



*Because every life has a **purpose**...*



# Global Supplier Quality Manual



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## 1. Introduction

### 1.1. Purpose

This Global Supplier Quality Manual serves as a communication tool to notify MSA suppliers of the minimum expectations MSA has regarding suppliers' quality management systems as a requirement of doing business with MSA. This Manual establishes the minimum quality requirements for all suppliers providing products and/or services used in the direct manufacture of finished goods, whether the products being furnished are provided by the supplier directly, or are purchased from sub-tier suppliers for the use in MSA products.

### 1.2. Scope

1.2.1. This Manual applies to all suppliers providing MSA with materials, products, processing, and related services used in the direct manufacture of finished goods.

1.2.2. The requirements of this document are generic and are intended to be applicable to all organizations doing business with MSA operations, regardless of the type, size, quantity, or product provided.

- a. Supply Agreement (if applicable)
- b. Purchase order (excluding this document);
- c. MSA Purchase Order Terms and Conditions
- d. Applicable MSA drawing or specification;
- e. MSA Standard Shop Practices;
- f. This document.

## **2. About Mine Safety Appliances (MSA)**

### **2.1. Corporate Overview**

Established in 1914, Mine Safety Appliances Company (“MSA”) is the global leader in the development, manufacture and supply of safety products that protect people and facility infrastructures. Many MSA products integrate a combination of electronics, mechanical systems and advanced materials to protect users against hazardous or life-threatening situations. The company’s comprehensive line of products is used by workers around the world in a broad range of industries, including the fire service, the oil, gas and petrochemical industry, construction, mining and utilities, as well as the military. Principal products include self-contained breathing apparatus, fixed gas and flame detection systems, handheld gas detection instruments, head protection products, and fall protection devices. The company also provides a broad range of consumer and contractor safety products through our Safety Works joint venture with MCR Safety. MSA, based in Cranberry Township, Pennsylvania, USA, is a public company listed on the New York Stock Exchange and has manufacturing operations in the United States, Europe, Asia and Latin America. We maintain affiliate companies in approximately 40 countries.

### **2.2. Our Mission**

MSA’s mission is to see to it that men and women may work in safety and that they, their families, and their communities may live in health throughout the world.

### **2.3. Our Vision**

Our vision is to be the world’s leading provider of safety solutions that protect workers when life is on the line. We pursue this vision with an unsurpassed commitment to integrity, customer service, and product innovation that creates exceptional value for all MSA stakeholders.

### **2.4. Our Values**

MSA’s values are the foundation of our company culture. Our seven core values define who we are and what make us truly stand apart. MSA’s values are: Customer Focus, Integrity, Speed and Agility, Innovation & Change, Diversity & Inclusion, Teamwork, and Engagement. Our foundational value is Integrity. Integrity is inherent in all we do. Just as we expect our employees to act with Integrity, so must our business partners. This is a core requirement for doing business with MSA. Integrity means that our business partners must comply with all applicable laws, avoid conflicts of interest and the appearance of such conflicts, conform to honest and fair dealings, and adhere to unwavering standards of trust, professionalism and ethical standards in all dealings with MSA.

## 2.5. Our Quality Policy

“We make the world safer one person at a time. We are committed to complying with our Quality Management System, Regulatory, and Statutory Requirements. We will work to continually improve the effectiveness of our Quality System. We will measure and monitor our key Processes to facilitate this continuous improvement.”

## 3. Responsibilities

- 3.1. MSA Global Sourcing, Supply Chain (Purchasing), Manufacturing, and Quality departments are responsible for the implementation of the Global Supplier Quality Manual requirements, and have authority to ensure all suppliers meet and fulfill its requirements.
- 3.2. Suppliers are responsible for ensuring products and/or services provided meet MSA requirements and assume full responsibility for the quality thereof. Approval and qualification by MSA of a supplier’s quality systems, documentation, records or manufacturing sites and so on, does not absolve the supplier of the responsibility to provide acceptable product and comply with contractual terms in place between us, nor does it prevent rejections by MSA or MSA’s customers.

## 4. Supplier Code of Conduct

### 4.1. MSA Code of Business Conduct and Ethics

- 4.1.1. As an extension of MSA, all suppliers and their sub-tier suppliers must conduct business in accordance with the MSA Code of Business Conduct and Ethics. The Code can be obtained through the MSA website: [www.MSASafety.com](http://www.MSASafety.com), or by request through your MSA Supply Chain Specialist (or MSA Buyer, where applicable), or refer to Appendix G of this Manual for alternate contact information. The document is available in 14 languages.
- 4.1.2. It is the responsibility of the MSA supplier to ensure that its sub-tier suppliers also conform to these policies and guidelines.

### 4.2. Confidentiality

- 4.2.1. The supplier must treat all MSA product(s), material(s) and specification(s) and other MSA information it receives or produces as the confidential business information of MSA. Depending on the type of product or process, suppliers may also be required to sign a nondisclosure agreement prior to doing business with MSA. The failure to sign a nondisclosure agreement will not absolve the supplier of its responsibility to maintain the confidentiality of MSA’s information.

- 4.2.2. MSA suppliers must establish nondisclosure agreements with sub-tier suppliers that receive or process MSA product, drawings, computer models, specifications, technical data or other MSA intellectual property prior to doing business with them.

#### **4.3. Compliance with Legal Requirements**

Suppliers must familiarize themselves with all applicable legal requirements, regulations and statutory requirements for the manufacturing methods used and/or services provided at their facility. The supplier is also expected to be familiar with any applicable regulations related to customs for both their exporting location and the importing country of the supplied product.

### **5. Supplier Quality Management System**

- 5.1. MSA requires that all suppliers maintain a Quality Management System (QMS) suitable to the products and services provided to MSA. A QMS is a formalized system that documents the structure, responsibilities, and procedures required to achieve effective Quality Management.<sup>1</sup>
- 5.2. MSA prefers suppliers of production materials and/or services to be certified by an accredited third-party certification body to the latest version of ISO 9001 (or equivalent).
- 5.3. If at any time, a supplier's certification is withdrawn by their registrar, the supplier must inform MSA within seven (7) business days. Notification can be sent to your MSA Supply Chain Specialist (or MSA Buyer, where applicable), or refer to Appendix G of this Manual for alternate contact information.
- 5.4. Upon expiration and/or renewal of certification, the supplier must provide notice to MSA of the expiration and provide the new proof of certification, if obtained.

### **6. New Supplier Qualification and Approval**

- 6.1. The Approval Process for a new supplier that will be supplying product into North America includes the following elements (as applicable) in accordance with Appendix A:

#### **6.1.1. Supplier Survey**

This survey assesses a supplier's basic financial health, business structure, capabilities, and general level of quality.

<sup>1</sup>Definition obtained with permission from American Society of Quality (ASQ) [www.asq.org](http://www.asq.org)



### 6.1.2. **On-Site Quality Management System (QMS) Audit**

MSA's on-site audit is based on ISO 9001:2008. Audits may be completed by MSA internal auditors, or by a Third Party agency, as needed. As a result of the audit, findings may be issued to the supplier by MSA. The timeliness and thoroughness of a supplier's response to the audit findings will affect the likelihood of new or continued business with MSA.

- 6.2. If product or services supplied by your company will not be supplied into North America, please contact your local MSA affiliate for details on the supplier approval process that applies to your region. Contact information can be found in Appendix G of this Manual.

## 7. **General Requirements**

### 7.1. **MSA Standard Shop Practices**

- 7.1.1. If indicated on the MSA Documentation for the product or service supplied, suppliers must review and follow the MSA Standard Shop Practices, available by request through your MSA Supply Chain Specialist (or MSA Buyer, where applicable), or refer to Appendix G of this Manual for alternate contact information.
- 7.1.2. It is the responsibility of the supplier to ensure that its sub-tier suppliers also conform to these Standard Shop Practices when required by MSA Documentation.

### 7.2. **Referenced Industry and/or Safety Standards**

- 7.2.1. MSA Documentation often references various industry and safety standards. These include, but are not limited to, the following examples: ANSI, CSA, NFPA, EN, ISO, MIL-STD, AS/NZS and UL. It is the supplier's responsibility to purchase the standard at the supplier's expense and familiarize with the requirements of the standard referenced by the MSA Documentation.
- 7.2.2. The supplier is responsible to obtain the appropriate revision of the standard specified by MSA Documentation and to ensure that the requirements within the standard are met. The appropriate revision may be the most recent revision of the standard, or a specific revision level, as specified by MSA Documentation. If there is any uncertainty regarding the revision level to be used, the supplier should contact the responsible MSA Supply Chain Specialist (or MSA Buyer, where applicable) immediately for clarification. Refer to Appendix G of this Manual for alternate contact information.

- 7.2.3. Requirements of the entire standard referenced are considered requirements of the MSA purchased product and/or service, except in cases where only specific portions of the standard are identified. In these cases, only the specified sections of the standard are considered requirements of the MSA purchased product and/or service.
- 7.2.4. The supplier should contact the responsible MSA Supply Chain Specialist (or MSA Buyer, where applicable) immediately if there are any questions regarding the appropriate revision level of a standard to be followed, or the requirements contained within any standards referenced. Refer to Appendix G of this Manual for alternate contact information.

### 7.3. **Sub-tier Suppliers**

#### 7.3.1. **MSA Designated Sources**

When specified by MSA Documentation, the supplier must purchase products, materials and/or services from MSA-designated sources. However, the supplier is responsible to ensure that items procured from such sources meet all applicable requirements.

#### 7.3.2. **Flow-down to Sub-tier Suppliers**

The supplier must have a process in place to ensure the transfer of all MSA quality-related requirements to sub-tier suppliers, including the requirements of all MSA Documentation, including this Manual, as applicable.

### 7.4. **Contingency Plans**

MSA prefers that suppliers have a contingency plan which would allow for the recovery of engineering drawings, electronic files, and production tooling in the event of damage or loss. This plan would also contain plans to meet MSA requirements in the event of significant utility, labor, or equipment difficulties.

### 7.5. **Warranty and Cost Recovery**

For the conditions for warranty and recovery of costs, please refer to any applicable Supply Agreement and the MSA Purchase Order Terms and Conditions.



## 7.6. **Purchase Order Requirements**

The supplier must adhere to all applicable Supply Agreements and Purchase Order Terms and Conditions plus any stated special instructions.

## 8. **Documentation and Records**

### 8.1. **Document Control**

- 8.1.1. Documents may be provided by MSA to the supplier in hard copy, electronic, or other media. The supplier is responsible for controlling and maintaining MSA Documentation to prevent improper use, alteration and/or loss.
- 8.1.2. The supplier is responsible for ensuring that the latest MSA engineering drawings and/or specifications are available at the point of manufacture, inspection, and testing. If, in the case that supplier-internal drawings and specifications are utilized, the supplier is responsible for ensuring that the requirements of the latest MSA engineering drawings and specifications, as indicated on the purchase order, are incorporated in the supplier's internal documentation.
- 8.1.3. MSA drawings, specifications and electronic files are the property of MSA and are made available to suppliers in confidence and subject to the following: No permission is granted to publish, use, reproduce, transmit or disclose any MSA-supplied drawings, specifications, and/ or electronic files or any information contained therein to others without the prior written consent of MSA except for the manufacture of articles for MSA.
- 8.1.4. For additional details, please refer to the applicable Supply Agreement and MSA Purchase Order Terms and Conditions.

### 8.2. **Design Records**

Where suppliers are responsible for the design of a product, records must be made available to MSA upon request, except for cases of proprietary designs and/or processes.

### 8.3. **Record Retention**

Suppliers providing product or service to a North America MSA facility must retain quality records for a minimum of seven (7) years, unless otherwise specified through the MSA Documentation. Suppliers providing product or service to regions outside of North America must retain quality records for a minimum of ten (10) years, unless otherwise specified through the MSA Documentation. The supplier must be able to provide MSA with requested records within two (2) business days of the initial request.

### 8.4. **Quality Planning**

#### 8.4.1. **Product Characteristics**

- a. The supplier is responsible for identifying any key process characteristics that would affect product quality, and for implementing the necessary quality planning and quality controls.
- b. At a minimum, the key characteristics identified on the MSA Documentation must be identified in the control plan, traveler, or other means of quality planning for the product or service.
- c. MSA North America uses symbols in drawings and specifications to identify key product characteristics that affect product quality. These are shown in Appendix B of this Manual.
- d. If you have questions regarding what product characteristics are considered key product characteristics, please contact your MSA Supply Chain Specialist (or MSA Buyer, where applicable) or refer to Appendix G of this Manual for alternate contact information.

### 8.5. **Lot Traceability**

- 8.5.1. Traceability systems in place at the supplier must meet requirements as specified in MSA Documentation.
- 8.5.2. If not detailed in MSA Documentation, at a minimum, the supplier must have traceability to the point which enables the supplier to identify additional material that could be affected, including adjacent lots, if it has been discovered that stocks may be non-conforming.
- 8.5.3. MSA requires that usage of raw materials and shipping of product be made according to the First In - First Out (FIFO) principle.

## 8.6. Inspection

- 8.6.1. The supplier must inspect the supplied products, when applicable, prior to delivery against MSA Documentation requirements, at a minimum, including functional, assembly requirements, aesthetical appearance and product reliability, where applicable.
- 8.6.2. For additional details regarding inspection and rejection, please refer to the applicable Supply Agreement and MSA Purchase Order Terms and Conditions.

## 9. Product Qualification

### 9.1. First Article Inspection

- 9.1.1. For initial production runs, revisions, and after a two (2) year lapse in production, a First Article Inspection (FAI) must be provided by the supplier.
- 9.1.2. During an FAI, all notes, dimensions, and features of the applicable MSA drawings and specification must be inspected and verified prior to the first delivery. Data must be provided where applicable.
- 9.1.3. FAI forms can be obtained through an MSA Supply Chain Specialist (or MSA Buyer, where applicable) or Quality representative. Equivalent forms will be accepted.

### 9.2. MSA Production Part Approval Process (PPAP)

A supplier will be notified by MSA if the MSA Production Part Approval Process (PPAP) is required for the product to be supplied. The Level of Submission will be discussed and agreed upon between MSA and the Supplier and is dependent on the type of product or service to be supplied and its intended use in MSA final product. The Level of Submission dictates what items must be completed and submitted to MSA as a part of the PPAP. Appendix C outlines the typical requirements for each MSA PPAP Submission Level.

## 10. Process Control

### 10.1. Error-proofing

The supplier should use error-proofing devices as a form of process control, where possible. Error-proofing devices should be controlled to ensure devices are validated periodically.

## 10.2. **Work Instructions**

The supplier must document work instructions for processes affecting product quality. The instructions should be kept current and the latest revision must be available at the appropriate work stations.

## 10.3. **Measuring and Testing Equipment**

10.3.1. The supplier must ensure that all required means for testing the products supplied to MSA are available at all times during production.

10.3.2. All equipment used for the evaluation and qualification of product must be included in a calibration program with calibration traceable to specific National Measurement Standards. For suppliers located in the United States, MSA prefers that calibration methods be traceable to National Institute of Standards and Technology (NIST).

10.3.3. The supplier should have a process in place for the action to be taken in the case that equipment that was used to qualify product has been found to be out of calibration.

## 10.4. **Control of Software**

The supplier must have a process in place to verify, validate, and control software that is used in design, manufacture, inspection, test acceptance or calibration associated with product and/or services supplied to MSA.

## 11. **Nonconforming Product**

### 11.1. **General**

11.1.1. Material that does not meet specified requirements should be identified and segregated at the supplier location to prevent its inadvertent use, shipment or intermingling with conforming material or product.

11.1.2. The supplier must immediately notify the responsible MSA Supply Chain Specialist (or MSA Buyer, where applicable) if it is discovered that nonconforming material may have been shipped to an MSA facility.

11.1.3. The supplier must, in case of a defective delivery or suspected defect, check its own stocks and those of MSA at the supplier's expense and sort the defective product or bear the respective costs. The supplier must clarify if other defective or probably defective products are already within MSA or in shipment to MSA.

11.1.4. For additional details, please refer to the applicable Supply Agreement and the MSA Purchase Order Terms and Conditions.

## 11.2. **Corrective Action**

11.2.1. Supplied nonconforming product may be identified during MSA incoming inspection, within the production process, or potentially after shipment. MSA will notify the supplier of any nonconforming material.

11.2.2. Upon receipt of a notification of a product issue, the supplier must analyze the cause of the problem, as well as solve it quickly and permanently. MSA prefers that the problem solving process be documented in an 8D report. In some cases, an 8D investigation is required. The supplier will be notified of this requirement by the MSA Supply Chain Specialist (or MSA Buyer, where applicable) or Quality representative. Regardless of the method used to investigate and document the root cause and corrective actions detailed in the notification, the supplier's response must be processed in full, concluded and forwarded to the MSA Supply Chain Specialist (or MSA Buyer, where applicable) responsible within ten (10) working days. Containment responses must be provided within twenty-four (24) hours.

11.2.3. MSA can provide an 8D template upon request. Supplier generated 8D reports will be accepted.

## **12. Changes and/or Deviations**

### **12.1. Supplier-Initiated Changes and/or Deviations**

- 12.1.1. Any deviation from the requirements of the MSA Documentation must be submitted to MSA for written approval prior to implementation.
- 12.1.2. Any modifications to raw material type and/or composition, sub-tier supplier, or processing conditions must be submitted to MSA for written approvals prior to production.
- 12.1.3. Requests can be made through your MSA Supply Chain Specialist (or MSA Buyer, where applicable) or refer to Appendix G of this Manual for alternate contact information.

### **12.2. MSA Engineering Drawing or Specification Change**

- 12.2.1. If MSA notifies the supplier of a product change (e.g., materials, manufacturing processes, delivered parts, data sheets, drawings), the supplier will evaluate effects of the implementation and inform MSA immediately in writing within ten (10) business days regarding the effects of the modification on the production process, performance, capability, delivery, and price.
- 12.2.2. For any and all MSA Engineering changes, the supplier is responsible for updating all aspects of the quality planning to reflect the new change.
- 12.2.3. Changes must be incorporated in a timely manner in accordance with instructions from MSA. All product shipped must be clearly marked in an appropriate manner as agreed upon with MSA.



### 12.3. Engineering Marked Prints

12.3.1. MSA Engineering Marked Prints are often, but not always, used to convey modification to released drawings or specifications for special material jobs or to expedite manufacture of product prior to drawing/specification release.

12.3.2. The marked print will indicate one of the following criteria to relate how long the marked print is valid:

- a. Specific quantity of pieces that can be produced; and/or
- b. Specific time frame (note: "Until next revision" is not an acceptable time frame); and/or
- c. Specific Purchase Order Number.

1.1.2. If the supplier receives an MSA Purchase Order specifying an MSA drawing or specification for which the supplier currently has a valid Engineering Marked Print, the supplier should immediately contact the appropriate MSA Supply Chain Specialist (or MSA Buyer, where applicable) for clarification of any conflicting information on the documentation, or refer to Appendix G of this Manual for alternate contact information.

### 12.4. Implementing Changes

The supplier must have a process in place for the control and tracking of engineering and/or manufacturing changes, whether initiated by the supplier or by MSA.

## 13. Packaging, Labeling, Shipping, Delivery

### 13.1. Packaging

13.1.1. All products must be appropriately packaged to protect from damage and/or contamination of goods. Packaging must meet all applicable shipping laws, codes, and regulations.

13.1.2. Packing slips must be attached to the carton exterior in shipping envelopes. The applicable valid MSA Purchase Order number(s) **MUST** be written on the packing slip.

### 13.2. **Special Handling**

Packaging and transportations considerations should be made for any products requiring special handling (e.g. cold storage, etc.).

### 13.3. **Labeling**

13.3.1. The label of the products must be carried out according to MSA's requirements as specified in MSA Documentation or in writing by the MSA Supply Chain Specialist (or MSA Buyer, where applicable). At a minimum, all deliveries must be labeled so that all products can be unambiguously identified. Manufacturing dates and expiration dates, when applicable, must be clearly shown on the package label.

13.3.2. Each shipment must be marked with the appropriate MSA part number(s), quantity, lot number, MSA site name, address, gross weight, and any other requirements as specified by MSA Documentation, as applicable.

### 13.4. **Shelf-Life**

For products that have a limited shelf life, the lot number, date of manufacture and /or cure date, the expiration date and any required storage requirements must be provided to MSA. A minimum of 90% shelf life must be remaining upon receipt at MSA, unless otherwise permitted by MSA in writing.

### 13.5. **Supplied Raw Material**

13.5.1. For raw material supplied directly to MSA, (examples include, but are not limited to, the following: plastic pellets, fabric, paint, and carbon), a certification must be provided with the shipment containing the material type, lot number and quantity received as it appears on the purchase order.

13.5.2. Certifications may be required for raw materials not shipped directly to MSA but used in the manufacture of MSA product. These requirements will be specified in the MSA Documentation. In all cases, material substitutions are prohibited without written approval by MSA. Refer to Section 12: *Changes and/or Deviations* of this Manual for more details.

### 13.6. **International Material Data Sheet**

International Material Safety Data Sheets (MSDS) must be supplied to MSA as required by law, or at MSA's request.

### 13.7. **Certification Documentation**

- 13.7.1. When required by MSA Documentation, the supplier must provide a Certificate of Conformance (C of C), Certificate of Analysis (C of A), Certificate of Test, etc. as required.
- 13.7.2. Failure to provide proper certification as required may result in payment being withheld until proper certification has been received.
- 13.7.3. In some regions, failure to provide the proper certification is considered as a deviation to the requirements and will affect the Quality portion of the Supplier Scorecard, if applicable. Refer to Section 15.5: *Scorecard* of this Manual for more details.

### 13.8. **On-Time Delivery**

- 13.8.1. Delivery must be in accordance with the applicable Supply Agreement, the MSA Purchase Order, and MSA's Purchase Order Terms and Conditions.
- 13.8.2. The evaluation of "parts on time" is a measure of the supplier's ability to meet our delivery schedules. The goal is 100% on-time delivery with every shipment made to MSA. For more details on how MSA measures delivery, please refer to Section 15.5: *Scorecard* of this Manual.
- 13.8.3. In order to be considered on-time, a shipment must be received at MSA three (3) days prior to or three (3) days after the purchase order scheduled delivery date.

## 14. **Management of MSA-Owned/ Supplied Equipment and Tooling**

### 14.1. **General Requirements**

- 14.1.1. The supplier must use MSA-owned/supplied gages, equipment, or tooling on MSA Purchase Orders only and for only those MSA Purchase Orders for which the items were supplied.
- 14.1.2. The supplier must obtain written approval from MSA prior to making any modifications to MSA-owned/supplied gages, equipment, or tooling.
- 14.1.3. The supplier must obtain written approval from MSA before the disposal or destruction of MSA-supplied gages, test equipment, or tooling.
- 14.1.4. The supplier must report all cases of loss, damage or destruction of MSA's property within seventy-two (72) hours of such case being identified.
- 14.1.5. The supplier is responsible for the proper storage, calibration, etc. of the MSA-owned/supplied gages, equipment, and/or tooling.

## 14.2. Tracking

- 14.2.1. All MSA-owned/supplied gages, equipment, or tooling must be identified with permanent, legible identification which states the ownership designation as “Property of MSA” and the MSA tool asset number, unless size or use prohibits such identification.
- 14.2.2. The supplier must contact the MSA Supply Chain Specialist (or MSA Buyer, where applicable) before the transfer of gages, test equipment or tooling among supplier facilities or to other suppliers. Refer to Appendix G of this Manual for alternate contact information.
- 14.2.3. The supplier must maintain a list of all MSA owned/supplied gages, equipment or tooling. The list must be traceable back to the MSA tooling purchase order and/or job number. The list must contain reference to the MSA tool asset number, where applicable. In some regions, this list will be requested on a routine basis.

## 15. Supplier Rating and Monitoring

### 15.1. Right of Access

MSA reserves the right to conduct audits and/or inspections at the supplier’s and/or sub-tier supplier’s facilities to verify the quality of work, records, and product related to the product purchased by MSA. All materials, records, routers, inspection and testing facilities related to MSA-purchased product are subject to review by MSA.

### 15.2. Approved and Preferred Supplier Lists

- 15.2.1. MSA maintains both an Approved supplier List and a Preferred supplier List. These lists are reviewed periodically by MSA Sourcing and Supply Chain (Purchasing) teams with input from MSA Quality and Manufacturing representatives.
- 15.2.2. Approved suppliers are those that are approved in accordance with, or have been approved prior to the implementation of, Section 6: New Supplier Qualification and Approval of this Manual.
- 15.2.3. Preferred suppliers are suppliers that have been assessed for having historically acceptable levels of quality, delivery, cost, and customer service. Preferred suppliers are those recommended to MSA Supply Chain (Purchasing) and Sourcing representatives for awarding new business.

### 15.3. **Periodic Evaluations**

Suppliers are subject to periodic evaluation. This may include on-site audits, request for Survey completion, supplier scorecard performance reviews, or other means as deemed necessary by MSA.

### 15.4. **Escalation Process**

Failure to meet the requirements of this Global Supplier Quality Manual, shipment of nonconforming material, lack of responsiveness, or other factors deemed significant by MSA, could result in the trigger of the escalation process up to and including re-sourcing. Based on the history with any supplier and the discretion of MSA Quality, Sourcing, and Manufacturing representatives, the escalation process can be accelerated or decelerated at any time. The general escalation process is as detailed in Appendix D.

### 15.5. **Scorecard**

#### 15.5.1. **Calculations**

- a. A select number of suppliers are measured quarterly according to the following Key Performance Indicators (KPI): Quality, Delivery, and Price. Suppliers being monitored using this method will be notified by MSA and receive a quarterly report of their scoring. The details of these calculations are shown in Appendix E.
- b. A score of 80 or above for each KPI, as well as overall, is considered a passing score.

#### 15.5.2. **Request for Scorecard Correction**

Suppliers may appeal their scorecard values by contacting their MSA Supply Chain Specialist (or MSA Buyer, where applicable) or a MSA Sourcing Representative. Only appeals containing quantifiable and verifiable data to dispute the score will be considered. Refer to Appendix G of this Manual for alternate contact information.

**Appendix A: MSA New Supplier Qualification Table**  
 Refer to Section 6 of this Manual for additional details.

Tools and Required Results	Classification Level See next table for descriptions of each level.		
	Level III	Level II	Level 1
<b>Supplier Survey</b>			
<ul style="list-style-type: none"> <li>Reviewed by MSA Quality (not used for final supplier approval)</li> <li>This survey also requests supplier quality certificates, financial statements, etc. for review by MSA Quality, Sourcing, Supply Chain (Purchasing), and Manufacturing</li> </ul>	Required	Required	Optional
<b>General Supplier Market Review (Dunn and Bradstreet Report, Trade Associates, Supply Chain Specialist's Guides, etc.)</b>			
<ul style="list-style-type: none"> <li>Reviewed by MSA Supply Chain (Purchasing) and/or Sourcing representative and deemed acceptable</li> </ul>	As needed	As needed	N/A
<b>On-site Quality Management System (QMS) Audit</b>			
<ul style="list-style-type: none"> <li>Must score greater than or equal to 80% for audit AND close-out any audit finding(s) within the time frame required.</li> <li>If a supplier scores LESS than 80%, the supplier must complete corrective action and a follow-up on-site audit may be performed. Follow-up audit score must be greater than or equal to 80%.</li> <li>In special circumstances, if a supplier is unable to obtain a passing score on the audit, but necessary for MSA business, the approval is elevated to MSA upper management for review.</li> </ul>	Required	Conditional*	N/A

\* If the supplier does NOT have a valid, current ISO9001:2008 certification (or equivalent), an On-site Quality Management System (QMS) audit is required. If the supplier has a valid QMS certification, an on-site audit is not required but the supplier quality certificate(s) must be obtained and retained in the MSA supplier file.



**Appendix A: MSA New Supplier Qualification Table (Continued)**

*Refer to Section 6 of this Manual for additional details.*

<b>Classification: Level III</b>
Supplier provides any material or service that meets ANY ONE of the following criteria: <ul style="list-style-type: none"><li>• Sole source (i.e., the supplier owns the Intellectual Property for the design and/or processing);</li><li>• MSA Engineering designed or contributed to the design of the product(s);</li><li>• The supplier will ship finished goods directly to an MSA distribution center;</li><li>• MSA owns the Intellectual Property of any of the purchased product design and/or process;</li><li>• Highly critical to function/design (as designated by MSA Engineering or Quality);</li><li>• The supplier <u>or its sub-tier supplier</u> will perform any special processes. Special processes include the following: Chemical Processing, Coatings, Welding, Soldering, Thermal Processing (including heat treatment and brazing), Non-conventional Machining and Surface Enhancement (Chemical milling, shot peening, etc.).</li></ul>
<b>Classification: Level II</b>
Supplier provides any material or service that meets the following criteria: <ul style="list-style-type: none"><li>• Multiple sources available (i.e. no IP protection on the product and/or process by either MSA or the supplier);</li><li>• Medium criticality to function/design of sub-system/product (as designated by MSA Engineering or MSA Quality);</li><li>• Supplier does not meet any criteria for Level III.</li></ul>
<b>Classification: Level I</b>
Supplier provides any material or service that meets the following criteria: <ul style="list-style-type: none"><li>• Multiple sources available (i.e. no IP protection on the product and/or process by either MSA or the supplier);</li><li>• Low criticality to functionality of sub-system/product (as designated by MSA Engineering or Quality);</li><li>• Agency approval not required if component is changed;</li><li>• MSA Engineering did not design or contribute to the design of the product;</li><li>• Supplier does not meet any criteria for Level II or Level III;</li><li>• Customer-appointed source.</li></ul>

**Appendix B: MSA Classification of Characteristics**  
 Refer to Section 8.4 of this Manual for additional details.

Symbol	Type	Description
+	Critical	A characteristic in which judgment and experience indicate that a defect is likely to result in a condition immediately dangerous to life and health. <b>Characteristic MUST BE 100% inspected (unless verification is destructive).</b>
A	Major A	A characteristic, other than critical, in which a defect may reduce the effectiveness of the item for its intended purpose and the reduced effectiveness is not readily detectable to the user.
B	Major B	A characteristic other than Critical or Major A in which a defect may reduce the effectiveness of the item for its intended purpose and the reduced effectiveness is detectable to the user.
C	100% Inspection	This indicator can be combined with any symbol. Characteristic MUST BE 100% inspected.
<no symbol>	Minor	A characteristic in which a defect that is not likely to reduce the effectiveness of the item for its intended purpose or in which a defect is a departure from established standards but has little bearing on the effective use or operation of the item

**Appendix C: Production Part Approval Process (PPAP) Requirements**  
 Refer to Section 9 of this Manual for additional details.

**Key:** “X” = Required : “o” = Optional : “\*” = As applicable

Item Description	Requirements for Each Level of MSA-PPAP			
	Level 1	Level 2	Level 3	Level 4
<b>Design Records</b>				
<ul style="list-style-type: none"> <li>If the supplier owns the design of the part, design documentation must be finalized prior to part approval by MSA.</li> <li>If MSA owns the design of the part, the supplier must have a Marked Print with an Engineering Flag signed by the appropriate MSA representatives prior to part approval by MSA.</li> </ul>	X	X	X	X
<b>Engineering Change Documents (with Engineering Approval)</b>				
For any changes submitted after initial part approval, the supplier must have a Marked Print with an Engineering Flag signed by the appropriate MSA representatives prior to the new approval of the part by MSA.	X	X	X	X
<b>DFMEA</b>				
<ul style="list-style-type: none"> <li>MSA will accept any standard format of DFMEA. A template can be provided upon request.</li> <li>In some cases, MSA may accept a summary of the outputs of a DFMEA or Design Risk Assessment.</li> </ul>	o	o	o	X
<b>Process Flow Diagram</b>				
MSA will accept various formats for the process flow diagram. Details on how to create a process flow diagram can be provided to suppliers unfamiliar with the technique.	o	X	X	X
<b>PFMEA</b>				
<ul style="list-style-type: none"> <li>MSA will accept any standard format of PFMEA. A template can be provided upon request.</li> <li>In some cases, MSA may accept a summary of the outputs of a PFMEA or Process Risk Assessment.</li> </ul>	o	o	o	X
<b>Control Plan</b>				
MSA will accept various formats for the Control Plan. A template of a control plan can be provided to the supplier upon request.	o	o	X	X

**Appendix C: Production Part Approval Process (PPAP) Requirements (Continued)**

*Refer to Section 9 of this Manual for additional details.*

**Key:** “X” = Required : “o” = Optional : “\*” = As applicable

Item Description	Requirements for Each Level of MSA-PPAP			
	Level 1	Level 2	Level 3	Level 4
<b>Measurement System Analysis Studies</b>				
MSA will accept the use of various statistical packages in completing a Measurement System Analysis Studies. MSA will accept in most cases a satisfactory Gage R & R study as sufficient for this requirement.	o	o	o	X
<b>Dimensional Results, Material, Performance Test Results</b>				
<ul style="list-style-type: none"> <li>• Dimension results are required for all dimensions specified on the MSA Drawing.</li> <li>• Specific material and performance test requirements will be agreed upon between MSA and supplier.</li> </ul>	o	X	X	X
<b>Initial Process Studies</b>				
MSA will accept the use of various statistical packages in completing a Process Capability study. The level of Process Capability will be specified by MSA during the request for PPAP completion.	o	o	X	X
<b>Qualified Laboratory Documentation</b>				
Any testing performed by an external/commercial laboratory must be identified as such. MSA must be provided with the name of the laboratory that performed the tests, the date(s) of the test(s) and the standards used to run the test(s).	X*	X*	X*	X*
<b>Sample Product</b>				
Quantity of samples will be determined on a case by case basis between MSA and supplier.	o	o	X	X
<b>Master Sample</b>				
The purpose of the master sample is to aid in defining the production standard. The retention of a master sample will be discussed on a case by case basis.	o	o	o	o
<b>Checking Aid</b>				
If any gages will be used specifically and only for the part pertaining to the submitted Approval request, the supplier must provide evidence that the checking aid agrees with part dimensional requirements. A preventive maintenance plan must all be provided.	X*	X*	X*	X*
<b>Records of Compliance with Customer-specific Requirements</b>				
This is required where indicated for bulk materials.	o	o	X*	X*
<b>Part Submission Warrant (PSW)</b>				
MSA's PSW form must be used. No other forms of a PSW will be accepted.	X	X	X	X

**Appendix D: Escalation Process Guidelines for Poor Performance**

*Refer to Section 15.4 of this Manual for additional details.*

**LEVEL 3  
(Normal Supplier Interactions)**

***Possible Reasons for Escalation:***

- Quality score < 80%; and/or
- supplier performance regresses significantly or continuously over a 3 month period; and/or
- A recurring issue is identified; and/or
- The supplier does not react appropriately to direct contact or requests for corrective action (10 days); and/or
- A nonconformance is found within the work cell on the floor or if production becomes irregular; and/or
- The supplier provides an incomplete or late PPAP (if applicable).

**LEVEL 2**

***Potential Actions at this Level:***

**Conference Call:** MSA will schedule and contact the supplier via conference call with a cross-functional team (as needed) to discuss issues, actions to be taken and timing.

**Removal from Dock-To-Stock (if applicable):** Normal inspection will be implemented. ISO standard for inspection ANSI/ASQZ1.4 will be used. When 3 to 5 consecutive lots (based on issue) are considered accepted, the product will go back to dock-to-stock, if applicable.

**Site Visit:** MSA representatives may visit the supplier site or request that representatives from the supplier visit MSA.

**Written Plan:** MSA may request that the supplier provide a detailed, time-bound, written action plan as evidence of the supplier's commitment to make improvements

***Possible Reasons for Escalation:***

- Quality score < 70%; and/or
- Nonconforming product continues to be found at incoming inspection, within the work cell on the floor or if production becomes irregular; and/or
- The supplier continually does not react in a timely manner to direct contact or requests for corrective action; and/or
- The supplier provides fails to provide a complete PPAP submission after second request (15 days).

**Appendix D: Escalation Process Guidelines for Poor Performance (continued)**

Refer to Section 15.4 of this Manual for additional details.

**LEVEL 1**

**Potential Actions at this Level:**

**Removal from Preferred Supplier List:** Supplier will be removed from the Preferred Supplier List (if applicable) and placed on New Business Hold. No new business will be awarded to the supplier for at least the remainder of the current quarter and the entirety of the subsequent quarter.

**Increased Incoming Inspection:** Double inspection will be implemented. ISO standard for inspection ANSI/ASQZ1.4 will be used for a double sampling plan with an AQL of 2.5. When 3 to 5 consecutive lots (based on issue) are considered accepted, the product will go back to normal inspection.

**MRB with chargeback:** Open material review board to capture scrap costs and lost man hours for an issue. MSA Supply Chain team to determine if this cost is to be charged back to the supplier.

**Site Visit and/or Audit:** MSA representatives may visit the supplier site or request that representatives from the supplier visit MSA. MSA may also conduct an on-site Quality Management System audit of the supplier site.

**Supplier Development Project**

- Quality score < 60%; and/or
- The supplier issue causes MSA Customer penalties; and/or
- Issue solution continuously slips or changes significantly.

**LEVEL 0**

**Potential Actions at this Level:**

**Supplier Summit (Executive Review):** Supplier management is requested to visit MSA and present their corrective / preventative actions to MSA management regarding product quality or delivery issues.

**Probation:** Supplier is put on probation for thirty days and will get a Debit Notification – Costs incurred by MSA due to poor quality, non-conforming product and delivery may be charged back to the supplier. If sorting is required, MSA expects the supplier to sort product. If the situation requires MSA to sort immediately, these costs may be charged back to the supplier.

**Controlled Shipping – 100% Inspection Internal or Third Party:** MSA will identify a specific defect or concern to be controlled. The supplier must identify specific personnel to monitor, measure and inspect all product sent to MSA. All products will be identified as “certified”. Reports must be kept for all inspection lots. Three lots of inspection data that shows a stable process will remove the supplier from Controlled Shipping.

**Re-source Business:** MSA to develop contingency plan to resource product to a different supplier. Transfer of tooling, gauges along with specific capital equipment and support documents.

**Contact Supplier ISO Registrar,** if feasible in extreme cases



**Appendix E: Calculations for Scorecard Reporting**

**QUALITY**

**Quality Inspection Score**

- Quality Inspection Code is ADS, the score is 100%
- Quality Inspection Code is B1 or B2, the score is 80%
- Quality Inspection Code is D, the score is 60%
- Quality Inspection Code is E, the score is 40%
- Quality Inspection Code is F, the score is 20%

**Receiving Inspection Score**

- If the line is accepted, the score is 100%
- If the line is rejected, the score is 0%

Quality Code	SAP Description
ADS	Dock- to Stock (Not Inspected)
B1	Inspected, Accepted
B2	Rejected Material - MSA Fault
D	Rejected Material - Supplier Fault
E	Rejected Material - Mfg. Floor
F	Rejected Material -Stock/Field

**COST REDUCTION**

**Quarterly Price Reduction**

- Measures how much more or less a supplier's average price changed for each part number supplied comparing the current quarter to the previous quarter. Percentage of cost increase/decrease corresponds to score.

**Annual Price Reduction**

- Measures how much more or less a supplier's average price changed for each part number supplied comparing the current quarter average to the previous year average. Percentage of cost increase/decrease corresponds to score.

Price Change	Score
Reduction of > 5%	100
Reduction of 1% - 4%	90
No Change	80
Increase of 1% - 4%	60
Increase > 5%	0

**DELIVERY**

**Delivery Completeness**

- Measures the completeness of each purchase order line item based on the quantity ordered and the quantity received
- Score is average percentage of items received versus ordered for the quarter

**On Time Delivery**

- Measures average on-time delivery for the quarter
- Based on SAP Statistical Delivery Date with a + / - 3 calendar day tolerance

Calendar Days Outside of Tolerance	Score
Zero	100
Greater than or equal to 1, but less than 3	80
Greater than or equal to -1, but less than -3	80
Greater than 3 or less than -3	60

## Appendix F: Abbreviations, Terms and Definitions

### Abbreviations

DFMEA	Design Failure Mode and Effects Analysis
DOE	Design of Experiments
FAI	First Article Inspection
FIFO	First in- First Out
FMEA	Failure Mode and Effects Analysis
IP	Intellectual Property
IST	Initial Sample Testing
KPI	Key Performance Indicator
MSA	Measurement System Analysis
PFMEA	Process Failure Mode and Effects Analysis
PPAP	Production Part Approval Process
PSW	Part Submission Warrant
QMS	Quality Management System
SPC	Statistical Process Control

### Terms and Definitions

Dock-to-Stock	Process which allows delivered material to go directly into stock without inspection. Entry into this process is initiated by the MSA Quality Department and is often performance-based. In some cases, due to safety agency requirements or legal requirements, product may not be permitted for dock to stock. The fact that some materials may be accepted as dock to stock will not relieve the supplier of its obligations under any applicable Supply Agreement, Purchase Order, or Purchase Order Terms and Conditions.
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**Appendix F: Abbreviations, Terms and Definitions (Continued)**

First In- First Out (FIFO) Principle <sup>2</sup>	Use of material produced by one process in the same order by the next process. A FIFO queue is filled by the supplying process and emptied by the customer process. When a FIFO lane gets full, production is stopped until the next (internal) customer has used some of that inventory.
MSA Documentation	For the purposes of this Manual, MSA Documentation refers to any of the following documented communications between MSA and its suppliers: Purchase Order, Contract, Supply Agreement, Commercial Specification, Test Specification, and Drawing.
Quality Management System (QMS) <sup>2</sup>	A formalized system that documents the structure, responsibilities and procedures required to achieve effective quality management. <sup>1</sup>
Special Process	A process for production or service provision where the resulting output cannot be verified or measured against requirements without destructive evaluation. Special processes include, but are not limited to, the following: Chemical Processing, Coating Application, Welding, Soldering, Thermal Processing (including heat treatment and brazing), Non-conventional Machining and Surface Enhancement (Chemical milling, shot peening, etc.).
Sub-tier Supplier	Companies that supply product(s) and/or service(s) to MSA's direct suppliers for the manufacture of MSA product and do not necessarily conduct business directly with MSA. MSA's direct supplier is a sub-tier supplier's customer.
Supplier	For the purposes of this Manual, the term Supplier refers to a company that directly supplies MSA with product(s) and/or service(s) used in the direct manufacture of finished goods

<sup>2</sup>Definition obtained with permission from American Society of Quality (ASQ) [www.asq.org](http://www.asq.org)

**Appendix G: MSA Contact List**

*For current suppliers, your primary contact is your MSA Supply Chain Specialist, or MSA Buyer, where applicable. For new suppliers, or current suppliers unsure of their appropriate contact, please reference the email addresses below. Use the email address for the location closest to the MSA site to which you supply product or service. If you are unsure of what region to contact, please contact North America who will direct you to the appropriate contact. For address information, please visit the MSA website at [www.MSASafety.com](http://www.MSASafety.com).*

<u>Region</u>	<u>Contact Email Address</u>
North America	SupplierQuality.NorthAmerica@MSASafety.com
Germany	SupplierQuality.Germany@MSASafety.com
China	SupplierQuality.China@MSASafety.com
France	SupplierQuality.France@MSASafety.com
South America	SupplierQuality.SouthAmerica@MSASafety.com

**Appendix H: Table of Amendments**

<b>Revision No.</b>	<b>Description of Changes</b>	<b>Date</b>
Revision 0	Initial Release of Manual	March 27, 2013

Because every life has a **purpose**...



Prepared by: Rebecca J Stehle

Date: 4/16/13

Approved by: RJ Campbell  
Director, Total Quality, North America

Date: 4/16/13

Approved by: R. Anne Hennen  
Global Director, Total Quality

Date: 4/16/13