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1. SCOPE

This Quality Manual applies to direct material suppliers to Senior Flexonics.

2. INTRODUCTION

Senior Flexonics Bartlett, IL is just North-West of Chicago & our primary business is the design, development, & manufacturing of exhaust components, rails, special developed products and EGR coolers for the automotive industry.

Senior Flexonics Saltillo, Mexico is located in the automotive industrial area in Saltillo, Mexico. The primary business is manufacturing of exhaust components, rails and special developed products.

Senior Flexonics Bartlett and Saltillo have registered Quality and Environmental systems that comply with the requirements of ISO 9001:2015, IATF 16949:2016 and ISO 14001:2015.

Senior Flexonics is committed to satisfying our customer's needs and requirements in areas of Quality, Cost, Delivery, and Service.

This manual communicates the roles and responsibilities to all of our suppliers. All suppliers are expected to follow the requirements in this manual, unless agreed with Senior Flexonics Quality Manager. This manual may periodically updated with latest issue online at:

<https://www.seniorflexonicsusa.com>

3. SHUTDOWN PERIODS

3.1. All suppliers are to inform Senior Flexonics of all annual factory shutdown periods; this is to be issued to the Purchasing & Buyer at Senior Flexonics.

4. QUOTATION PROCESS

4.1.1. After firm drawings and specifications are released for a part or component, a Request for Quote Form (RFQ) will be released by the Purchasing Department. The RFQ is the document that will be used to determine the final cost for a part or component; suppliers will be required to provide detailed cost information for the following areas:

4.1.2. Material Cost (unless the material is free issue from Senior Flexonics)

4.1.3. Additional Processing Cost, i.e. special processes (if required)

4.1.3.1. Packaging Cost

4.1.3.2. Labor Cost

4.1.3.3. Tooling Cost

4.1.3.4. Transportation

4.1.3.5. Additional information (non-costs items) needed for RFQ

4.1.3.6. Feasibility

4.1.4. In order to be considered suppliers quote must be submitted using format given.

4.1.5. Suppliers must quote production runs to match Release Quantity stated on RFQ

4.1.6. RFQ document can be sent and received electronically by e-mail

5. SCHEDULING-DELIVERY FORECAST

- 5.1.1. Issued delivery schedule to each supplier showing order status on a weekly basis.
- 5.1.2. Suppliers should review the schedule on order status and confirm accuracy of information received.
- 5.1.3. Any discrepancy in the schedule must be reported to Senior Flexonics Purchasing immediately for clarification/reconciliation.

6. ON TIME DELIVERY

- 6.1.1. All suppliers are required to meet 100% on-time delivery against the purchase order schedule released by Senior Flexonics.
- 6.1.2. Supplier must comply to "Deliveries" section on Form 1603-Senior Flexonics Standard Terms and Conditions

7. PACKAGING SPECIFICATIONS

- 7.1. Supplier must comply to any packaging requirement defined on purchase order, drawing &/or Form 1603 Senior Flexonics Standard Terms & Conditions

8. QUALITY MANAGEMENT SYSTEM (QMS)

- 8.1. At a minimum suppliers of automotive products shall be expected to develop, implement, and maintain a QMS in accordance with the current revision of ISO 9001, unless otherwise authorized not needed by Senior Flexonics. However, in cases where suppliers are not ISO 9001 accredited, they must continue to work on a plan to gain certification. Ultimately suppliers are encouraged to gain IATF 16949 certification.
- 8.2. Suppliers shall submit their QMS certification(s) if applicable products.

9. QUALITY PLANNING

- 9.1. All quality planning should be completed using process similar to AIAG APQP current revision requirements.

10. DRAWING & CHANGE CONTROL

- 10.1. A documented system for drawing and change control must be maintained & documented system should include the following elements:
 - 10.1.1.1. Review and approval of new or revised drawing and/or specifications by authorized personnel prior to use
 - 10.1.1.2. System for updating documents affected by the changes or revisions
 - 10.1.1.3. System for removal of obsolete drawings and specifications from points of use
 - 10.1.1.4. A master list which identifies the current revision level in use

11. TOOLING

11.1. A documented system is to be maintained for a preventative maintenance program that shows service schedule for all tooling owned by Senior Flexonics, these records must include:

- 11.1.1. Senior Flexonics part number and description
- 11.1.2. The number of production cycles between servicing
- 11.1.3. Details of all work carried out during the service
- 11.1.4. Name, date and signature of personnel carrying out the service
- 11.1.5. In addition, all tooling owned by Senior Flexonics is to be clearly identified with a label stating "Property of Senior Flexonics", in cases where the tooling is owned by the end customer it is to be identified with a label clearly showing tooling ownership.

12. CALIBRATION

12.1. A documented system is to be maintained for calibration and maintenance of all gauges, measurement devices, fixtures and test equipment at defined intervals to ensure compliance and accuracy.

- 12.1.1. All gauges, measurement devices, fixtures and test equipment must be uniquely identified and must indicate the calibration status.
- 12.1.2. All calibration records and a calibration schedule must be maintained and available for review when requested.
- 12.1.3. All Gauges used in the acceptance of Senior Flexonics CC/SC/HIC features must be supported with a Measurement Systems Analysis (MSA) report & gauge R & R.
- 12.1.4. Gauges owned by Senior Flexonics must be clearly identified with a label stating "Property of Senior Flexonics", in cases where the gauges are owned by the end customer it is to be identified with a label clearly showing gauge ownership.

13. PRODUCT IDENTIFICATION & TRACEABILITY

13.1. Suppliers must have a documented procedure to provide identification of all materials throughout all stages of the manufacturing process.

- 13.1.1. Suppliers are to implement and control a 'first in first out' (FIFO) system
- 13.1.2. All supplied parts/components, including raw materials, are to be traceable to the supplier's receiving and manufacturing records.
- 13.1.3. All materials that have a use by date are to be stored and issued ensuring the expiry date is adhered to at all points of issue and manufacture/use.

14. PROCESS CONTROL

14.1. Documented systems defining the procedures, methods and documentation requirements for control of the manufacturing process must be maintained including:

- 14.1.1. Work instructions
- 14.1.2. Set-up verification
- 14.1.3. Identification and handling of non-conforming material and/or parts
- 14.1.4. SPC where defined for significant characteristics
- 14.1.5. Handling, storage, preservation, packaging and dispatch

15. QUALITY RECORDS

15.1. Suppliers must maintain a system for control and retention of quality records for all products supplied to Senior Flexonics for the active life of the product plus one calendar year. Records must be made available upon request for review by Senior Flexonics. The following record requirements must include as a minimum:

- 15.1.1. Drawing and change control
- 15.1.2. Gauge and test equipment calibration
- 15.1.3. Quality performance records indicating inspection and test results for all products supplied to Senior Flexonics
- 15.1.4. Material Certifications or Certificates of Conformity (where appropriate)
- 15.1.5. Process Capability Studies (if required)
- 15.1.6. SPC Monitoring for identified Significant, Critical and High Impact characteristics or any feature/dimension that requires on-going process monitoring. All SPC data is to be maintained at the supplier’s facility and provided to Senior when requested. The data will be reviewed to ensure that the Cp/Cpk values are adhered to.
- 15.1.7. Equipment/Gauge Calibration supported by MSA for CC/SC/HIC features
- 15.1.8. Pass-Through Characteristics Data (if applicable) is to be maintained and provided to Senior when requested

16. PRODUCTION PART APPROVAL PROCESS (PPAP)

16.1. Suppliers shall follow the current revision of (AIAG) Production Part Approval Process (PPAP) requirements:

- 16.1.1. Regardless of mention or not on Senior Flexonics Purchase Order all suppliers of parts/components will be required at minimum to provide PPAP Level 3 documentation unless otherwise specified to another level on Form 6238, to Senior Flexonics with first production shipment & gain approval by Senior Flexonics SQE with signed PSW warrant.
- 16.1.2. Prior to shipment for any change noted in AIAG Part Submission Warrant section “Reason for Submission” Regardless of mention or not on Senior Flexonics Purchase Order all suppliers of parts/components will be required at minimum to provide PPAP Level 3 documentation unless otherwise specified to another level on form 6238 & gain approval by Senior Flexonics SQE with signed PSW warrant
- 16.1.3. All PPAP documentation must list the Senior Flexonics part number, description and engineering drawing change level & must be Submitted & Retained per AIAG PPAP Retention/Submission Requirements
- 16.1.4. 6 PPAP sample parts from a 300 part production run (unless a smaller sample size has been agreed upon with the SQE) shall be submitted for PPAP approval.
- 16.1.5. Sample parts shall be numbered, correspond to & be documented in PPAP Dimensional Report with dimensional verification.
- 16.1.6. Capability studies for critical characteristics (if required) must be performed using a minimum 30 piece sample, run consecutively, unless agreed in writing from Senior Flexonics SQE.

16.1.7. The minimum Cp/Cpk value of 1.67 is required for PPAP approval. The Cp/Cpk is to be confirmed for the next three normal production runs after PPAP submission, the data is to be submitted to the SQE.

16.1.8. Note, CC/SC/HIC/Safety/Critical features that are not Capable (1.33 Cpk Min); a 100% inspection must be implemented with an approved MSA gauging method, until a capable process is proven.

16.1.9. Measurement System Analysis (MSA) Studies: Must be submitted with PPAP submission for all significant characteristics and any feature identified by Senior Flexonics SQE. MSA studies are required for variable & attribute gauges.

16.1.10. On-site Audit Requirements -Senior Flexonics may require an on-site quality audit as part of the PPAP evaluation and approval process, the audit must be performed while the part/component is running. Senior Flexonics SQE will identify this requirement and make the necessary arrangements with the supplier.

16.1.11. All PPAP sample submissions must be sent directly to Senior Flexonics SQE electronically. Hard copies will also be accepted for back-up (Hard Copies to be scanned and stored on the server)

16.1.12. IMDS (International Material Data System): Shall be submitted to Senior Flexonics on PPAP when requested

16.1.13. PPAP Evaluation Criteria:

16.1.13.1. Approval – all elements of the PPAP submission criteria have been satisfied.

16.1.13.2. Rejected – one or more of the PPAP submission criteria do not comply.

16.1.13.3. PPAP resubmission – any PPAP submission that is rejected or given Conditional approval must be re-submitted in whole or part as instructed by Senior Flexonics SQE. Suppliers must contact Senior Flexonics SQE with arrangements for resubmission of the PPAP.

16.1.13.4. Conditional Approval – all PPAP submission criteria have been satisfied, however, this is pending results from engineering tests, process trials, or Senior Flexonics customer approval or all criteria have been satisfied with only one small discrepancy.

16.1.13.5. Hold – all information or data is not available to give an actual result

17. PROTOTYPE PART APPROVAL PROCESS (PPAP)

17.1. Suppliers shall meet Prototype Part Approval Process (PPAP) requirements:

17.1.1. Form 1777: Supplier Submission of Material for Prototype Warrant

17.1.2. Material Certification

17.1.3. 3 part FAI

17.1.4. Shipment box labeled “Prototypes”

17.1.5. Form 6783: Supplier Deviation Request

17.1.6. Regardless of mention or not on Senior Flexonics Purchase Order all suppliers of prototype parts/components will be required at minimum to provide PPAP documentation to Senior Flexonics with shipment & gain approval by Senior Flexonics SQE with signed PSW warrant.

17.1.7. Prior to shipment for any change noted on Form 1777 section “Reason for Submission” Regardless of mention or not on Senior Flexonics Purchase Order all suppliers of

prototype parts/components will be required at minimum to provide Prototype PPAP documentation & gain approval by Senior Flexonics SQE with signed PSW warrant

17.1.8. All PPAP documentation must list the Senior Flexonics part number, description and engineering drawing change level & must be Submitted & Retained

17.1.9. 3 PPAP sample parts (unless a smaller sample size has been agreed upon with the SQE) shall be submitted for PPAP approval.

17.1.10. Sample parts shall be numbered, correspond to & be documented in PPAP Dimensional Report with dimensional verification.

17.1.11. Prototype PPAP Evaluation Criteria:

17.1.11.1. Approval – all elements of PPAP submission criteria have been satisfied.

17.1.11.2. Rejected – one or more of PPAP submission criteria do not comply.

17.1.11.3. PPAP sample resubmission – any PPAP submission that is rejected or given Conditional approval must be re-submitted in whole or part as instructed by Senior Flexonics SQE. Suppliers must contact Senior Flexonics SQE with arrangements for resubmission of the PPAP.

17.1.11.4. Conditional Approval – all PPAP submission criteria have been satisfied, however, this is pending results from engineering tests, process trials, or Senior Flexonics customer approval OR all criteria have been satisfied with only one small discrepancy.

17.1.11.5. Hold – all information or data is not available to give an actual result

18. NON-CONFORMING MATERIAL

18.1.1. Senior Flexonics will contact the supplier in the event of defective material &/or documentation issues related to purchase order, packaging requirements being found either at SF or the customer, photos showing the defect(s) will also be issued, an 8D Form 852 report will follow unless the complaint is for information only.

18.1.2. Defective parts/components will be returned at the supplier’s expense, unless the supplier collects the defects directly or arranges collection by the nominated courier.

18.1.3. After assessment of inventory at Senior Flexonics, in transit and/or at Senior Flexonics’ customer Senior Flexonics will debit supplier with VRMA (Vendor Return Material Authorization)

18.1.4. Inspection of parts/components - Suppliers will be required to arrange on-site or at supplier sorting of both raw and finished goods, when deemed necessary. Suppliers who cannot support or coordinate this activity must inform Senior Flexonics in writing and Senior Flexonics will arrange/perform the sorting action at the supplier’s expense.

18.1.5. Supplier can arrange for the stock to be exchanged for certified stock whenever possible, however, in the case of finished goods, held at Senior Flexonics, any sorting action must be completed on-site or at supplier.

18.1.6. Suppliers will also be responsible for sorting actions where finished goods are held at customer nominated warehouses, suppliers will not be permitted to sort or inspect goods on these sites. Senior Flexonics will make arrangements for this type of sorting at the supplier’s expense.

18.1.7. All sorted goods are to be identified on the packaging showing passing inspection status when completed.

19. CORRECTIVE ACTION REPORTING

19.1. Corrective actions issued to supplier are to be responded to using 8D Form 852, within the time limits specified below, unless agreed to or escalated by Senior Flexonics SQE.

19.1.1. Interim Response – To be given within 24 hours of receiving the 8D request. Interim response must detail the emergency response actions with associated dates (D0), cross functional team (D1) and Interim Containment Action(s) showing responsibility with associated dates (D3).

19.1.2. Long Term Response - To be given within 30 days of receiving the 8D request. The 8D is to be returned in full showing root cause(s) & escape points, potential, chosen, and implemented corrective action(s), preventative action(s) and system recommendations.

19.1.3. Supplier is to submit completed 8D to Senior Flexonics SQE for review and approval. Any requested changes to 8D after review will be made in writing to supplier. 8D is to be amended and returned in 24 hours of issue unless agreed by Senior Flexonics SQE.

20. COST OF QUALITY (COQ)

20.1. At discretion of Senior Flexonics, COQ fees can be raised where reject material is identified. COQ is used in order to reclaim additional costs incurred due to poor quality of supplied parts/components.

20.1.1. Senior Flexonics Administrative Fee: \$500 (per occurrence)

20.1.2. Any non-conformance Fees passed down by end customer

20.1.3. Internal &/or external sort costs at any location

20.1.4. Cost of supplier made part

20.1.5. Supplier may be charged cost of assembled part if issue found after assembly

21. SUPPLIER MONITORING

21.1.1. Monitoring of suppliers will be conducted and the performance conveyed to the respective supplier every calendar month.

21.1.2. Failure by suppliers in meeting Performance targets can lead to escalation into the Supplier Development Process & an 8D Form 852 Corrective action &/or Supplier may be remotely and/or on site audited by Senior Flexonics

21.1.3. Suppliers are be rated against 4 different performance criteria on monthly basis:

21.1.4. Quality: Table 1

21.1.5. On-time Delivery (OTD): Table 2

21.1.6. Commercial: Table 3

21.1.7. Other Performance Metrics: Table 4

22. QUALITY PERFORMANCE

TABLE 1: QUALITY PERFORMANCE		
REQUIREMENT	PERFORMANCE FOR THE MONTH	POINTS
NO CAR	NO CAR (QUALITY ISSUE)	10 POINTS
1 OR MORE CAR	1 OR MORE CAR	5 POINTS
CAR RESPONSE	COMPLETED BY DUE DATE	10 POINTS
PPM	PPM <100	20 POINTS
	PPM 101-300	15 POINTS
	PPM 301-500	10 POINTS
	PPM >501	0 POINTS
MAXIMUM QUALITY POINTS POSSIBLE FOR THE MONTH		40 POINTS

23. ON TIME DELIVERY PERFORMANCE

TABLE 2: ON TIME DELIVERY PERFORMANCE		
REQUIREMENT	PERFORMANCE FOR THE MONTH	POINTS
PREMIUM FRIEGHT	NO PREMIUM FRIEGHT EVENTS	5 POINTS
OTD PERFORMANCE	OTD ≥ 98%	25 POINTS
	OTD ≥ 95%	23 POINTS
	OTD ≥ 90%	20 POINTS
	OTD ≥ 83%	15 POINTS
	OTD < 75%	10 POINTS
MAXIMUM DELIVERY POINTS POSSIBLE FOR THE MONTH		30 POINTS

24. COMMERCIAL

TABLE 3: COMMERCIAL PERFORMANCE		
REQUIREMENT	PERFORMANCE FOR THE MONTH	POINTS
COST REDUCTION	COST REDUCTION ACHIEVED	10 POINTS
COST MAINTENANCE	NO COST VARIANCE DURING TIME PERIOD	10 POINTS
MAXIMUM COMMERCIAL POINTS POSSIBLE PER MONTH		20 POINTS

25. OTHER PERFORMANCE METRICS

TABLE 4: OTHER PERFORMANCE METRICS		
REQUIREMENT	PERFORMANCE	POINTS
CUSTOMER SUPPORT & RESPONSIVENESS	COMMUNICATION: EMAILS, CALLS, SORTS	4 POINTS
NEW PRODUCT LAUNCH PERFORMANCE	APQP, NPI	2 POINTS
QUALITY SYSTEMS	QUALITY CERTS (IATF, ISO, ETC....)	2 POINTS
COMMERCIAL ALIGNMENT	SUPPLIER IMPLEMENTS A LONG-TERM COST MANAGEMENT PROCESS	2 POINTS
MAXIMUM OTHER PERFORMANCE METRICS POINTS POSSIBLE PER MONTH		10 POINTS

26. CUSTOMER SPECIFIC REQUIREMENTS CSR

- 26.1. Suppliers, if applicable shall evaluate most recent version & conduct annually:
- 26.2. AIAG CQI-9 Special Process: Heat Treat System Assessment
- 26.3. AIAG CQI-11 Special Process: Plating System Assessment
- 26.4. AIAG CQI-12 Special Process: Coating System Assessment
- 26.5. AIAG CQI-15 Special Process: Welding System Assessment
- 26.6. AIAG CQI-17 Special Process: Soldering System Assessment
- 26.7. AIAG CQI-23 Special Process: Molding System Assessment
- 26.8. AIAG CQI-27 Special Process: Casting System Assessment

27. SENIOR FLEXONICS SUPPLIER ON BOARD REQUIREMENTS

- 27.1. Reach/RoHS Requirements: Supplier must conform to EU and Non EU
- 27.2. Ethical Trade:Supplier expected to consider ethical trading www.ethicaltrade.org
- 27.3. Suppliers must adhere to the Modern Slavery Act 2015
- 27.4. Form 1697: New Vendor Setup
- 27.5. Form 6634:TDD (Transaction Due Diligence) Form
- 27.6. Form 6666: NDA (Non-Disclosure Agreement) Form
- 27.7. Form 1603: Terms and Conditions
- 27.8. Form 1697: New Vendor Set-up
- 27.9. Form 6271: ITAR/EAR Conflict Mineral Report & Export Regulation
- 27.10. Form 1758: Supplier Quality Assessment
- 27.11. Form 441A: Supplier Environmental Process Evaluation
- 27.12. Form 6293: Group Responsible Sourcing Policy