of any relevant Containment Level I activities following the Containment Level I guidelines and responsibilities.

Containment Level II shall not be removed until a review of the data indicates that all significant issues show evidence of closure and are evidenced in both the Containment Level II records and the records from the Containment Level I activity upstream in the process. If applicable, a Containment Level II exit meeting will be held at the supplier's facility to review both the Containment Level I and II containment records and validation results of the permanent corrective actions.

Following this review, Serigraph Supplier Quality will evaluate the findings and if found to be acceptable, will communicate in writing that the supplier has been removed from Containment Level II.

## **8.5 CORRECTIVE ACTION**

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The supplier shall use a team-based approach to problem solving following the 8D methodology and should utilize wherever possible the following quality tools when determining root cause: Ishikawa diagram (*fishbone*), 5 Why's, Design of Experiments (*DOE*). The method of root cause verification shall also be determined.

Chosen permanent corrective actions shall be communicated within 14 days from the original rejection date. Implemented corrective actions shall be validated by either the supplier or Serigraph Supplier Quality.

## **8.6 PREVENTIVE ACTION**

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An action, directed at the supplier's system, intended to prevent recurrence of a specific 8D problem by directing analysis and action toward correcting the system. The relevant supporting process documentation (e.g. FMEA's, control plans, procedures, work instructions, maintenance plans etc.) must be provided by the supplier with the 8D for review and approval. Transferred

## 8.7 SUPPLIER NON-CONFORMANCE CHARGEBACK

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Costs incurred, which are directly attributable to a suppliers non-conforming product and/or logistic/materials performance, shall be detailed in the relevant 8D and charged to the supplier. Costs may include, but not be limited to, administration, sorting or rework, premium freight, loss of productivity, scrap and any other costs incurred by Serigraph and/or Serigraph's customers' that are directly attributable to the supplier.

A flat chargeback fee of \$250.00 per lot will be assessed for each lot rejection to cover the costs of the transactions, work re-alignment and labor. If we need to rework the parts in house to meet customer requirements, the chargeback fee will be a minimum of \$500.00 per lot depending on requirements.

## 8.8 SHELF LIFE

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Materials that have a shelf life less than one year need to have at least 85% of the remaining shelf life upon delivery at Serigraph. (For example: an ink with a 12-month shelf life needs to have 10 months remaining when received at Serigraph.)

## 8.9 REGULATORY COMPLIANCE

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Serigraph Inc. requires suppliers to have processes in place to assure that governmental and safety regulations including RoHS and REACH on restricted, toxic and hazardous substances are complied with relative to purchased products and the manufacturing process. IMDS is required for automotive.

## 9.0 SUPPLIER CHANGE REQUEST (SCR)

Suppliers and/or sub-suppliers shall not make any unauthorized changes to products (e.g. material, parts, components etc.) and/or processes used to produce a product supplied to Serigraph, and that has previously been PPAP approved by Serigraph. This includes any changes to production control plans.

The supplier shall notify the Serigraph Purchasing Dept. of intentions to change a product or process accompanied by a suitable timing plan and quality plan. Suppliers shall gain approval prior to making any such changes.

Serigraph will review and determine the effects of the potential change(s) and approve or reject the suppliers change request and supporting quality plans.

All approved SCR's require a PPAP submission, level defined by Serigraph. A copy of approval SCR shall form part of the PPAP submission.

The supplier, prior to releasing or shipping changed products to Serigraph must obtain written PPAP approval.

Each container supplied in the first shipment/delivery made by the supplier following a change must be identified with a “1st Shipment” label.

### **9.1 SERIGRAPH NOTIFICATION REQUIREMENTS**

Supplier change requests shall be submitted to Serigraph for changes including, but not limited to:

- Changes of sub-suppliers
- Changes to supplier designed components
- Relocation of product/tooling to an alternative manufacturing location
- Use of alternative material or components
- Changes in process sequence
- Changes in equipment
- Tool movement within the same plant
- Replacement of Serigraph-owned gauges

Any such change made without prior written approval by Serigraph constitutes, not only a breach of purchase order terms and conditions, but also a serious breach of both standard automotive practice and the supplier’s third-party certification. Suppliers who fail to comply with these fundamental requirements shall be placed on new business hold and shall be liable for all damages, losses and liabilities associated with such a change.

### **9.2 PRODUCT AND/OR PROCESS DEVIATIONS**

It is the policy of Serigraph not to accept any product that does not meet Serigraph’s and/or Serigraph’s customers’ requirements. However, under extenuating circumstances, requests for any such deviations shall be submitted to Serigraph who will, in turn, review the request. Deviation request shall include, but not be limited to; the reason for the deviation, quality of parts or time the deviation is requested to extend to, and part and packaging identification proposals to ensure traceability. If a deviation is approved, it shall only extend to the quantity of parts or time stipulated, any shipments received outside of the deviation that do not conform to specifications shall be rejected.

## **10.0 CONTINUOUS IMPROVEMENT**

Suppliers shall continually improve the effectiveness of their quality management systems and manufacturing processes. Actions taken to regain previous levels of performance are corrective actions and not continuous improvement.

### **10.1 QUALITY MANAGEMENT SYSTEM IMPROVEMENT**

Suppliers shall define quality objectives and targets that shall be included in their business plans. These objectives and targets shall be continuously monitored, prioritized and acted upon, ensuring continuous improvement and fulfillment of Serigraph expectations.

## **10.2 MANUFACTURING PROCESS IMPROVEMENT**

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Manufacturing process improvement shall continually focus upon control, and reduction in variation and waste in product characteristics and manufacturing process parameters. Continuous improvement can only be implemented once manufacturing processes are stable and capable, or product characteristics are predictable and meet Serigraph's requirements.

## **10.3 PERFORMANCE REVIEWS & WORKSHOPS**

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Serigraph reserves the right to visit the suppliers' manufacturing facilities to assess continuous improvement programs and lean manufacturing techniques, including making recommendations for improvement. In addition, Serigraph in agreement with the supplier may facilitate a

continuous improvement and/or lean manufacturing workshop to aid the supplier in its continuous improvement process. Savings generated from such a workshop shall be shared between Serigraph and the supplier.

## **11.0 RECORD RETENTION**

Suppliers are required to maintain purchase orders and amendments, PPAP submission packages, re-qualification and validation records, tooling, maintenance, traceability, engineering and inspection records providing evidence of conformity to requirements for the active life of the product plus one calendar year minimum of fifteen years, whichever is the longer, unless otherwise specified by Serigraph.

Corrective/preventive actions (8D's) and supporting data shall be maintained for three years.

All records shall be stored, protected & retrievable upon request.

## **12.0 ANNUAL CERTIFICATIONS**

Suppliers are required to provide annual certifications:

1. Annual dimensional layouts for automotive part suppliers
2. CQI-23 Molding System Assessment for molding suppliers
3. Material Certifications all suppliers

## **13.0 Supplier Quality Management System Development**

The organization shall require their suppliers of automotive products and services to develop, implement, and improve a quality management system certified to ISO 9001, unless otherwise authorized by the customer (e.g., item a) below), with the ultimate objective of becoming certified

to this Automotive QMS Standard. Unless otherwise specified by the customer, the following sequence should be applied to achieve this requirement.

- a) Compliance to ISO 9001 through second-party audits.
- b) Certification to ISO 9001 through third-party audits, unless otherwise specified by the customer. Suppliers to the organization shall demonstrate conformity to ISO 9001 by maintaining a third-party certification issued by a certification body bearing the accreditation mark of a recognized IAF MLA (International Accreditation Forum Multilateral Recognition Arrangement) member and where the accreditation body's Main scope includes management system certification to ISO/IEC 17021;
- c) Certification to ISO 9001 with compliance to other customer-defined QMS requirements (such as Minimum Automotive Quality Management System Requirements for Sub-Tier Suppliers (MAQMSR) or equivalent) through second-party audits;
- d) Certification to ISO 9001 with compliance to IATF 16949 through second-party audits;
- e) Certification to IATF 16949 through third-party audits (valid third-party certification of the supplier to IATF 16949 by an IATF-recognized certification body).