Carrier Quality Systems Audit

Cover Page

QLY-52FM1
26-Mar-2021

Supplier Name:	Jemison Metals	Supplier Site:	Sumter, SC Plant 2 (SM2)
Products:	Fabricated sheet metal parts		
Commodity 1:	Steel Fabrication	Commodity 2:	
Carrier Plants as Current / Potential Customers			CLT

Quality Certification(s):	ISO 9001	X	IATF 16949		AS 9100		Other	
Expiration Date(s):	10-Mar-22							

Reason for Audit: Initial X Follow-up Audit Re-Audit **Audit Date** **3/30-31/2021**

This is a supplier self assessment:

Carrier Audit Team

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QLY-52 FM1 - Carrier Quality Systems Audit

Supplier: Jemison Metals **Audit Date:** 26-Mar-2021 3/30-31/2021

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
CATEGORY 1 - QUALITY SYSTEM AND MANAGEMENT RESPONSIBILTY							
Element 1.1 - Quality System							
1.1 Quality System	2	1.1.1	Is the quality system is deployed, documented, communicated and maintained?	Y		*Documented and controlled procedures, processes, specifications, work instructions exist*	Corporate intranet based system and single ISO certificate for all 7 locations - some procedures are corp level, others plant specific
1.1 Quality System	2	1.1.2	Is there an approved and communicated Quality Policy?	Y		*Quality Policy is documented & approved - verify employees interviewed during the audit know policy or can locate where the policy is* *Does the policy include a commitment to continual improvement?*	Part of QM and Intranet Quality site
1.1 Quality System	2	1.1.3	Is there a organizational chart with defined responsibility for the quality management system?	Y		*Responsibility for the QMS and design (if applicable) can be identified from the org chart*	Org chart is for complete organizaiton - corp and plants combined
1.1 Quality System	2	1.1.4	Are communication meetings with employees held on a regular basis to cover topics important to the organization and quality system?	Y		*Records exist showing that at least annually management holds some type of communication meeting with all employees*	1) Quality onboarding presentation 2) weekly metrics review with customer complaints 3) plant coverage of specifics for plants weekly with employees
1.1 Quality System	2	1.1.5	Does the organization have adequate resources to implement the quality management system?	Y		*The organization has quality engineers for production/suppliers/problem analysis and inspectors/technicians as appropriate for the organization size and product being produced.*	Shared resources with Sumter Plant 1 - only a few minutes away
1.1 Quality System	2	1.1.6	Are management reviews conducted at least yearly?	Y		*Verify records exist confirming reviews are held as required*	Yearly only
1.1 Quality System	2	1.1.7	Do management reviews include the following:? -internal audits -customer complaints and satisfaction -status of objectives & metrics -corrective actions -supplier performance	Y		*Verify by reviewing minutes from reviews or any defined agendas, each area covered at least yearly*	Very detailed covering all aspects

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1.1 Quality System	3	1.1.8	Is the Quality organization independent?	Y		*N/A only for very small organizations with limited support/management positions*	
1.1 Quality System	4	1.1.9	Are management reviews held monthly?	N			Yearly only
1.1 Quality System	4	1.1.10	Are employee meetings held monthly?	Y			
Element 1.2 - Quality Metrics							
1.2 Metrics	2	1.2.1	Are basic metrics established and tracked ?	Y		*The organization has identified and tracks basic performance indicators at least monthly, including some type of quality metric and customer rejects*	Internal & external quality, OTD, Customer Complaints
1.2 Metrics	3	1.2.2	Are internal and external failure costs tracked?	Y		*Example - cost of quality*	Known as "Deevaluations" - scrap/ rework costs, customer credits
1.2 Metrics	3	1.2.3	Are overall organization metrics posted visually for all to observe?	Y		*A metrics and communication board or similar display such as a thermostat or scorecard exists showing metrics and goals*	Posted in plant break room near time clock
1.2 Metrics	4	1.2.4	Is the use of metrics widespread and includes?: - on time delivery - failure rate percentage(s) - first pass yield of inspection points - expanded quality costs - safety and environmental metrics - productivity or efficiency	N		*Expanded quality costs would include scrap, rework, repair, engineering costs to correct issues, and others*	Safety and environmental metrics are not part of overall metric "dashboard"
1.2 Metrics	4	1.2.5	Does each production line/cell track and post critical metrics in the area for review and discussion with production employees?	N		*Each area has a metrics board where weekly metrics such as FPY, schedule attainment, defect rates, & others are tracked & displayed N/A only for an organization with one production line/cell*	
Element 1.3 - Quality Planning							
1.3 Planning	2	1.3.1	Does top management define goals and objectives for the organization?	Y		*Metric displays or charts should include the current goals - other current objectives should be documented in some manner*	Goals are posted with each metric - project list developed for each plant and tracked in ASANYA PM portal

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1.3 Planning	2	1.3.2	Do action plans to reach goals and implement objectives exist?	Y		*Plans should exist with details, owners, and due dates*	Goals are posted with each metric - project list developed for each plant and tracked in ASANYA PM portal
1.3 Planning	2	1.3.3	Does the organization plan staffing and resource needs to meet customer orders?	Y		*Production staffing plans based on forecast customer orders - plans are proactively made and not reactionary, this includes the need for OT or additional shifts*	
1.3 Planning	3	1.3.4	Has the supplier conducted a risk assessment with developed contingency plans when needed, of their operations covering: - Natural disasters - Geo-political hazards - Supply chain disruptions - Intellectual property claims - Personnel concerns - Equipment problems - Facility or system issues	Y		*High risks should be identified with defined contingency plans defined - at a minimum this is required for any operation or process tied to supporting Carrier orders to ensure quality and delivery is met*	Contingency plan exists that covers loss of /reduced production capability - utilize one of the other fabrication plants, but contingency planning does not cover all aspects required by Carrer - specifically supply chain disruptions - REVISED 5/6/21 - Contingency plan exists and updated to cover applicable sections
1.3 Planning	4	1.3.5	Does the organization have a long term business plan and objectives, such as a 3 to 5 year plan?	Y			Long term planning discussed and documented yearly
1.3 Planning	4	1.3.6	Does the organization hold annual enterprise risk assessment exercises which result in improvement plans and actions to mitigate identified risks?	N		*Key difference between this and 1.3.4 is it is performed annually*	
Element 1.4 - Document and Records Control							
1.4 Document Control & Records	2	1.4.1	Are quality system documents and drawings controlled? Including: A. A document control procedure exists B. All documents have identification numbers C. Documents include revision levels	Y		*Listing effective dates on documents iis acceptable as a reveions level.* *All documents <u>currently</u> used for production or planning should be controlled, including but not limited to: work instructions, procedures, forms, drawings, BOMs, FMEAs, Control Plans , etc.*	Corp. procedure QMP 7.5

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1.4 Document Control & Records	2	1.4.2	Are customer specifications or drawings in the document control system ?	Y		*N/A only if the organization has design responsibility with no customer special requirements (catalog item)*	Drawings are converted to Jemison drawings to add Jemison requirements - references the customer rev. level - both are stored and controlled
1.4 Document Control & Records	2	1.4.3	Are requirements for record retention defined?	Y			Master document list identifies record retention requirements
1.4 Document Control & Records	3	1.4.4	Are process inspection, testing, and traceability records maintained for at least 10 years?	Y		*If record retention policy for these items is less than 10 years, then an action to add Carrier requirements is needed*	Current requirement is 2 years - REVISED 5/6/21 - system now shows retention requirements, with these records listed as indefinite (electronic)
1.4 Document Control & Records	4	1.4.5	Are data and documents (prints, spec & records) backed-up and held off-site?	Y			Server is in Birmingham (HQ) and backed up on AZURE cloud
Element 1.5 -Quality System Internal Audits							
1.5 Internal Audits	2	1.5.1	Is a Quality System Internal Audit system established and implemented ?	Y		*Schedule, process, forms exist along with records*	Corp Procedure QMP 9.2
1.5 Internal Audits	2	1.5.2	Are corrective actions taken for internal audit findings?	Y		*Records exist verifying that audit findings are addressed through the use of the corrective action system*	Reviewed several corrective actions from internal audits completed in the past 3 months
1.5 Internal Audits	2	1.5.3	Is the internal audit team cross functional to prevent conflicts of interest?	Y		*Team members are from at least 2 departments to prevent quality from auditing quality for example*	Yes - but still quality based - should consider training employees from other functions to audit quality processes
1.5 Internal Audits	4	1.5.4	Are all processes - both operations and office - audited at least once yearly?	Y		*Schedules and records cover all areas with audits yearly*	Operations - quarterly - office processes - yearly
CATEGORY 2 - RESOURCE MANAGEMENT							
Element 2.1 - Asset Maintenance							
2.1 Asset Maintenance	2	2.1.1	Is there a plan to maintain and preserve the building facilities?	Y		*Planned / budgeted activities - if property is rented or leased - does the organization have requirements to maintain overall organization/5S & cleanliness of facility and other items under their control*	

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2.1 Asset Maintenance	2	2.1.2	Is there a plan to maintain and preserve all equipment used for production, either direct or indirect (fork trucks, air compressors, etc.)?	Y		*Maintenance schedule with defined tasks*	Monthly calendars exist showing required maintenance
2.1 Asset Maintenance	2	2.1.3	Is there a plan to maintain and preserve IT resources?	Y		*Planned / budgeted activities*	Projects exist and ongoing
2.1 Asset Maintenance	2	2.1.4	Are tooling and fixtures properly stored and maintained?	Y		*Tooling or fixtures are stored and organized to prevent damage - not in unorganized piles*	All tooling observed stored in an acceptable manner
2.1 Asset Maintenance	2	2.1.5	Do records exist verifying that the maintenance plans have been completed as required?	Y			Records available and reviewed for Q1 2021 showed schedule followed as planned
2.1 Asset Maintenance	4	2.1.6	Does the organization have a full TPM program implemented that includes: - calculating and understanding OEE for equipment - defined PM activities for daily, weekly, monthly - including tasks for operators	N		*Equipment is clean, no leaks, check points are visually identified, OEE data is available, equipment gauges are marked with targets , operators can explain what inspections they are required to perform - verify PM checks are being completed*	
2.1 Asset Maintenance	4	2.1.7	Are corrective actions used to prevent the reoccurrence of unexpected downtime events as part of the TPM program?	N		*Records of corrective actions taken or other documented examples*	
2.1 Asset Maintenance	4	2.1.8	Are downtime risks analyzed with developed contingency plans?	Y		*Yearly risk analysis and actions if needed - critical spare parts on essential equipment are identified and stocked*	Contingenty plan covers lost/reduced capacity - long lead time repair items stocked by Jemison or equipment vendor
2.1 Asset Maintenance	4	2.1.9	Are actions taken to prevent IT risks such as: back-up servers, system virus protection, data back-up programs, server security measures, etc.?	Y		*Yearly risk analysis and actions if needed*	
Element 2.2 - Calibration							
2.2 Calibration	2	2.2.1	Is there a documented calibration procedure and schedule?	Y			Gages all in Gagetrak software with defined calibration due dates and records - for calibrations done internally - consider having procedures for each gage type

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2.2 Calibration	2	2.2.2	Do records exist showing the equipment is calibrated as required per the schedule?	Y			
2.2 Calibration	2	2.2.3	Is out of calibration equipment removed from use and segregated to avoid the use of it?	Y		*Excess equipment marked as "Not Calibrated" and separated from calibrated equipment*	Excess gages stored at SMT1 - segregated from other gages
2.2 Calibration	2	2.2.4	Is all equipment identified with its calibration status?	Y		*Label or equivalent on all gauges / test equipment with calibration due date*	Gages have ID number - allowed by ISO registrar due to issues with labels at service centers
2.2 Calibration	2	2.2.5	Do records exist verifying that the equipment used is suitable for the characteristics or features measured ?	Y		*Gauge resolution should be <= 10% of total tolerance - MSA studies preferred but not required*	Closed with document SM2-VA-008 on 6/3/21
2.2 Calibration	2	2.2.6	For equipment or devices that cannot be calibrated against a standard, do documented procedures exist explaining the calibration process?		X	*N/A only when there are no internal calibration activities or internal activities that cannot be accomplished with master gauges only*	
2.2 Calibration	2	2.2.7	When a device is found to be damaged or measuring out of specifications, are there requirements to evaluate the impact on product & the need for action?	Y		*A form or process should be used to evaluate the need for action - examples should be reviewed - N/A would be very rare*	Part of procedures
2.2 Calibration	2	2.2.8	Do records exist showing actions were taken when inaccurate data is identified as a result of a out of calibration equipment found during calibration?		X	*N/A would be rare but acceptable if no equipment found to be out of specification at calibration*	No existing examples in this plant
2.2 Calibration	3	2.2.9	Have MSA studies been performed on all equipment used for inspection of key characteristics?		X	*N/A acceptable if currently not a supplier for Carrier or Carrier parts have no key characterisitics*	
2.2 Calibration	3	2.2.10	Are the results for MSA / Gauge R&R studies 20% or less on all variable gauges used for key characteristics?		X	*N/A acceptable if currently not a supplier for Carrier or Carrier parts have no key characterisitics*	
2.2 Calibration	3	2.2.11	Are the results for aBa MSA studies 98% or better agreement for all attribute gauges or tests used on key characteristics?		X	*N/A acceptable if currently not a supplier for Carrier or Carrier parts have no key characterisitics*	

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2.2 Calibration	3	2.2.12	Are MSA studies performed at least every 24 months?		X	*N/A acceptable if currently not a supplier for Carrier or Carrier parts have no key characterisitics*	
2.2 Calibration	3	2.2.13	Does the organization have examples and experience performing MSA or Gauge R&R studies?	Y		*N/A acceptable if currently not a supplier for Carrier or Carrier parts have no key characterisitics*	Studies completed when previously requested by customers - several examples
2.2 Calibration	4	2.2.14	Are MSA studies performed for 100% of the measuring devices using GR&R <10% and test equipment and studies are repeated annually?	N		*1 study for one gauge model number where multiples exist is acceptable*	
2.2 Calibration	4	2.2.15	Is gauge calibration system software used for to manage calibration and location of gauges and equipment?	Y			Gagetrak
2.2 Calibration	4	2.2.16	Are all 3rd party calibration sources used AL2A accredited or certified to ISO/IEC 17025?	Y			Limited external calibration, but vendors are 17025 accredited
2.2 Calibration	4	2.2.17	Does the organization have a documented and enforced "dropped gauge" policy?	N		*Verify employees understand what is required if they drop a gauge*	Informal policy in place not documented
Element 2.3 - Employee Competency							
2.3 Employee Skills	2	2.3.1	Does the organization have job descriptions with required work experience, skills, and education for each position?	Y			Reviewed descriptions for: material handler, laser operator, press brake operator
2.3 Employee Skills	2	2.3.2	Does the organization have a documented training process for production employees?	Y		*Process is documented & defines who is qualified to train & when retraining is required (process change, return from long absence, etc.)*	Defined in SOP #1 - trainers identified on the training matrix
2.3 Employee Skills	2	2.3.3	Are processes being performed by trained personnel with verifiable records?	Y		*Select at least 2-3 employees during floor audit and verify their qualification with the records*	Checked 4 employees - all idnetified as fully trained or able to train (Jeffrey, Eddie, Greg, and Jackie)
2.3 Employee Skills	2	2.3.4	Are production employees trained on the non-conformance process and requirements?	Y		*Examine training records / basic training package*	part of Qualty on-boarding training

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2.3 Employee Skills	3	2.3.5	Is there a process to periodically survey employees on their job satisfaction and/or engagement?	Y		*Some type of survey and results*	Employees are not surveyed but Jemison does use EABs - Employee Advisory Boards - in each plant to collect suggestions and suggest improvements to improve engagement and employee satisfaction - very active and successful
2.3 Employee Skills	3	2.3.6	Does the organization ensure each process has > 1 employee trained & perform cross training as needed to mitigate absences ?	Y		*"Back-up" for each station / operation available - no process is dependent on one employee*	All positions in matrix have at least 2 employees cross trained if not more
2.3 Employee Skills	4	2.3.7	Are industry certifications encouraged and available for specialized processes?		X	*Examples - AWS Certified Welder, ASQ Certified Quality Engineer*	
2.3 Employee Skills	4	2.3.8	Does the organization have a formal training program including quality & related programs such as: problem solving, process control, process improvement, cycle time reduction, etc.?	N			
2.3 Employee Skills	4	2.3.9	Is employee training tracked through the use of a skills matrix that allows supervision to easily understand who is qualified to work in each station or task?	Y			Training / skills matrix are used similar to Carrier facilities
2.3 Employee Skills	4	2.3.10	Does the training /skills tracking include management and support personnel ?	Y		*Skills matrix for key support processes with backups trained for each*	Quallity and management were included
2.3 Employee Skills	4	2.3.11	Does the supplier has a code of conduct / business ethics program?	N		*Ensures at a minimum that the company complies with all applicable laws & regulations, assures a safe work environment, & prohibits forced and child labor*	Not documented
2.3 Employee Skills	4	2.3.12	Are employees cross trained with job rotation practiced to enable a flexible work environment?	N		*Employees rotate positions at least weekly*	Rotation is not done weekly
2.3 Employee Skills	4	2.3.13	Are action plans to improve employee satisfaction actively being completed and satisfaction scores improving over time?	N			Plans are completed but level of satisfaction is not assessed

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CATEGORY 3 - CUSTOMER REQUIREMENTS							
Element 3.1 - Contract Review							
3.1 Contract Review	2	3.1.1	Does a documented contract/ order review process exist which requires verification that: - the delivery date can be met - the product specifications or any special requirements can be met	Y		*Verify records exist that show the process is being followed*	2 procedures - QMP 8.1 - covers "award review" for new business , COP 1 covers contract review for PO releases
3.1 Contract Review	2	3.1.2	Does the organization provide an order confirmation / acknowledgement to the customer?	Y			Reviewed examples
3.1 Contract Review	2	3.1.3	Do change orders flow through the same reviews and approvals as new orders?	Y		*When quantities, delivery, or specifications are changed on an order by the customer*	Reviewed examples
3.1 Contract Review	3	3.1.4	Are corrective actions taken when failures occur due to failures in the contract review process?	Y		*N/A only if there are no documented escapes or defects from the process*	Customer 8D created for escape - 2/21/21
3.1 Contract Review	4	3.1.5	No repeat escapes due to the contract review process in the past 12 months	N			
Element 3.2 - Customer Satisfaction							
3.2 Customer Satisfaction	2	3.2.1	Is there process to capture customer satisfaction levels at least yearly?	Y			Basic - using customer returns/complaints - surveys were not successful in the past
3.2 Customer Satisfaction	3	3.2.2	Are business and performance reviews held with customers at least yearly?	Y		*Meeting schedule and minutes exist*	Completed by territory sales managers - reviewed minutes
3.2 Customer Satisfaction	4	3.2.3	Does the customer satisfaction system: - use a method such as a survey which provides a measure of the level of customer satisfaction - with goals and actions to improve satisfaction when required - with a trend of improving satisfaction or maintaining a high level	N		*Level of customer satisfaction is on a scale of 1-7 for example - Improvement actions are created and implemented to increase customer satisfaction*	
Element 3.3 - Scheduling & Material Planning							
3.3 Scheduling / Material Planning	2	3.3.1	Are production schedules created based on meeting promised ship / delivery dates?	Y		*Promised ship / delivery dates are part of the process when creating schedules*	scheduling completed in FIT system (extension of AS400 based ERP system) - ship / due dates part of tool

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3.3 Scheduling / Material Planning	2	3.3.2	Are customers contacted when it is known that promised ship dates will not be met due to any issue?	Y		*Records / emails showing when customers have been notified that ship dates will not be met*	Reviewed correspondance between inside sales rep and customers on orders shipping late due to raw material shortages currently happening
3.3 Scheduling / Material Planning	2	3.3.3	Does the organization manage lead times and inventories of parts to meet production schedules?	Y		*Orders & forecasts are used to identify material demand & drive purchase orders and/or expediting actions to ensure material availability*	
3.3 Scheduling / Material Planning	4	3.3.4	Are common low value parts and material inventory levels managed using Kanban systems?	Y			Min/max on common raw material sizes & grades
3.3 Scheduling / Material Planning	4	3.3.5	Does the organization work with long lead time suppliers to reduce lead times & take actions to mitigate possible shortages due to spikes in demand?	Y		*Weekly schedules & forecast are provided, Improvement events held, contracts with agreed safety stock requirements, consignment arrangements*	Actively work with mills for allotment and expected capacities
3.3 Scheduling / Material Planning	4	3.3.6	Is there a documented contingency plan for production (equipment, utilities, labor & sub-suppliers) to meet customer requirements ?	Y		*"Back-up" plans exist to ensure continued production*	Covered previously - plan is to use resources in other Jemison facilities
CATEGORY 4 - PRODUCT REALIZATION AND CONTROL							
Element 4.1 - New Product Introduction Process							
4.1 New Product Introduction	2	4.1.1	Does a new product introduction procedure exist and used?	Y		*Documented procedure or similar documents defining requirements - verify records exist showing the process is followed*	QMP 8.1 Award Review is the driver for this - based mainly on sheet metal CTL busness

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4.1 New Product Introduction	2	4.1.2	Does the procedure define the following?: - required process stages - when reviews are required - authorities and responsibilities - required activities for design verification and validation to requirements* - required qualification activities for purchased products or services - required documents to show requirements have been met	Y		*Items with * are N/A if the supplier has no design responsibility*	No design responsibility actions - cut to length steel or contract manufacturing of fabrication only - so very limited - does require cross functional meeting and approval
4.1 New Product Introduction	2	4.1.3	Does the procedure require?: - defining functional and performance requirements* - customer input to requirements* - verification of any statutory, regulatory, or other applicable requirements * - activities to consider potential consequences of failure - defined project goals and tracking of results to goals - minutes & other documentation that must be retained - cross functional participation - activities / deliverables from each major function such as: engineering*, operations, quality, and supply chain - identifying product characteristics that are essential to the product function / safe operation* - the review of any changes made during or after development for possible impact	Y		*Items with * are N/A if the supplier has no design responsibility*	No design responsibility actions - cut to length steel or contract manufacturing of fabrication only - so very limited - does require cross functional meeting and approval

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4.1 New Product Introduction	3	4.1.4	Is the creation of DFMEAs required as part of the new product introduction and: - defined criteria similar to AIAG criteria is used and it is consistently applied - Do example DFMEAs show that actions are identified and completed on high RPN items?		X	*N/A if supplier does not have design responsibility* *Review examples from product launches*	
4.1 New Product Introduction	3	4.1.5	Is the creation of Process Flow Diagrams, PFMEAs, and Control Plans required as part of the new product introduction process?	Y			Not required but not needed - PFDs, PFMEAs, Control Plans exist by process with standard controls utilized
4.1 New Product Introduction	3	4.1.6	For identified key characteristics developed internally or provided by customers are there requirements to validate measuring & testing equipment through MSA studies, apply SPC, and achieve defined capability goals?		X	*N/A only if no key characteristics exist currently*	
4.1 New Product Introduction	3	4.1.7	Does a change control procedure exist and does it require obtaining customer approval for any design or process changes?	Y		*Verify the process is followed by reviewing deviation/concession records*	Deviation process and records reviewed
4.1 New Product Introduction	3	4.1.8	Is the development and review of processes that occur after the release of product included in the procedure, including packaging and shipping?	Y		*These areas are in the PFMEAs and Control Plans*	Packaging is defined as part of the process as well as shipping
4.1 New Product Introduction	4	4.1.9	Are advanced tools such as Design of Experiments, Modeling & Simulation, Quality Function Deployment, Design for Manufacturing, and 3P required in the new product introduction process?	N		*Records of these tools being used with a product introduction*	
Element 4.2 - Purchasing							
4.2 Purchasing	2	4.2.1	Does a process or requirements for the evaluation, selection, and approval of suppliers exist?	Y		*Verify the process is followed by reviewing evaluation records - N/A allowed for directed buys only*	Procedure QMP 8.4 New Supplier Evalutation and Approval - with assessment and evaluation checklist

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4.2 Purchasing	2	4.2.2	Is a method in place that monitors the performance of suppliers?	Y		*Verify metrics exist and are maintained at least monthly*	Metrics tracked
4.2 Purchasing	2	4.2.3	Are corrective actions requested from suppliers when the provided products or services fail to meet requirements?	Y		*Verify by reviewing records of supplier corrective actions*	Reviewed recent examples
4.2 Purchasing	2	4.2.4	Is the purchasing process defined and followed with controls in place to restrict the ability to place purchase orders by only authorized employees using only approved suppliers?	Y		*1) Verify records exist and demonstrate that the process is followed.* *2) Password protected system or all POs are reviewed and approved.* *3) An approved supplier exists or suppliers can only be added to ERP/MRP system after approval*	Defined in SOP #2, ERP system is acess controlled and serves as approved supplier list - cannot order from suppliers not in ERP, can not be entered into ERP unless approvedd
4.2 Purchasing	2	4.2.5	Are the following communicated to suppliers when placing purchase orders? - Current product drawings or specifications - Approval requirements for first time orders/shipment - Required delivery date and shipping requirements	Y			Reviewed examples for different steel mills
4.2 Purchasing	2	4.2.6	Does the organization have controls in place to ensure that purchased products meet requirements such as any of the following: - incoming inspection - the use of PPAP - First Article Inspection	Y		*Verify records exist showing parts or materials have been reviewed and verified to meet requirements*	Only suppliers are steel mills supplying raw material - so basic dimension / BOL check along with material cert review and approval
4.2 Purchasing	3	4.2.7	Does the organization use the PPAP process with its suppliers when sourcing product or services to verify requirements are met and to approve the product or service for use?		X	*N/A acceptable if the supplier currently does not supply Carrier or there are no Carrier sub tier components with key characterisitics or special requirements*	
4.2 Purchasing	3	4.2.8	Does the organization identify key characteristics that their suppliers must implement ProCert or certified processes for (MSA, SPC, Capability)?		X	*N/A acceptable if the supplier currently does not supply Carrier or there are no Carrier sub tier components with key characterisitics or special requirements*	

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
4.2 Purchasing	3	4.2.9	Does the organization require and have a process with their suppliers to enforce change control at the suppliers and approval by the organization?		X	*N/A only if organization purchases raw materials and/or catalog type items*	Raw materials only at SM1 - SM2 purchases blanks internally
4.2 Purchasing	3	4.2.10	Is both supplier quality and delivery performance monitored?	Y			Quarterly scorecards sent to suppliers with OTD, Quality score, Responsiveness score
4.2 Purchasing	3	4.2.11	Is incoming material quarantined and unavailable for production until released by quality?	Y		*Parts / materials are in a "unavailable" status in the ERP/MRP system - N/A allowed if no incoming inspection exists*	Not entered into ERP until BOL confirmed (SM2)
4.2 Purchasing	4	4.2.12	Do yearly supplier development goals exist with defined actions that will improve supplier PPM and/or OTD?	N			
4.2 Purchasing	4	4.2.13	Does the supplier selection and evaluation process include understanding?: - capacity & lead time - technical abilities of the supplier - risks, (financial, natural disasters, etc.)	Y			Evaluation sheet includes these items
4.2 Purchasing	4	4.2.14	Are performance / action reviews are held with identified priority suppliers on a monthly basis? Are scorecards or the equivalent used to provide feedback to both key and priority suppliers on a regular basis?	N		*Example - key suppliers are top 80% of spend, priority suppliers may be those key suppliers that are underperforming or the top 20% of spend*	
4.2 Purchasing	4	4.2.15	Has the organization captured it's requirements for suppliers in a Supplier Quality Manual or other document that is shared with suppliers?	N			
4.2 Purchasing	4	4.2.16	Does incoming inspection measure key characteristics on products or materials and use the data to track capability with reaction plans for when capability requirements are not met?		X	*N/A only if organization purchases raw materials, catalog type items, or no key characteristics exist*	
Element 4.3 - Process Planning and Control							

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
4.3 Process Planning / Control	2	4.3.1	Are the processing steps for products clearly defined in some manner and include the required controls (measurement, documentation, or testing activities)?	Y			Job work orders cover requirements, material requirements, forms for inspection requirments
4.3 Process Planning / Control	2	4.3.2	Are documents defining the product characteristics and requirements available in the work area (drawings or other controlled documents)?	Y			Drawings are part of the job work order packet
4.3 Process Planning / Control	2	4.3.3	Are necessary work instructions available in the work area that agree with process steps & defined controls & are those documents controlled?	Y			Electronic
4.3 Process Planning / Control	2	4.3.4	Are suitable gauges, test equipment, or other devices available in the work area as required for the defined controls?	Y			
4.3 Process Planning / Control	2	4.3.5	Are employees performing the process and controls as defined in the work instructions or other requirements?	Y		*During the floor audit, pick several stations, review the work instructions, and observe employees performing the tasks*	No evidence found on multiple job work order packets that required inspections had been completed REVISED 5/6/21- action taken to correct
4.3 Process Planning / Control	2	4.3.6	If required, are any traceability requirements on key components documented?	Y		*N/A only if no traceability requirements exist*	Heat codes of material are tracked from SMT
4.3 Process Planning / Control	2	4.3.7	Are there final inspections / pack audits with defined criteria and frequencies in place to validate the effectiveness of in process controls?	Y		*Inspections or audits should after production has completed and released product - this should include packaging and labeling*	Finished goods are audited for correct packaging, quantities, damage, and basic dimensions to print
4.3 Process Planning / Control	2	4.3.8	Does the supplier take actions to qualify any new equipment that is purchased or existing equipment that is modified?	Y		*Test runs with 100% inspection to verify ability of the equipment or capabilities for example*	REVISED - 5/6/21 - Records retrieved or studies completed on equipment and presented
4.3 Process Planning / Control	2	4.3.9	Is product / material status identified in regards to inspection / testing status throughout the process?	Y		*Product status is tracked electronically or visibly on the product or travelers. If process has single piece flow with automation that prevents unapproved product from moving forward this is acceptable.*	On job orders

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
4.3 Process Planning / Control	2	4.3.10	Are records of measurements, inspections, or tests retained and do those records indicate who performed the inspection or test?	Y			On job orders
4.3 Process Planning / Control	3	4.3.11	Do process flow diagrams, PFMEAs, and control plans exist for some products and: - the process steps in each match - defined rating criteria similar to AIAG criteria is used & consistently applied - actions are identified and completed on high RPN items	Y		*If the organization does not use these tools / have never been asked to do so, answer as "no"* *Pay particular attention to detection ratings - visual inspections should be no lower than 8* *Highest RPN issues should have actions defined and completed or in process*	Process based - lasers and press brakes
4.3 Process Planning / Control	3	4.3.12	Do existing control plans follow a format similar to the AIAG format with: - key characteristics identified - setup parameters & requirements - required sample size and frequency - defined signals and reaction plans? - control plans are controlled documents	Y			
4.3 Process Planning / Control	3	4.3.13	Is SPC in place for some key characteristics (typically when requested by a customer) and the processes are kept in control?	Y		*If the organization does not use these tools at all / have never been asked to do so, answer as "no"*	N/A - no KPCs, Jemison has experience doing this when requested
4.3 Process Planning / Control	3	4.3.14	Are process capabilities known for some processes and the Cpk values are >= 1.33 or 100% inspection is in place when the process is not capable?	Y		*If the organization does not use these tools , answer as "no" - 100% inspection must be with a qualified instrument*	N/A - no KPCs, Jemison has experience doing this when requested
4.3 Process Planning / Control	3	4.3.15	Are control plans being followed in production?	Y		*Observe several stations or operations to ensure all controls are being followed as documented in the control plan*	REVISED 5/6/21 = actions taken to correct issues identified duringthe audit
4.3 Process Planning / Control	3	4.3.16	Does a layered audit process exist that verifies compliance to work instructions and other requirements with auditable records?	Y		*Verify records exist to show that daily, weekly, monthly requirements are completed*	REVISED 5/6/21 - layered audits implemented with auditable records

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
4.3 Process Planning / Control	3	4.3.17	Are AMC requirements (if applicable) met for any existing Carrier products or materials?		X	*N/A allowed if no defined AMCs*	
4.3 Process Planning / Control	3	4.3.18	Are any changes to packaging, labeling, barcoding, or shipment routing approved by the customer prior to implementation?		X		
4.3 Process Planning / Control	4	4.3.19	Do all processes and/or products have PFMEAs and Control Plans, these documents are part of the supplier's operating system & normal processes?	Y			
4.3 Process Planning / Control	4	4.3.20	Does the supplier use SPC and capability tracking to control processes that they have deemed key without the need being dictated by customers and is this data communicated / visible to employees?	N			
4.3 Process Planning / Control	4	4.3.21	Do operators have the ability and are required to perform inspections independent of quality resources? If manual SPC is used do the operators record results & understand when reactions are required based on the control chart & established rules?	Y		*1)Operators are able to inspect and reject product - not reliant on inspectors 2)Verify how operators understand SPC - does a training exist for operators to learn from? 3) If all SPC is automatically controlled - answer as "Y"*	Inspections performed by operators - no SPC in use
4.3 Process Planning / Control	4	4.3.22	Does the organization have an expert process control resource(s) within the organization (Six Sigma Black Belt or equivalent)?	N			
4.3 Process Planning / Control	4	4.3.23	Are test result metrics such as FPY are posted and communicated in the product areas and discussed as part of production meetings?	N			
4.3 Process Planning / Control	4	4.3.24	Are all PFMEAs and DFMEAs updated yearly or every time that processes or product changes occur?	N		*DFMEA not required for suppliers with no design responsibility - PFMEA required for any and all*	
Element 4.4 - Non-Conforming Product & Change Control							

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
4.4 / Non-Conformance Control	2	4.4.1	Does a defined, documented process exist to identify & control non-conforming product to prevent unintended use or shipment that includes requirements for the non-conformances to be reviewed and dispositioned by authorized employees?	Y		*Verify records exist that show the details of non-conformances, disposition of the product / material, and other actions*	Corp procedure 8.7
4.4 / Non-Conformance Control	2	4.4.2	Is non-conforming material on the property tagged, marked, or identified in some manner to show that it is non-conforming (on hold, rejected, suspect, etc.) & contained by acceptable means such as segregation?	Y		*Examples - clearly marked hold / reject areas or electronic controls*	
4.4 / Non-Conformance Control	2	4.4.3	If non-conforming material is repaired or reworked is it required to go back through the normal production inspection / test points?	Y		*N/A allowed only if rework and repair is not an option*	
4.4 / Non-Conformance Control	2	4.4.4	If non-conforming material is to be used "as is" with identified non-conformances to requirements - does this require an approved concession / deviation that also includes customer approval?	Y		*N/A allowed only if all non-conforming product is corrected or scrapped - check and review records of deviations or concessions to verify the process is followed*	Deviation form and records exist - limited deviations requested or needed
4.4 / Non-Conformance Control	3	4.4.5	Does the non-conformance procedure include determining if any product has potentially shipped to customers with the identified non-conformance, and if so, contacting customers to have the produt quarantined?	Y		*Procedure should include determining if the non-conformance could have escaped and taking action with the customer.*	
4.4 / Non-Conformance Control	4	4.4.6	Is the non-conforming product/material segregation area is secured with limited access to prevent unauthorized use of the product or material?	Y		*Central hold / reject area - for large items a mistake proofed (physical or electronic) method to prevent use is an acceptable option when the item is too large for the hold area or difficult to move*	hold / reject area exists

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
4.4 / Non-Conformance Control	4	4.4.7	Are segregation bins on the production line secured to prevent removal of objects?		X	*Work station hold / reject area when product is consistent in size & shape - N/A if product or material are not consistent*	Inconsisent size/shapes
4.4 / Non-Conformance Control	4	4.4.8	Does the organization utilize MRBs consisting of cross functional members to review & disposition non-conformances?	Y		*N/A in very small organizations with limited support staff* *MRB = Material Review Board*	Qualty and materials management part of weekly MRB for higher level items
4.4 / Non-Conformance Control	4	4.4.9	Are non-conformances typically reviewed and processed in less than 1 week?	N			14 day goal currently
4.4 / Non-Conformance Control	4	4.4.10	Do non-conformances drive the creation of corrective actions with suppliers or internally to prevent reoccurrences (records exist)?	Y			
4.4 / Non-Conformance Control	4	4.4.11	Is non-conforming material that is dispositioned as scrap or dispose marked or altered in a permanent manner to prevent unauthorized use?	N			
4.4 / Non-Conformance Control	4	4.4.12	Does the supplier have an established containment process to follow when non-conformances may have escaped the production process?	Y			In quality manual - evidence of use in corrective actions
Element 4.5 - Packaging and Handling							
4.5 Packaging / Handling	2	4.5.1	Does the handling and storage of the product through the manufacturing process ensure no part damage?	Y		*Product is not stacked on pallets with product hanging over the pallet, products that are not designed to be exposed to elements are not stored outside*	
4.5 Packaging / Handling	2	4.5.2	Is a process in place to ensure packaging specifications meet customer requirements including labeling, bar coding and delivery?	Y		*Packaging is approved by the customer*	Instructions on job order
4.5 Packaging / Handling	2	4.5.3	Is a process in place to select the appropriate transportation based on the nature of the product or customer requirements?	Y		*N/A if Carrier arranges or defines shipping*	Arranged by current customers

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
4.5 Packaging / Handling	2	4.5.4	If applicable, do bulk containers holding multiple items have a label that clearly identifies the contents?	Y			Required by some customers
4.5 Packaging / Handling	2	4.5.5	Are any changes to packaging, labeling, barcoding, or shipment routing approved by the customer prior to implementation?	Y			
4.5 Packaging / Handling	2	4.5.6	Is the labeling process robust to ensure no labeling errors, including verification of bar codes?	Y		*Some level of mistake proofing such as single piece flow, etc. - bar codes are read as part of the process or tested for readability*	
4.5 Packaging / Handling	3	4.5.7	Has the shipping and packaging method been validated with customers?	Y		*Packaging and shipping methods have been used and confirmed to be acceptable*	
4.5 Packaging / Handling	4	4.5.8	Is packaging periodically analyzed for adequacy in preventing damage and deterioration?	N		*Improvements made based on any damage claims or complaints*	
4.5 Packaging / Handling	4	4.5.9	Does the supplier uses Kanban or other JIT techniques to reduce handling and in process inventories?	N		*N/A ok for low volume suppliers*	
4.5 Packaging / Handling	4	4.5.10	Does the supplier use returnable containers where applicable?	Y		*N/A ok for low volume suppliers*	As per customer requirements
4.5 Packaging / Handling	4	4.5.11	Has the supplier had no shipping damage over the past 12 months due to packaging issues?	N		*For any customer*	
CATEGORY 5 - CORRECTIVE ACTIONS & PREVENTIVE MEASURES							
Element 5.1 - Corrective Actions							
5.1 Corrective Actions	2	5.1.1	Is there a documented corrective action system that includes the following: - review & analysis of the nonconformity to determine cause(s) - determining if similar nonconformities could occur or exist - implementation of needed actions and review of action effectiveness - required records of the problems	Y		*Forms or documented procedures exist defining details, causes are determined but may be symptoms instead of the root cause - very basic corrective action system - verify that records exist showing that the system is being used on a regular basis*	Corp procedure QMP 10.2 - Corrective action system built into the FIT system - the Case System

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
5.1 Corrective Actions	2	5.1.2	Are the corrective actions taken appropriate for the nonconformities / problems encountered?	Y		*Examples - low impact/low volume issues my have actions that improve detection of problems - high impact / high volume issues should have actions that improve prevention*	Observation - some actions are operator training - try to focus on process improvement to prevent issues or to detect them interally
5.1 Corrective Actions	3	5.1.3	Does the supplier's corrective actions include the following: 1) Root cause determination within a reasonable time 2) Containment action (short-term corrective action) within 24 hours of Carrier request, 3) Permanent (long-term) action, 4) Implementation plan with due dates 5) Disposition of suspect material, 6) Focus on mistake-proof solutions	Y		*More advanced corrective action process requiring identifying root cause and other requirements listed in the question - verify that corrective action examples demonstrate that actions taken effectively focus on true root cause and not symptoms*	Examples show good consideration for containment activities
5.1 Corrective Actions	3	5.1.4	Are proposed corrective action(s) for customer issues approved by the customer?	Y		*N/A only if no customer issues reported*	When required or requested by customers
5.1 Corrective Actions	4	5.1.5	Have PFMEAs been updated based on the non-occurrence and actions taken as part of the corrective action process?	N			
5.1 Corrective Actions	4	5.1.6	Have actions or changes made as part of the corrective action been added to layered process audits to monitor and ensure effectiveness?	N		*Ask to see where questions have been added as a result of a corrective action. If no layered audits answer this question as "N"*	Layered Process Audits do not exist
5.1 Corrective Actions	4	5.1.7	Does supplier use standard root cause analysis tools such as Ichikawa diagrams or 5 Whys when required?	N		*Other tools can be used - but documenting and showing how root cause was determined should be required*	
5.1 Corrective Actions	4	5.1.8	Are cross functional teams used for most corrective actions?	N		*Simple, quick fix issues may not need a cross functional team*	
5.1 Corrective Actions	4	5.1.9	Are corrective action (fast response) boards, Quality Clinics, or other team based action acceleration approaches in use?	N			

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
Element 5.2 - Customer Support							
5.2 Customer Support	2	5.2.1	Does the supplier have a formal process and designated responsibility for handling customer issues?	Y		*Central customer service contact point - very that records exist and kept showing that customer issues or complaints are handled*	Sales rep is responsible - reports complaints into the Case System for resolution and CA if needed
5.2 Customer Support	2	5.2.2	Do customer complaints or issues result in the use of corrective actions to eliminate the causes and prevent reoccurrence?	Y		*Examples of corrective actions taken for some customer issues, verify that records of corrective actions exist for reported issues*	Reviewed recent examples
5.2 Customer Support	3	5.2.3	Does the organization have a dedicated customer service contact as the central contact for all customer issues?	Y		*N/A for small organizations with limited support staff*	Each customer has specified contact
5.2 Customer Support	3	5.2.4	Does the supplier have resources available to perform containment / rework activities at customer sites when needed or contract in place with a 3rd party service provider?	Y		*The supplier has plans or arrangements in place to enable their employees to travel to suppliers or a 3rd party "ready to go"*	Plant resources from all locations as needed - have used a 3rd party in the past when needed
5.2 Customer Support	3	5.2.5	Does the organization have technical resources available to assist with customer complaints and issues when needed?		X	*N/A only for suppliers with no design responsibility - ask who would provide support if a customer needs help with an technical issue*	
5.2 Customer Support	3	5.2.6	Does the supplier have a formal procedure for analyzing customer returned product?	Y		*RMA process resulting in a report on the cause and problem (example) that is documented in some manner*	Case system covers returns, credits, corrective actions, investigation
5.2 Customer Support	4	5.2.7	Does the organization have dedicated global technical resources available?		X	*N/A only for suppliers with no design responsibility - for those with design responsibility we are looking to see if they can provide technical support 24 hrs./day*	
5.2 Customer Support	4	5.2.8	Does the organization have advanced laboratories & defect analysis capabilities for sophisticated root cause analysis needs?		X	*N/A only for contract suppliers with no design responsibility*	
Element 5.3 - Preventive Measures							
5.3 Preventive Measures	2	5.3.1	Does the supplier use some type of risk assessment activity to identify and take action on potential problems / potential non-conformances?	Y		*PFMEAs and DFMEAs preferred but other methods can be used*	Risk assessments are part of/covered in management reviews

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
5.3 Preventive Measures	2	5.3.2	Is there evidence of the application of preventive measures applied in some processes such as: mistake proofing, asymmetrical designs, the use of template and fixtures, etc.?	Y		*During floor audit observe and ask questions to identify examples.*	Laser etching to identify bend #1 for example
5.3 Preventive Measures	4	5.3.3	Does a pro-active program exist to teach & encourage the identification of mistake proofing opportunities and solutions within the organization?	N			
5.3 Preventive Measures	4	5.3.4	Does an employee suggestion system for process improvements exist that is utilized to generate improvement ideas?	N			
CATEGORY 6 - ENVIRONMENTAL, HEALTH, & SAFETY							
Element 6.1 - Environmental, Health, and Safety Systems							
6.1 EH&S	2	6.1.1	Are employees required to use PPE and are the requirements enforced?	Y		*Requirements are posted and employees are not observed during the audit not following the requirements*	Minial requirements
6.1 EH&S	2	6.1.2	Are machines being operated with safety guards in place?	Y		*No missing or bypassed guards seen during floor audit*	
6.1 EH&S	2	6.1.3	Is the environment suitable for the processes and inspections?	Y		*Lighting, temperature, noise, the floors are clear of any hazards (oil or water on floor, debris), or other factors*	
6.1 EH&S	3	6.1.4	Do basic recycling efforts exist (wood, paper, plastic)?	Y			
6.1 EH&S	3	6.1.5	Are lockout tagout procedures are in place?	Y			Procedure SAF028
6.1 EH&S	4	6.1.6	Does the organization have a EH&S manager and documented EH&S management system with goals and metrics?	Y		Small organizations may not have a dedicated manager, but responsibility for EH&S should be defined	Larry Strimple is Corp EHS Mgr - fully documented system - very thorough

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
6.1 EH&S	4	6.1.7	Does the supplier use root cause analysis following all serious or fatal injuries and takes proactive actions on near misses?	Y			Requirements are in procedure SAF153 - Accident Investigation, reviewed example
6.1 EH&S	4	6.1.8	Are scheduled safety walks performed, concerns addressed and resolved?	Y		*Monthly walks (minimum) with defined checklists and resulting actions*	Monthly & weekly checklists are completed in each facility SAF104 & SAF115
6.1 EH&S	4	6.1.9	Is EH&S metrics and other information displayed on status boards and there are positive trends over the past 2 years?	N		*MSDS displays and other information*	Basic information posted - but trends/goals are not
6.1 EH&S	4	6.1.10	Is EH&S hazard information part of standard work?	Y		*Safety or environmental risks are in the work instructions as warnings*	
6.1 EH&S	4	6.1.11	Are equipment, process, and employee hazards systematically identified and addressed?	N		*Safety and ergonomics*	A basic hazard analysis exists, but it not as through and comprehensive as expected for level 4
6.1 EH&S	4	6.1.12	Has the facility operated free of serious injuries and fatalities for at least the last 12 months?	Y			No serious injuries in > 1 year
6.1 EH&S	4	6.1.13	Is the supplier ISO 14001 certified?	N			
CATEGORY 7 - CONTINUOUS IMPROVEMENT							
Element 7.1 - Lean							
7.1 Lean	2	7.1.1	Does the organization identify improvement opportunities and implement actions?	Y		*Process improvements with new equipment - plans to repair equipment to increase uptime / improve capability - any improvement examples that are planned and carried out yearly*	Improvement plans and projects exist/reviewed
7.1 Lean	3	7.1.2	Is overall workplace organization and cleanliness acceptable?	Y		*Defined storage areas and WIP queues, shelves and bins are clearly marked, aisles marked and clear of material, gauges / fixtures are property stored,*	
7.1 Lean	3	7.1.3	Is the planned production goal for the day posted so that employees know what needs to be accomplished?	Y		*A schedule board is in use - N/A at auditor discretion*	Production schedule available to all employees

Element No. / Description	Level	Question Number	Audit Question	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
7.1 Lean	4	7.1.4	Is there a continuous improvement / operational excellence program with a leader and/or group ?	N		*Such as a manager and / or pilots*	
7.1 Lean	4	7.1.5	Are all process or part families defined and have current state value stream maps?	N			
7.1 Lean	4	7.1.6	Do future state value stream maps and plans exist for each family?	N			
7.1 Lean	4	7.1.7	Have cross functional teams been used in value stream and Kaizen events?	N		*Verify Kaizen events have also been used to implement future state plans*	
7.1 Lean	4	7.1.8	Is there a formal 5-S program in place?	N		*Shadow boarding in use in all areas, all items have homes and in place, ratings are known*	
7.1 Lean	4	7.1.9	Is Takt Time calculated and known?	N			Difficult for mixed contract maunfacturing
Element 7.2 - Cost Reduction							
7.2 Cost Reduction	2	7.2.1	Does the organization identify and act on cost savings or cost avoidance opportunities?	Y		*Ask to see examples of identified projects and results*	Utilizes a program called SWEEP to identify opportunities internally and with customers
7.2 Cost Reduction	4	7.2.2	Does the organization have a program where cost savings opportunities are identified and implemented based on: - lower cost sourcing / supplier negotiation - value engineering design changes - use of new technology or automation to reduce overall costs	N		*Verify program also has yearly goals and actions planned to reach those goals*	

Supplier: Jemison Metals **Audit Date:** 3/30-31/2021

Commodity	Question Number	Commodity Requirement	Y/N	N/A	Things To Look For / Notes	Auditor Notes/ Evidence Reviewed
Steel Fabrication	180	Sheet metal / stampings - are sharp edge controls / checks in place?	Y		*Example - sharp edge tester used on a regular basis that meets IEC60950, EN 60950, or UL 1439 requirements*	Checks in place - risk minimal with lasers
Steel Fabrication	181	Is tooling managed in an acceptable manner?	Y		*Tooling is not used until a failure or defect occurs - proactive measures are in place*	
Steel Fabrication	182	Does the supplier have a inspection surface plate and equipment to inspect flatness?	Y		*Surface plate should be large enough for all parts to be produced*	Large surface plate with CMM (Romer) arm

Carrier Quality Systems Audit Summary

Audit Date: 3/30-31/2021

QLY-52FM1 Release 3/26/2021

Supplier: Jemison Metals

Location: Sumter, SC Plant 2 (SM2)

Overall QMS Rating	
Level	**Score**
Level 3	**87.4%**

Qualified, robust system meeting Carrier requirements and expectations

Do any commodity specific gaps exist?

No gaps were found

Section	Description	Achieved Level	% of requirements met for: Level 2	Level 3	Level 4
1.0	**Quality System & Management Responsibility**				
1.1	Quality System	L3	100%	100%	50%
1.2	Metrics	L3	100%	100%	0%
1.3	Planning	L3	100%	100%	50%
1.4	Document Control and Records	L4	100%	100%	100%
1.5	Quality System Internal Audits	L4	100%	100%	100%
2.0	**Resource Management**				
2.1	Asset Maintenance	L3	100%	100%	50%
2.2	Measuring and Test Equipment Control	L3	100%	100%	50%
2.3	Employee Competency and Environment	L3	100%	100%	33%
3.0	**Customer Requirements**				
3.1	Contract Review	L3	100%	100%	0%
3.2	Customer Satisfaction	L3	100%	100%	0%
3.3	Scheduling & Material Planning	L4	100%	100%	100%
4.0	**Product Realization and Control**				
4.1	New Product Introduction Process	L3	100%	100%	0%
4.2	Purchasing	L3	100%	100%	25%
4.3	Process Planning and Control	L3	100%	100%	33%
4.4	Non- conforming Product & Change Control	L3	100%	100%	67%
4.5	Packaging and Handling	L3	100%	100%	25%
5.0	**Corrective Action & Preventive Measures**				
5.1	Corrective Actions	L3	100%	100%	0%
5.2	Customer Support	L4	100%	100%	100%
5.3	Preventive Measures	L3	100%	100%	0%
6.0	**Environmental, Health, and Safety**				
6.1	Environmental, Health, and Safety Systems	L3	100%	100%	63%
7.0	**Continuous Improvement**				
7.1	Lean	L3	100%	100%	0%
7.2	Cost Reduction	L3	100%	100%	0%

	L1	L2	L3	L4
Totals	**0**	**0**	**18**	**4**
% of requirements met:		**100%**	**100%**	**37%**

Have all Level 2 questions been completed?	Yes	All audit questions are answered
Have all Level 3 questions been completed?	Yes	All audit questions are answered
Have all Level 4 questions been completed?	Yes	All audit questions are answered

Auditor Comments

Several findings listed on the "action plan" tab need to be closed. Given the capabilities of the Jemison support staff these should not be difficult to resolve.

Overall - good quality management system that is now ISO certified for this facility as of February 2021.

Jemsion scored very well although several items left the facility assessed as Level 1. I expect that Jemsion can close these out without much effort to reach Level 3 and further increase their numerical score.

Some opportunites for improvement not listed as actions:
- train some more internal auditors from areas outside of quality to have resources to audit quality procedures for unbiased audits
- document the procedures for calibrations performed internally
- try to avoid overuse of "operator training" as corrective actions - focus on improving processes to prevent errors first or detecting errors in the process if prevention is not possible

Report revised 5/6/21 based on completed actions

Overall QMS Score Notes

L2 Requirements Only = 60%
L2 and L3 Requirements Only = 80%
L4 = 100%
Scoring does account for all requirements met, regardless of the level achieved

Carrier Quality Systems Audit

Supplier Improvement Action Plan

QLY-52FM1

26-Mar-2021

Supplier : Jemison Metals **Audit Date:** 3/30-31/2021

No.	Question	Subject	Finding	Action(s)	Responsible	Due Date	Status
1	1.3.4	L3 - Contingency planning	Contingency plan does not cover all required risks as defined by Carrier	Supply chain contingency will be addressed in contingency plan.	R. Rowland	23-Apr-2021	Complete
2	1.4.4	L3 - Production records maintained at least 10 years	Current Jemision requirement is for 2 years only	SM2 has gone to paperless. Need to update retention periods on intranet. (Walter)	P. Macias W. Miles	16-Apr-2021	Complete
3	2.2.4	L2 - suitability of gages	Records do not exist showing how Jemison determined gages selected are appropriate and suitable for the measurements to be taken	Adding "acceptable" gage uses to production documents - *document SM2-VA-008 released 5/24/21*	R. Rowland	23-Apr-2021	Complete
4	4.3.5/4.3.15	L2/L3 - Controls /control plan is followed in production	Forms for multiple work orders did not have inspection results documented as required - no evidence inspections were performed for those orders	Implementation of layered process audits to ensure first pc inspections are happening.	R. Rowland B. Wright P. Macias M. Pitts	16-Apr-2021	Complete
5	4.3.8	L2 - qualification of equipment	no documented qualification of equipment exists	We will request run-off validation paperwork from equipment suppliers	R. Rowland	23-Apr-2021	Complete
6	4.3.16	L3 - Layered Process Audits	Layered process audits not in use	Implementation of layered process audits at SM2, then elsewhere as we learn.	R. Rowland B. Wright P. Macias M. Pitts	16-Apr-2021	Complete
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