Supplier Quality Manual

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Introduction

ConMet is part of the Amsted family of companies. We have 49 facilities spanning 11 countries and 6 continents, in total more than 18,000 Amsted employees are united in their passion for leadership and excellence.

About ConMet

ConMet is known worldwide for developing lightweight, durable, reliable parts that enhance vehicle performance, improve fuel efficiency and increase payload capacity for the heavy-duty truck and trailer industry. Our unique benefit profile of lowering operating costs, reducing vehicle downtime and heightening productivity has made ConMet a favorite of OEM's and fleets.

ConMet is headquartered in Vancouver, WA and has eleven manufacturing facilities throughout the United States, China, and Mexico. ConMet manufactures components using Permanent Mold and Low Pressure Aluminum Casting, Die Casting, and Structural Plastic Injection Molding. Some of the products in the ConMet line include hub assemblies, brake drums, die cast aluminum components and injection molded plastic components.

Plastics

Castings

Wheel Ends

At ConMet, we believe that continually improving our products and processes is a key to survival and success. Reducing variation and optimizing parameters results in long-term gains for our Suppliers, our customers and ConMet. Since the products supplied to us play a vital role in the ultimate quality of our products, we have established criteria to help ensure

conformance to specifications, adequate manufacturing process control, and continual improvement of those processes.

1: About this Manual

This manual has been developed to communicate the operating principles, general expectations, requirements, and procedures of ConMet.

Acceptance of any and/or all purchase orders constitutes acceptance and commitment on behalf of the recipient to comply with this manual's content. This manual is provided as a supplement to, and does not replace or alter, any purchase agreement/ general purchase conditions

(https://conmet.com/info-for-suppliers/) or requirements included in applicable engineering drawings, specifications and other contractual documents.

This manual describes the minimum requirements and expectations for which the supplier has responsibility. Further requirements may be applicable depending on ConMet end customer requirements.

Quality Policy

We expect that ConMet suppliers support our commitments as described by ConMet's Quality Policy.

2: Expectations	
Expectations	In order to fulfill this objective, it is necessary that all functions within ConMet and our tier suppliers operate with a "Zero Defect" strategy. We must all strive for a fundamental quality management system that provides for continuous improvement in the quality of products. Emphasis should be on defect prevention and the reduction of variation and waste in the supply chain. It is expected that the entire supplier organization will give their full support to the relationship that exists between our companies and demonstrate flexibility in assisting ConMet in meeting all of our customer's requirements. The Supplier is required to maintain a plant contact, who can be readily available to assist in solving problems when needed. A member of the supplier's management must be assigned to notify ConMet of any changes to their management structure and operational viability in a timely basis. This notification must be in writing to the ConMet sourcing manager.
Continual Cost Improvement	The suppliers are expected to review their products and processes on an on-going basis for cost savings opportunities. The suppliers are expected to pass on cost savings every year to ConMet. Note: any changes to the products and process need to have written approval from ConMet prior to implementation. Reference section 11: Change Management for more detail.
Social Responsibility	ConMet selects business partners who comply with all local and internationally acceptable fair and safe labor practices. ConMet will cease all business activities with suppliers failing to comply with local and internationally acceptable fair and safe labor practices.

3: Supplier Management System Requirements	
Quality System Certification	Our direct material suppliers 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 member, (International Accreditation Forum "IAF" Multilateral Recognition Arrangements "MLA") and where the accreditation body's main scope includes management system certification to ISO/IEC 17021. Suppliers are strongly encouraged to implement an IATF 16949 Automotive Quality Management System. Non-certified suppliers directed by our customers can be exempted from certification requirements by our customer.
Environmental Management System	Suppliers are expected to adopt a responsible environmental management system which satisfies all applicable legal requirements. When required by ConMet or our customers, suppliers must be certified to ISO-14001 Environmental Management standard

	Upon request, ConMet shall be provided a copy of the certification body audit report and or a copy of the corrective actions approved by the certification body. The suppliers are responsible for sending copies of their quality certification to the ConMet Supplier Quality Manager within 2 weeks of receipt. Failure to send the updated certification will cause the supplier to be placed on "blocked" status, stopping ConMet from placing orders with the supplier. Failure to submit updated certification prior the expiration date will subject the supplier to a maintenance fee. Note: Loss of certification for any reason requires immediate notification to the ConMet Corporate Supplier Quality Manager and Sourcing Manager.
Internal Laboratory Certification	Where applicable, all internal laboratories must have a documented scope that includes its capability to perform the required inspection, test, or calibration services. This laboratory scope shall be included in the quality management system documentation. The laboratory shall specify and implement, as a minimum, requirements for: • Adequacy of the laboratory procedures • Competency of laboratory personnel • Testing procedures of products The laboratory shall have the capability to perform these services correctly, traceable to the relevant process standard (such as ASTM, EN, etc.); when no national or international standard(s) is available, the organization shall define and implement a methodology to verify measurement system capability. The laboratory must understand and comply with any customer specific laboratory requirements.
External Laboratory Certification	All external laboratory shall be accredited to ISO/IEC 17025 or national equivalent and include the relevant inspection, test, or calibration service in the scope of the accreditation (certificate); the certificate of calibration or test report shall include the mark of a national accreditation body, or show documented evidence that the external laboratory is acceptable to the customer. Where required by our customers, all suppliers shall use directed laboratories for required testing.

4: Supplier Qualification Process

Supplier Qualification Process	ConMet's supply base shall consist of organizations supportive of our business needs. Disciplined methods are utilized through which suppliers are evaluated, selected, developed and monitored.

Risk evaluation	New direct material suppliers are required to complete 101-1044-F006 Potential Supplier Questionnaire, submit their top 5 customer performance reports and be evaluated based upon the potential risk assessment performed by ConMet. ConMet Sourcing team will review the 101-1044-F006 Potential Supplier Questionnaire and other factors associated with the supplier to determine if the supplier is an acceptable fit for ConMet. Approved suppliers will be assigned a ConMet Supplier ID number and placed on the approved supplier list. ConMet reserves the right to verify the products and manufacturing processes at the supplier's premises and throughout their supply chain. This can be done using different classifications of audits. This requirement is not limited to the supplier selection process, and may be implemented at any time during ConMet's relationship with the supplier.

5: Confidentiality Agreement

Confidentiality Agreement	To abide with fair and ethical practices, ConMet considers discussions between suppliers and prospective suppliers as private matters between two parties. ConMet keeps these discussions confidential, and expects our suppliers and potential suppliers to abide by the same principle. This requirement must be passed down throughout their supply chain. Interactions involving our customers and suppliers should only take place with ConMet authorized representation and only as it relates to ConMet business matters. Use of "ConMet, Consolidated Metco" or the "Amsted" names or any parts of the Amsted organization is strictly forbidden in advertising, brochures or presentations without written authorization of Amsted's legal department.

6: Communication

Language Requirements	When communicating with ConMet North America, the official language is English. All documentation must be in English, unless authorized by ConMet. Documentation may display the supplier's native language, but must also include precise translation in English.

7: Request for Quote (RFQ)

RFQ	When receiving a request for quotation from ConMet, the supplier is responsible for reviewing all elements of the quote, including design records, technical specifications, delivery schedules, all applicable ConMet and or the our customer specifications and any other requirements associated with the quote request. The RFQ review process must be documented in the supplier's quality management system.

Review of Design Records	Prior to the acceptance of a contract the supplier must provide a capacity assessment to confirm that the supplier has the necessary capacity to produce the quoted ConMet demand. *After award of business and/or technical kick-off the supplier will be responsible for reviewing all documentation provided. It is the responsibility of the supplier to notify ConMet if they have not received any specifications noted in the design records. It is the responsibility of the supplier to notify ConMet if any technical standards (OEM, ASTM, SAE, etc,) are unattainable for any reason and provide corresponding alternate standard to ConMet for approval.* The reviews shall be conducted by a cross-functional team with qualified associates who are capable of understanding and communicating the requirements in terms the intended audience can understand. Suppliers must use the exact technical standards that are noted in the design records. It will not be acceptable to use similar technical standards, without the written approval of ConMet engineering.

8: Review of Customer Specific Requirements (CSR)

General CSR's	Customer specific requirements include ConMet and that of our customers. It is the responsibility of the supplier to evaluate all design records, supplier manuals and customer specific requirements. Our customer specific requirements which are located at https://conmet.com/wp-content/uploads/2019/06/OEM-Requirements-1.pdf.
Maintaining Knowledge base	The suppliers are required to keep and maintain a competent workforce at all times and at all levels of the organization. The supplier shall maintain a knowledge base contingency plan that will ensure the knowledge base is maintained in the event that key associates leave the company or demands warrant increased supplier capabilities. The contingency plan must be reviewed on a regular basis as part of the management review process or as conditions warrant. The knowledge base must include, but are not limited to: • Advance Product Quality Planning and Control Plan (APQP) • Potential Failure Mode and Effects Analysis (FMEA) • Production Part Approval Process (PPAP) • Measurement Systems Analysis (MSA) • Statistical Process Control (SPC) • Engineering management capable of effectively meeting the demands of ConMet and our customers • Quality management • Materials management • Corrective Action • Internal Audits • Finance • Logistics

	• Information Technology (IT) • Human Resources If ConMet determines through objective evidence that the supplier is lacking in these or other core areas, ConMet may require the supplier to acquire the necessary training/capabilities to meet the demands of ConMet and or our customers.
Disaster Recovery and Business Continuity Plan	The supplier shall: • prepare contingency plans for continuity of supply in the event of any of the following: fluctuation in business (up or down), key equipment failures, interruption from externally provided products, processes, and services; natural disasters; fire; utility interruptions; labor shortages; or infrastructure disruptions; • include, as a supplement to the contingency plans, a notification process to the customer and other interested parties for the extent and duration of any situation impacting customer operations; • Periodically test the contingency plans for effectiveness (e.g., simulations, as appropriate), maintain records of the test for a minimum of five years; • conduct contingency plan reviews (at a minimum annually) using a multidisciplinary team including top management, and update as required, and maintain records of the reviews for a minimum of five years; • Document the contingency plans and retain documented information describing any revision(s), including the person(s) who authorized the change(s). The contingency plans shall include provisions to validate that the manufactured product continues to meet ConMet and/or our customer specifications after the re-start of production following an emergency in which production was stopped and the regular shutdown processes were not followed. Any change to the supplier's business that can affect their ability to supply product to meet ConMet requirements must be communicated to the ConMet Sourcing Manager in a timely basis. Supplier must notify ConMet Corporate Sourcing Manager of labor contract expiration dates six months prior to the expiration. Supplier must have a documented risk mitigation plan in the event of labor disruption/ logistic disruptions.
Continuous Quality Improvement (CQI) Requirements	The suppliers that use the following process to produce the products supplied to ConMet shall submit yearly CQI assessments related to special processes. The supplier must pass down these requirements to all their tier suppliers in their production stream. Suppliers shall have competent resources (per CQI specific requirements) to evaluate applicable Continuous Quality Improvement (CQI) assessments prior to submitting the assessments to ConMet. • CQI-9 Special Process: Heat Treat System Assessment • CQI-11 Special Process: Plating System Assessment • CQI-12 Special Process: Coating System Assessment

	• CQI-15 Special Process: Welding System Assessment • CQI-17 Soldering System Assessment • CQI-23 Molding System Assessment • CQI-27 Casting System Assessment The goal of these assessments is to provide an environment of continual improvement, defect prevention and reduction of variation and waste in the supply chain. Supplier internal assessments must be conducted yearly by competent associates and submitted to ConMet Supplier Quality group upon completion. ConMet reserves the right to complete its own on-site CQI assessments at the supplier or sub-tier locations. All areas of concern must be corrected prior to submittal or have a detailed plan to bring the assessment into compliance to requirements within a reasonable timeframe. Failure to submit the assessments on a yearly basis subjects to supplier to a $150 maintenance fee. Results of the assessments must become part of the supplier's management review process. Suppliers, who outsource these process shall ensure that their suppliers complete and submit their own CQI audit results on an annual basis. The audit results are to be sent to the ConMet Supplier Quality group upon completion.
Advance Verification Process	In order to prevent nonconforming material or product from entering the ConMet production stream, the supplier may be required to submit an advanced verification document to the ConMet plant quality prior to the product leaving the suppliers control/ dock. The requirements of this letter may include: • Evidence of Pass thru verification • Evidence of conformance to critical characteristic requirements • Evidence of safety critical evaluation and conformance • CS1, CS2 compliance evidence • Containment evaluation evidence The supplier must have a similar process requirement defined in their quality management system for all tier suppliers.
Review of Statutory and Regulatory Requirements	The supplier shall document their process to ensure that purchased products, processes, and services conform to the current applicable statutory and regulatory requirements in the country of receipt, the country of shipment, and the customer-identified country of destination. The supplier shall note these requirements in applicable APQP, FMEA and Control plans. Records of compliance and effective traceability shall be maintained. The Supplier is responsible for complying with and satisfying all Federal, state, local and international requirements on all materials used in product manufacture. Where applicable, the supplier will furnish one copy of the MSDS (Material Safety Data Sheet) for hazardous materials directly to ConMet.

IMDS/ End of life vehicle (ELV)	ConMet participates in the International Material Data System (IMDS). Accordingly, suppliers should be prepared to create MDS sheets within IMDS for their materials and components for PPAPs. IMDS must be submitted and approved prior to PPAP submittal. The ConMet IMDS number is 104320. Note: when submitting the IMDS the supplier must use the ConMet part number. For products used in the European markets, the use of lead, mercury, cadmium, and hexavalent chromium are prohibited for use in products supplied to ConMet, except for certain exemptions published in The End of Life Vehicle Directive, 2000/53/EC, Annex II. When requested, the suppliers must complete and submit a Declaration of Compliance (ELV). Suppliers are required to stay current with any changes to the ELV Directive and make necessary changes as warranted.
Material Safety Data Sheet	A material safety data sheet in accordance with Globally Harmonized System (GHS) guideline must be sent and approved by the receiving ConMet plant before delivery of any chemicals used in production processes is allowed. The GHS is an international approach to hazardous communication, providing agreed criteria for classification of chemical hazards, and a standardized approach to label elements and safety data sheets. For more information go to https://www.osha.gov/dsg/hazcom/ghsguideoct05.pdf
Customs Compliance	Suppliers who import/export to any ConMet Facility and have "cross-border shipments" must comply with the ConMet Supplier Customs Compliance Standard https://conmet.com/info-for-suppliers/ The suppliers that export product to ConMet or our customers are expected to have necessary experts employed or contracted to ensure compliance with all laws and processes associated with importing and/or exporting of products. The supplier must document this process, and ensure its effectiveness and timely implementation.
Packaging and Labeling	Suppliers are responsible for packaging the material in a manner that protects the product during storage and transportation. Suppliers must follow the requirements defined in 101-9999-P010 North American Packaging Standard and any customer specific requirements as noted in applicable design records. Suppliers must follow the labeling requirements defined in 101-9999-P010 North American Packaging Standard, ConMet customer requirements and other labels communicated by ConMet to the supplier (PPAP, Clean points, Deviation, etc.) The supplier shall establish and maintain documented procedures for the control, verification, storage and maintenance of ConMet or our customer owned returnable packaging.
Traceability	All suppliers shall have an effective lot definition and traceability procedure based on risk analysis and compliance to government, ConMet and our customer specific requirements or specifications related to the product they are supplying. Suppliers shall ensure that their lot traceability system maintains its integrity through their entire supply chain, including not only raw

	material, but also purchased components/products and subcontracted operations if any. The marking solution used on the part should support product investigation during the part's life (in principle, suppliers should indicate the lot number on actual parts). Delivered product should be traceable back to: • the finished part • the subcomponents/blanks • the raw material • the history of the processes applied to the part • Rework operation • Product and process special characteristics, test records as defined in the control plan • Influential process parameters • Suppliers in the supply chain
Records	Record retention is done according to legal requirements. The minimum requirement is 20 years from date of manufacturing. Lot traceability must be passed down throughout the supply chain.

9: Advance Product Quality Planning (APQP)

Project management	Each Supplier shall define an associate as a point of contact who shall be responsible for the organization and communication of ConMet project goals and objectives within their organization. Project management shall utilize the principles outlined in the latest AIAG Advance Product Quality Process (APQP) manual. All suppliers are required to manage all projects (new or changed parts) according to the ConMet defined time schedule, and report on the activities as requested. Any change in the time schedule needs to be approved by ConMet. Suppliers are fully responsible for the quality of their products including their suppliers. All suppliers are responsible for providing products that meet all ConMet and our customer requirements, specifications, and drawings as identified on the purchase order, and that are free from defects. The Supplier shall establish, implement and maintain documented procedures, which shall detect and/or preclude the use of counterfeit/used parts. All PPAP's must be submitted using the ConMet APQP/PPAP Workbook unless approved by ConMet Supplier Quality Representative. This workbook is located: https://conmet.com/info-for-suppliers/
Design FMEA (DFMEA)	Design-responsible suppliers must create and maintain the DFMEA as a living document throughout the product lifecycle. The DFMEA must be in accordance with the AIAG FMEA manual. DFMEA inputs must include warranty issues, customer concerns, lessons learned, and address past Global 7D concerns. A single DFMEA may be acceptable for a family of parts when approved by the ConMet Supplier Quality Representative. Design-responsible suppliers must develop and submit a Design FMEA with the supplier PPAP when requested.

Design Validation Planning and Reporting - DVP&R	When required the supplier must develop and implement a product test plan. Inputs for the test plan should include DFMEA, engineering specifications, and other ConMet or supplier engineering requirements. The proposed DVP&R plan must be reviewed and approved by ConMet engineering prior to the start of testing, and results must be reported to ConMet engineering when tests are complete. It is recommended that the supplier use the ConMet DVP&R template in the ConMet APQP/ PPAP workbook.
Process Failure Mode and Effects Analysis (PFMEA)	A PFMEA is a living document which describes the risks to the production process and/or parts produced, and identifies actions taken to mitigate the risks, such as process controls. In preparation and maintenance of, refer to the AIAG FMEA manual for guidance. PFMEA inputs must include warranty issues, customer concerns and lessons learned, and address past concerns/ corrective actions. It should flow from the DFMEA, if available, for the part or part family. The PFMEA must be reviewed with ConMet to ensure completeness and currency. A single PFMEA may be acceptable for a family of parts when approved by the ConMet Supplier Quality Representative.
Pass - through Characteristics (PTC/WD)	Pass - through Characteristics are part characteristics which are not controlled, or functionally tested anywhere downstream in the supply chain, are ultimately supplied to a ConMet customer (e.g. it will "pass through"), and would have a significant impact on customer satisfaction and/or warranty. A PTC may or may not be a Special Characteristic. ConMet's defines the pass - through characteristics using the definitions below. Note: Characteristics must have a PFMEA Severity greater than 4 to be considered. • Pass-through Characteristics (complete pass through) = PFMEA Detection of 10. A characteristic that will not be detected at any point prior to being delivered to ConMet's plant. • Weak Detection (WD) (may pass through) = PFMEA Detection of 6-9. A characteristic that does not have robust detection, and might not be detected at any point prior to being delivered to ConMet's plant. • Potential PTC – A characteristic which has no detection within the manufacturing supplier (PFMEA Detection of 10) and has not yet been reviewed to see if it passes through subsequent tiers of the supply chain. • Potential WD – a characteristic which does not have robust detection within the manufacturing supplier (PFMEA Detection of 6-9) and has not yet been reviewed to see if it passes through subsequent tiers of the supply chain. The supplier, working with their ConMet Supplier Quality representative, must ensure controls are in place for the PTC/WD. The supplier and ConMet must reach an agreement on the proper method of control for the identified PTC. PTC symbol "P" must be noted on PFMEA and Control Plan, and the characteristics must be controlled with mistake proofing or other suitable means of protecting ConMet and our customers.

Special Characteristics	*When required by the ConMet customers, ConMet suppliers with PTC or WD's must complete the "Tier II Pass-Through Assessment Matrix" found in the ConMet APQP/PPAP workbook when ratings noted above dictate.* The appropriate symbol (CC, SC, <>, etc.) must be included on all related documents (including control plans, FMEAs, work instructions, process control documents) for the operations which produce special characteristics. Suppliers must ensure their associates understand the significance of special characteristics, and their necessary impact on manufacturing processes and support functions. ConMet expects that associates working with operations affecting special characteristics understand what the special characteristic(s) in their operation means, the part function, and the impact of failure to ConMet or our customers. If ConMet has not defined special characteristics for supplier part(s), it is the supplier's responsibility to identify any critical/significant characteristics needed as a result of the supplier's DFMEA and PFMEA activity. The supplier must maintain capability data for all customer or supplier-designated special characteristics and make capability information available upon request.
Measurement System Analysis (MSA)	Measurement systems used for evaluation or qualification of ConMet product must be "calibrated or verified, or both, prior to use and at specified intervals, against measurement standards traceable to international or national measurement standards. Gauges listed on the control plan must be evaluated to determine measurement variability. This variability must be acceptable in accordance with the AIAG Measurement System Analysis (MSA) manual. These requirements extend to outsourced processes and external labs.
Pre-launch Control Plan	Suppliers are expected to use pre-launch control plans to increase the level of quality controls applied during ramp up and early production stages of new part launches. A prelaunch control plan is defined by increased frequency and levels of inspection, and increased controls during the early stages of production. The purpose is to protect the ConMet and our customers from problems until process controls can be refined and start-up problems can be identified and resolved. The level of controls within the control plan should be adjusted once the production process has been stabilized and process control can be assured.
Production Control Plans	Control plans identify important part and process characteristics defined during APQP activity. The control plan must reflect ongoing changes to the PFMEA, such as those resulting from corrective action and process improvement. Changes require PPAP re-submission before product is shipped from the revised process. The control plan and PFMEA are living documents, always reflecting current controls and measurement systems in use. They must be updated as control methods and measurement systems are changed and improved, and be audited periodically as part of the supplier's internal audit process to assure continued effectiveness.

	Unless otherwise exempted by the ConMet Supplier Quality Representative, suppliers are expected to use the control plan format referenced in the AIAG APQP manual.

10: Production Part Approval Process (PPAP)

PPAP	ConMet requires suppliers and their tier suppliers to follow AIAG PPAP requirements when submitting PPAP's to ConMet. The default level 3 PPAP with all requested documentation and samples shall be submitted on or before the agreed PPAP due date. Unless approved by ConMet supplier quality, suppliers must use 101-1044-F017 Supplier "PPAP workbook (Excel)" found at https://conmet.com/info-for-suppliers/ This documentation shall show that all requirements specified in our drawings and specifications are fulfilled.
Significant Production Run (SPR)	A Significant Production Run is required for all new part introductions and is the basis for the Production Part Approval Process. This sample run is to be conducted using production tooling/equipment, environment (including production operators), facility, and cycle time. The SPR requires that an adequate quantity of parts be produced to allow: • Overall process stabilization • Accurate calculation of manufacturing cycle time • Determination of production through-put time • Capacity assessments • Completion of capability studies The number of parts produced during the SPR should be determined by the type of equipment, tooling and production processes required by the type of part. Suppliers should ensure enough parts are produced during the SPR to ensure that the process is fully tested. Samples used for the PPAP must be taken from the parts produced during the run. The part weight, in kilograms to four decimal places, shall be determined at this time and included on the PSW. The single part weight is determined by taking the average weight of five parts produced during the significant Production Run.
Statutory and Regulatory Compliance in APQP Process	Statutory and regulatory requirements are to be identified and addressed during the APQP process to ensure compliance to stated requirements. These requirements must be communicated throughout the product realization processes including sub-tier suppliers.
Product/ Process Safety	Supplier will ensure that training is provided to all personnel involved in the product safety and manufacturing process.
Designated critical characteristics	Designated critical characteristics shall be subject to continuous ongoing Statistical Process Control in accordance with the latest addition of the AIAG

Capacity Review/ Run @ Rate	SPC Manual. The supplier must employ competent associates knowledgeable in measurement systems analysis and statistical methodologies. Products are taken from pre-production at the manufacturing location(s) and analyzed statistically. Parts from each unique production process, e.g. duplicate assembly line and/or work cell, each position of a multiple cavity die, mold or pattern, shall be measured and representative parts tested. Capacity Analysis help ConMet to understand its suppliers' processes and secure capacity. It identifies bottleneck processes at supplier operations that could impact ConMet's supply and allows them to be addressed so that customer demands can be met. Capacity Assessments can apply to all direct material suppliers to all ConMet locations. The supplier must: • Perform a capacity self-assessment when requested to do so by ConMet • Provide ConMet with reliable data to enable a capacity check • Define and complete an action plan to close any performance gaps identified by the capacity assessment. • The supplier is to manage its tooling, equipment and facilities such that: ○ Average production weekly capacity requirements are to be met by operating the tooling, equipment and facilities based on a 5 day work week. ○ The remaining time during the week is reserved for completing the required tooling, equipment and facility maintenance. • If the supplier is unable to meet these requirements, the Supplier must contact ConMet Sourcing Manager or Buyer and communicate the improvement plan to meet the capacity requirements. • Any exceptions to these requirements must be requested by the Supplier and approved in writing by ConMet Sourcing manager. When required, suppliers are to use the capacity/ R@R form in the ConMet APQP/ PPAP workbook ConMet is entitled to perform a Capacity Audit on a supplier's and their tier supplier's premises in order to determine whether the supplier has installed sufficient capacity to meet ConMet's demand. The supplier must provide all necessary data for capacity calculations.
Safe Launch	When required, ConMet may require the supplier to implement a safe launch plan per 101-1044-P017 Supplier Safe Launch Plan procedure.
Approval of software	The ConMet Software Quality Approval Process demonstrates that software developed for ConMet meets the technical requirements, reliability, usability, efficiency, maintainability, and portability of the product. The software covered by these requirements includes software embedded into component hardware parts, stand-alone software incorporated into hardware component(s) but having specific software revision identifier, and software as a standalone product. Supporting evidence in this section is required to verify that all of the software requirements, low-level implementation, and product features and functions have been properly implemented and validated.

	Full System verification and validation testing is required for all new software delivered to ConMet and is the basis for the Software Approval Process. Suppliers are required to submit Software Quality Approval Process collateral, unless arrangements have been previously agreed between ConMet and the supplier. Suppliers will need to request a deviation to any of the below documentation exceptions. The Software Quality Approval Renderings include: • Product requirements • Requirements traceability matrix • Software Verification Test Plan • Software Validation Test Plan • Software Verification and Validation Test Reports • Software Release and Release Notes
Interim approval	The supplier can apply for an Interim approval if the part or documentation cannot conform to all specified requirements. The supplier should apply for this as soon as they see that they cannot present a complete PPAP on the agreed date. The Interim approval request needs to specify what requirement the supplier cannot fulfill and an action plan showing how and when the part (e.g. 100% sorting before shipping to ConMet) or documentation will be according to specification. An interim approval is always restricted for a limited number of parts and/or time-period. ConMet reserves the right to inspect these samples for conformance and will return a signed Warrant indicating whether it is approved to produce parts for production purposes. Shipping of production material is only allowed with an approved PSW (Part submission Warrant) or a signed Interim Approval by ConMet.
Annual PPAP Revalidation	If specified in the purchase orders, a complete annual layout inspection, including all sub-components, is required for all parts. All suppliers impacted by this requirement shall annually revalidate their respective production components, and be able to provide the results to ConMet as defined in the PO request. Suppliers shall document this requirement in the Production Control Plan for all parts with annual revaluation classification. At a minimum, documentation shall include a PSW and valid material certification report(s) not more than 12 months old, a full dimensional report (each cavity, minimum of 5 pieces, unless directed otherwise by ConMet supplier quality), and a capability study for all print designated special characteristics. The supplier is required to manage the annual revalidation in a documented process to ensure submittal occurs on or before the required dates noted in the PO. The supplier will submit all documents necessary for the Annual Revalidation to ConMet Corporate Supplier Quality Manager or Sourcing Manager.

11: Change Management

Change Management	Changes to established/PPAP approved product, process, or site at the supplier location or that of their tier supplier(s) will require advance notification to ConMet. This notification shall be a minimum of 12 weeks, unless unforeseen circumstances drive the need for an emergency approval of the change. Reference section 3 of the AIAG PPAP manual for more detail on when notification is required. Suppliers must complete and submit a Supplier Product/ Process Change Request 101-1044-F018 (SPPCR) to the appropriate ConMet sourcing manager or buyer. The Supplier must: • Submit Supplier Product/ Process Change Request 101-1044-F018 • Obtain written approval to proceed with the change via the approved SPPCR • Follow directions provided by ConMet • Track the expiration date and applicable quantity of product • Identify and ship product within the scope of the approved request • Obtain authorization for additional shipments beyond the agreed limit. Suppliers must never ship deviated product/ process before obtaining written ConMet approval. ConMet may approve, reject or apply conditions of approval to the change request (e.g.: level 3 PPAP required after change is implemented).
Unauthorized changes	In cases where a Supplier has implemented an unauthorized change and ConMet and/or our customers have been negatively impacted, the supplier will be responsible for compensating ConMet for all associated costs and must submit a corrective action for violating the Supplier Product Process Change Request process. ConMet will not give approval to a deviation related to safety and or regulatory requirements.

12: Record Requirements

Records	Supplier must understand and document all record retention requirements. The supplier shall ensure that the records comply with all applicable governmental, ConMet and our customer requirements. A minimum retention of records will be 20 years unless authorized by ConMet Quality representative.

13: Equipment and Tooling Maintenance

Equipment Maintenance	Production equipment must be maintained in a way that minimizes unplanned downtime, process variation, and potential quality and or delivery disruption of parts to ConMet or our customers manufacturing locations. The supplier's maintenance system must ensure that:

	• Trained/ qualified personnel are available to perform maintenance per defined requirements, • Equipment manufacturers' recommendations are considered when developing maintenance tasks and schedules, • Prolonged downtime is planned to ensure supply of product to ConMet or our customers • Spare parts are stored in a manner that protects the integrity of the spare parts, • Spare parts are readily available for critical manufacturing equipment such that there is no disruption to meeting scheduled delivery of parts to ConMet our customers, • Predictive maintenance methods are utilized.
Tool/fixtures Management	Tooling quotation must include expense breakdown, including fixtures, dies, gauging and other costs as well as tooling design (i.e., number of cavities, material, etc.). Tool/ fixture life must be clearly defined on the quotation. Tool/ cavity replacement must be clearly defined on the quotation. This should be provided as a per-part cost or as a cavity replacement cost. The quotation must specify lead-time breakdowns including design, build, testing and PPAP submission & approval. The Supplier is responsible for maintaining and repairing all supplier caused damages at no cost to ConMet or our customers. Any maintenance of tooling/fixtures that alters/affects form, fit, function or appearance requires submittal and approval by ConMet prior to any alterations to the tooling. Reference section 11 Change Management. The Supplier will keep detailed maintenance records for the tooling/ fixtures. The Supplier will make these records available to ConMet on request. The Supplier will monitor the tool/fixture life and performance to ensure that repair, replacement and maintenance, whether or not the responsibility of the Supplier, are identified and corrected prior to the time that part quality or production capacity are affected. This will include regular dimensional reviews on specific part characteristics. Supplier agrees to make this data available to ConMet on request. The Supplier will on a regular basis monitor tool/ fixture life and notify the ConMet Supplier Representative well in advance when tooling replacement is necessary. The Supplier will ensure that sufficient quantities of components will be in Supplier's inventory and available to support ConMet production prior to and during the time period that the tooling/ fixture is being refurbished or replaced. When tooling is designed by the Supplier, ConMet must be provided with electronic and hard copies of the design and all related drawings and

	specifications. Supplier, upon request from ConMet, will provide reproducible tooling prints for any existing tools. Supplier shall pass these requirements throughout their supply chain.

14: Boundary Sample Management	
Boundary Sample Definition	Boundary Samples are Mass Production representative parts, which establish a visual standard when the characteristic is difficult to define or communicate by any other method. They may be temporary or permanent, and must define the acceptable limits. The use of a boundary sample is to establish inspection criteria for characteristics that are based primarily on subjective methods. The boundary sample is used to communicate the agreed upon acceptable limits to all personnel responsible for part quality at both the supplier, ConMet and or our customers.
Preliminary boundary samples	Preliminary boundary samples should be discussed prior to tooling and process development to determine quality expectations and process capability. Preliminary boundary samples should be verified through the production trial activity with final boundary sample approval prior to supplier PPAP submittal. Boundary samples may also be created to define problems discovered in both production preparation and mass production stages. When submitting boundary samples for this purpose, the supplier must be prepared to discuss process capability and previously tried countermeasures.
Proposed boundary samples	Proposed boundary samples must be representative of the supplier's confirmed process capability and be consistently achieved. Boundary sample approval is based on internal and external customer quality standards, part design characteristics, and supplier process capability. ConMet will define the minimum number of boundary samples that must be prepared and submitted.
Lead Time	Supplier must provide sufficient lead-time for the boundary samples to be evaluated and approved.
Boundary Sample Management	The supplier must maintain the master boundary samples in a location where it is not susceptible to damage, aging, etc. The working boundary samples should be located at the point of decision and must be protected from damage or degradation. Supplier control plans must include the use of boundary samples as applicable. The supplier must ensure that the environment where the samples are used to evaluate product conformance is conducive to effective evaluation (i.e.: lighting and cleanliness, etc.). Where ConMet and/or our customers have defined specifications related to the evaluation of the product, the supplier must ensure that those specifications are documented in the control plans and related procedures, work instructions and evaluation documents.

Usage of boundary samples	Associates using the samples for evaluation must be qualified through acceptable measurement system evaluation (ref: AIAG- MSA manual) The supplier must manage the samples in their calibration program to ensure control and that the integrity of the samples is maintained.
Temporary Samples	The supplier may request approval of a temporary boundary sample that deviates from the approved boundary sample for a specific lot or time-period. Temporary boundary sample requests are intended to be utilized for extraordinary circumstances where all other considerations have been exhausted. Approval for a temporary boundary sample must be achieved prior to subject parts being delivered to ConMet. Revisions or change requests to approved boundary samples must be processed in the same manner as the original submission.

15: Sub-tier Management

Qualifying and Managing Sub-tier suppliers	Suppliers shall have a defined on-boarding process of their suppliers, including a cross-functional supplier approval process that is documented in the supplier's Quality Management System. This process must include a cross-functional and effective risk assessment of any new supplier. The supplier must have ongoing risk assessment of key suppliers and address negative trends and conditions as needed to ensure supply of product to ConMet and/or our customers. Supplier has to conduct regular Quality Management System audits of their key suppliers at defined frequency in order to improve and develop their suppliers and to meet the Quality objectives of the complete supply chain. The Supplier will ensure their supply chain has prepared contingency plans to satisfy ConMet requirements in the event of an emergency such as, but not limited to, utility interruptions, labor shortages, key equipment failure and field returns. Tier one suppliers must effectively communicate all requirements noted in this manual to their tier suppliers and have systems set up to ensure that all their tier suppliers maintain compliance to the requirements at all times.

16: Supplier Rejection Process

Supplier Rejection Process	ConMet will notify the supplier of a nonconformance using either 101-1044-F013 Supplier Reject Report or email notification to the supplier.
Containment Scope	An initial response defining containment measures is required within one working day after nonconformance discovery by ConMet suppliers and or our customers. The Supplier must contain all materials at ConMet, our customer's

	facilities, off-site warehouses, and any material in transit. Upon request, the Supplier shall provide immediate containment at the ConMet facilities to ensure no stoppage of production. The Supplier is responsible to provide a detailed report of containment and disposition activity upon request. The Supplier must provide Returned Goods Authorization (RGA) when requested.
Containment Level 1: (CS1)	A ConMet requirement that a supplier put in place a redundant inspection process at the supplying location to sort for a specific and specified nonconformance to protect ConMet and or our customer from the receipt of nonconforming parts/material. The redundant inspection is executed by the supplier's employees, and must be in addition to the normal production process controls. Exit from level 1 requires ConMet written approval. All product and/or containers are to be identified as CS1. If the Containment Level 1 criteria is not executed properly and the ConMet Facility continues to receive nonconforming material, the Supplier will be placed on Containment Level 2.
Containment Level 2: (CS2)	A ConMet requirement that includes the same processes as Containment Level 1, with an added inspection process by a third party representing ConMet's interests specific to the containment activity. The third party is selected by the supplier, approved by ConMet, and paid for by the Supplier. Exit from level 2 requires ConMet written approval. All product and or containers are to be identified as CS2. If the supplier requests the parts to be returned they must arrange and pay for transportation to their location.
Warranty	Suppliers are required to support the analysis on part returns from ConMet and or ConMet customers. The expectation is that issues are immediately addressed with the appropriate containment, root cause, and corrective action in the timeframe specified. Any charges assessed against ConMet by their customers due to supplier issues will be communicated and passed on to the supplier for reimbursement. The supplier will be responsible for all freight costs that are related to the field failure.
Other Failures	Other non-product failures may result in a corrective action being assigned to the supplier. These may include, but are not limited to, failure to submit yearly NAFTA certs, PPAP's, CQI, or annual testing on time.
Corrective Action	The supplier must complete the necessary corrective action steps noted in the 7D (second tab of the SRR workbook) and submit a corrective action report to the ConMet contact that initiated the Supplier Reject Report and Corporate Supplier Quality associate that sent the request. All yellow highlighted cells must be completed for the CA to be closed. Alternative corrective action formats may be used with the approval of ConMet Supplier Quality Representative.
Due Dates	**D1-3:** within **24 hours** Provide RGA # and disposition of the suspect product to ConMet. Beginning containment activity to include sorting internally at the supplier's location, in-transit, at ConMet's location and our customer locations. Containment should be data-driven based on inventory quantities at the

Late Submittals Closure Challenges	various locations and in transit. Results of containment activities shall be made available upon request by ConMet. **D4-D5:** within **7 days** after notification of the SCR (or as dictated by ConMet or our customers), root cause analysis complete for both occurrence & non-detection, permanent corrective action defined. **D6-D7:** within **30 Days** (or as dictated by ConMet or our customers) implement and validate permanent corrective actions. Effectiveness of permanent corrective action verified and recurrence prevented. ConMet reserves the right to assess a maintenance fee for late corrective actions. Closure: the plant Quality Manager or designee and or the Corporate Supplier Quality representative will review the submittal and determine if the corrective action is effective in addressing the nonconformance. Challenge: the supplier has the right to challenge the validity of the SRR by completing 101-1044-F026 SCR Review Request Form and submitting the request to the ConMet SQE. The SQE will, with support from the ConMet plant, review and respond to the supplier's request.

17: Supplier Rejection: Financial Responsibilities

Cost Recovery	Suppliers are responsible for the quality, on-time delivery, and reliability of the product they supply. Product must meet the drawings, specifications and/or customer-specific requirements of ConMet and/or our customers. The Supplier accepts financial responsibility for the consequences of non-conforming product and/or services including, but not limited to, costs incurred for containment, sorting, premium freight, rework, repair costs of ConMet value add processing, and replacement of defective material, resulting overtime, and productivity loss incurred by ConMet or by ConMet's Customers. Following is the charge back costs associated with nonconforming product:
Administration Fee Late Submittal Fee Sorting Fee	• Administration fee of $200 for each SRR issued. Repeat failures after the closure of the corrective action within six months of the initial supplier rejection date may result in an increased fee being assessed. • Late submittal of corrective actions are subject to a $200 administration fee. • Sorting by a 3rd Party Sorting Company is the responsibility of the supplier. ConMet may elect to initiate a contract with the 3rd party Sorting company, but it is required that the supplier contact the sorting company and take responsibility for the sorting cost. Sorting companies must be ISO-9001 certified and qualified by ConMet. The supplier shall share the results of the sorting activities with ConMet.

Customer/ Line-down Fee	• In-house sorting by ConMet personnel (if required to avoid down production line): Supplier will be responsible for costs incurred. ($90 per associate per hour) • Production Line down charge—Supplier will be responsible for actual costs incurred at ConMet. • Our customers assessed charges associated with the failure.
Miscellaneous fees	Miscellaneous fees (rework, material handling, required Customer visit time and travel costs, expedites, tooling/machine damage, testing, etc.): Supplier will be responsible for actual costs incurred.

18: Supplier Monitoring

Supplier Monitoring	Supplier Performance will be continuously monitored and reported at a defined frequency from ConMet Corporate Supply Chain. This data will be used for sourcing decisions. If the Supplier's performance does not meet the expectations of ConMet, the Supplier could be placed in a supplier development program, placed on new business hold or removed from the supply base. The purpose of Supplier Performance is to identify the Supplier's conformance to ConMet standards. ConMet will measure the supplier performances in the following areas:
Delivery Performance	The Supplier is expected to meet 100% on-time delivery. The delivery performance is expressed as a percentage of on-time delivery. ConMet requires our suppliers to plan and work toward achieving and maintaining 100% on-time delivery performance (OTD). When the goal is not achieved and maintained, the supplier shall take necessary actions to improve the delivery performance to levels that align with the ConMet 100% OTD Goal.
Quality	Quality performance is measured in the number of supplier parts per million (PPM) rejected by the ConMet plants or our customers due to the supplier's quality issues. PPM data is used by ConMet Sourcing to assess the performance of the Supply Chain relevant to Quality. ConMet requires our suppliers to plan and work toward achieving and maintaining 10 ppm or below performance. When the goal is not achieved and maintained, the supplier shall take necessary actions to reduce PPM levels that align with the ConMet 10 PPM Goal.
Number of failure events (Tags)	When noncompliance to a design record requirement occurs ConMet may issue a Supplier Rejection Report (SRR) to the supplier. This SRR will be classified as one tag for each occurrence. The goal is 0 tags.
Responsiveness	Sourcing and Supplier Quality will measure each supplier's responsiveness with respect to areas such as: • Timely completion of corrective actions and quote responses • PPAP on-time submittals • CQI and certification updates

	• Responsiveness to engineering and plant requests • Other areas as warranted
Customer Impact tags	Another closely related measure of performance is when a supplier nonconformance affects our customers. For each occurrence the customer will write a quality tag against ConMet. The incidences will be recorded on the supplier reports.
Warranty Tags	In the event that a warranty claim is filed against ConMet for a supplier nonconforming product, warranty performance will be recorded on the supplier's scorecard. The goal is to have no warranty field failures.
Premium Freight Occurrences	Incidences of premium freight assigned to the supplier will be reported on the supplier's report card and charged back to the supplier. The goal is to have no incidences of premium freight.

19: Low Performing Suppliers

ConMet Evaluation	ConMet monitors supplier performance and capabilities on a regular basis. When any of the monitored parameters indicate a negative performance trend or significant abnormality, the supplier is considered for placement into a supplier improvement program. Areas may include as applicable: • Product launch capabilities / performance • Issues related to critical and special characteristics • Responsiveness • Non-compliance with statutory and regulatory requirements • Safety related concerns • Quality performance • Delivery performance • Warranty performance and premium freight • Supplier's financial health • Compliance with customer-specific requirements (ConMet or OEM) • Other areas deemed applicable by ConMet or our customers
Low Performing Supplier (LPS) Notification	Suppliers may be notified of the potential inclusion in any supplier improvement program by a Low Performing Supplier warning letter sent to the supplier's management representative. There are three stages: LPS1 (initial stage), LPS2 (midlevel stage), and LPS3 (advanced stage). Each time the supplier is elevated to a higher stage, the actions required will include those of all previous stages, plus the additional actions required by the new stage. The initial notification (LPS1)

LPS1	At the LPS stage, the supplier will receive notification in the form of a warning letter. The recipient of the LPS1 shall notify their management team within 24 working hours of receiving the notification. The supplier shall take necessary action to address the concerns noted in the notification and report the action taken to the initiator of the LPS1. Considerations can include, but are not limited to: • Safe Launch Plan as applicable • Control Plan(s) audit • Update LPA's • CS1 containment as defined by ConMet • Safety audits as defined by ConMet • MSA Reviews If the actions are deemed timely and effective, the ConMet SQ representative will close the notification and send the supplier representative a closure statement.
LPS2	If the actions are not deemed timely or effective, the ConMet SQ representative may escalate the LPS1 to an LPS2 level. LPS2 suppliers are placed on New Business Hold (NBH) status. Upon receipt of the LPS2 notification the supplier's management team must take an active leadership position in defining and addressing the root causes of the concerns. The action items shall be monitored and reported to the ConMet SQ representative on a weekly basis. • Safe Launch Plan as applicable • Control Plan(s) audit • Update LPA's • CS1 containment as defined by ConMet • Safety audits as defined by ConMet • Conduct new MSA as defined by ConMet • Supplier notification of NBH to the supplier's certification body • Weekly review with ConMet representatives (at our ConMet plant as warranted)
LPS3	If the actions are deemed timely and effective, the ConMet SQ representative can close the notification and send the supplier representative a closure statement. If the actions are not deemed timely or effective, the ConMet SQ representative may escalate the LPS2 to an LPS3 level. The supplier is kept on New Business Hold during this phase. With LPS3, the supplier's executive management team is required to compile and report on actions taken to address the concerns. This team will be required to present the actions and/or planned actions in person to a ConMet Executive management team at an agreed-upon date. • Safe Launch Plan as applicable • CS2 containment as defined by ConMet

Phase out	• Safety audits as defined by ConMet • Conduct new MSA as defined by ConMet • Weekly review with ConMet representatives (at our ConMet plant as warranted) • ConMet NBH notification to the supplier's certification body In the event that the improvements are not realized, ConMet may elect to develop an exit strategy with the supplier. The supplier is required to support the exit strategy.

20: Supplier Scorecard

Scope

ConMet provides ongoing feedback to critical suppliers in the form of a Supplier Scorecard. The Scorecard is intended to encourage excellence in terms of quality (PPM and Tags), delivery performance and responsiveness to ConMet requests.

Grading

Category	A	B	C	D	F
Delivery (40% of Score)	>95%	90% 94%	85% 89%		<85
Quality PPM (25% of Score)	<11	11 - 74	75 - 250	251 -500	>500
Quality Tags (25% of Score)	0	1	2 - 3	4	>4
Responsiveness (10% of Score)	4		3		<3

CON MET

Supplier Scorecard

1 Sample

Certification Status: **IATF 16949**

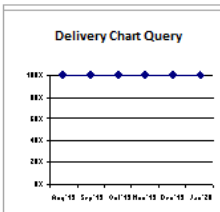
Overall Score: (6 mo. avg.) 100% **A**

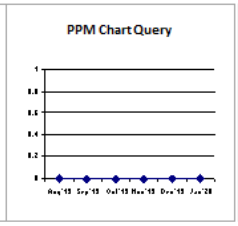
Report Date: February 2020

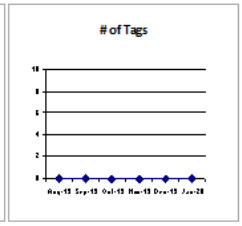
Date	Qty Received	Total Receipts	On Time Shipments	On Time	Premium Freight	Qty Rej	Number of Tags	Repeat Failures	OEM Disruptions	Warranty Tags	Quality PPM	Responsive Rating (0 to 4-Best)	Monthly Performance Socre
8/1/2019	9850	19	19	100%	0	0	0	0	0	0	0	4	100.00%
9/1/2019	6050	17	17	100%	0	0	0	0	0	0	0	4	100.00%
10/1/2019	8650	17	17	100%	0	0	0	0	0	0	0	4	100.00%
11/1/2019	5450	15	15	100%	0	0	0	0	0	0	0	4	100.00%
12/1/2019	3450	6	6	100%	0	0	0	0	0	0	0	4	100.00%
1/1/2020	7200	21	21	100%	0	0	0	0	0	0	0	4	100.00%
	40650	95	95	100.0%	0	0	0	0	0	0	0	4.0	

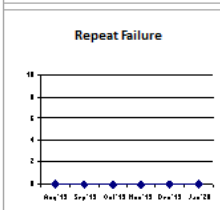
Category	Goal	Actual	Grade
Delivery: 40%	100%	100.0%	A
Quality PPM: 25%	10 PPM	0	A
Quality Tags: 25%	0 Tags	0	A
Responsiveness: 10%	4	4.0	A
DB Risk Rating 1-3=A, 4-6=C,7-9=F (0= Not Reported)	<4	0	NA

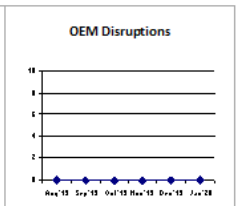
Category	A	B	C	D	F
Delivery	>95%	90% 94%	85% 89%		<85
Quality PPM	<11	11 - 74	75 - 250	251 -500	>500
Quality Tags	0	1	2 - 3	4	>4
Responsiveness	4		3		<3











Comments: