Marwood Metal Fabrication

Supplier Quality System Assessment - ISO/TS 16949

Supplier Name: _____

Date: _____

TYPE OF ACTIVITY

New Supplier ☐

Supplier Development ☐

TYPE OF AUDIT

Documentation Audit ☐

Supplier's Production Self-Evaluation ☐

Site Audit ☐

Marwood Assessor: _____

Supplier's Rep: _____

SUPPLIER QUALITY SYSTEM ASSESSMENT

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QUALITY SYSTEM ASSESSMENT

INSTRUCTIONS AND GUIDELINES

PURPOSE

This Supplier Quality System Assessment (SQSA) is used to determine supplier conformance to the Technical Specification "ISO/TS 16949" which is part of Marwood's Supplier Development Program .

APPLICATION

The SQSA is used in one OR both of the following ways:

- By a supplier as a self-assessment of its own system (first party).
- By Marwood to assess a potential supplier's operations (prior to awarding a contract) or for the development an approved supplier.

SUPPLIER REQUIREMENTS

a) PHASE 1 - Documentation Audit Questionnaire - MANDATORY

This review is to ensure that:
a) there is an interaction and sequence between the processes;
b) the 7 mandatory processes are documented.

The supplier is to perform this self-assessment objectively in order to furnish Marwood with a preliminary overview of the supplier's company quality processes, procedures, etc. An emphasis will be made on the supplier's compliance to TS 16949 requirements. The suppliers must ensure that ALL of the supporting documents listed below accompanies the completed SQSA. Failure to do so will result in a failing grade.
It is at the supplier's discretion to include other pertinent documents which will help substantiate the reply.
Please cross reference all documents (at the top of the page) to its question accordingly to facilitate the process.

DOCUMENTS REQUIRED	
1	Evidence demonstrating the sequence and interaction between the processes
2	Document Control Procedure
3	Records Control Procedure
4	Training Procedure
5	Internal Audit Procedure
6	Control of Nonconforming Product Procedure
7	Corrective Action Procedure
8	Preventive Action Procedure
9	Organizational chart

QUALITY SYSTEM ASSESSMENT - CHECKLIST

INSTRUCTIONS AND GUIDELINES

Both the supplier and Marwood are to use the following evaluation grid for each question. Each of the eight (8) elements have a SUBTOTAL (the average of each section) which is forwarded to the Summary Sheet. On the Summary Sheet, the TOTAL is then divided by the TOTAL ELEMENTS to give the overall GRADE.

EVALUATION GRID	
Rating	**Description**
0	No written process, no proof of comprehension or application
2.5	Not ALL notions are applied to ISO 9000
5	ISO 9000 requests certain notions BUT the majority of TS elements are not met
7.5	ISO 9000 + CERTAIN aspects of the elements which are unique to TS BUT lacking proof
10	ALL the elements of TS are met WITH proof

b) PHASE 2 - Supplier's Production Self-Evaluation - MANDATORY

In order to objectively evaluate the production process of a Marwood part, selected by the Marwood team.
The supplier is to carry out an internal audit in order to complete Marwood's Checksheet.
The supplier is to forward the completed Checksheet by the agreed upon date.
Reference: Supplier's Production Self-Evaluation Checksheet

c) PHASE 3 - Site Audit - Marwood'S DISCRETION

This phase determines the degree and effectiveness of the implementation of the quality system at the supplier's manufacturing locations.
This audit can be based on the results from the Supplier's Production Self-Evaluation Checksheet.
The supplier is to accompany Marwood personnel during the audit and to clarify any questions.
Reference: Documentation Audit Questionnaire, Supplier's Production Self-Evaluation Checksheet, Site Audit Form

Marwood EVALUATION PROCESS

a) PHASE 1 - Documentation Audit Questionnaire - MANDATORY

Upon receipt of the SQSA and the supporting documentation required, Marwood will evaluate the supplier according to the evaluation grid below. The exclusion of even ONE of the requested documents will result in a FAILING GRADE. Each of the 8 elements must have a minimum of 7.5 with an overall passing grade of 80% or more.

Both the supplier and Marwood are to use the following evaluation grid for each question. Each of the eight (8) elements have a SUBTOTAL (the average of each section) which is forwarded to the Summary Sheet. On the Summary Sheet, the TOTAL is then divided by the TOTAL ELEMENTS to give the overall GRADE.

QUALITY SYSTEM ASSESSMENT - CHECKLIST

INSTRUCTIONS AND GUIDELINES

EVALUATION GRID	
Rating	**Description**
0	No written process, no proof of comprehension or application
2.5	Not ALL notions are applied to ISO 9000
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10	ALL the elements of TS are met WITH proof

b) PHASE 2 - Supplier's Production Self-Evaluation - MANDATORY

The suppliers results will be analysed by Marwood. Marwood's results (passed, failed, requires improvement) will be forwarded to the supplier.
Should a non-conformity be found, proof of corrective measures will be required within one month.
Upon receipt of a satisfactory corrective measure and it's implementation, the supplier will be considered TS 16949 compliant for Marwood.
Reference: Supplier Production Self-Evaluation Checksheet

c) PHASE 3 - Site Audit: - Marwood'S DISCRETION

To evaluate the integrity of the on-site process vs the Supplier's Production Self-Evaluation Checksheet.

Should a non-conformity be found, proof of corrective measures must be forwarded within one month.
Upon receipt of a satisfactory corrective measure and it's implementation, the supplier will be considered TS 16949 compliant for Marwood.
The validation of the process will determine the supplier's conformity status to the TS 16949 standard.
Reference: Documentation Audit Questionnaire, Supplier's Production Self-Evaluation Checksheet, Site Audit Form

Analysis and Report:

A review of the findings of these Assessment Methods will determine supplier conformance to TS 16949.

To be considered TS 16949 compliant for Marwood, the supplier must successfully complete:
a) Phases 1 and 2 OR b) Phase 3 only

Any opportunity for continuous improvement should be identified.
Following the audit, the assessor should identify quality system strengths and weaknesses.
Targeted corrective action dates should be indicated on: 1) Documentation Audit Summary Report OR 2) Site Audit Report

QUALITY SYSTEM ASSESSMENT - CHECKLIST

INSTRUCTIONS AND GUIDELINES

DEFINITIONS:

A **MAJOR NON-CONFORMITY** is either:

- The absence or total breakdown of a system to meet a TS 16949 requirement. A number of minor non-conformities against one requirement can represent a total breakdown of the system and thus be considered a major non-conformity.

- Any non-complianace that would result in the probable shipment of a non-conforming product. A condition that may result in the failure or materially reduce the usability of the products or services for their intented purpose.

- A non-compliance that, based on judgement and experience, is likely either to result in the failure of the quality system or to materially reduce its ability to assure controlled processes and products.

A **MINOR NON-CONFORMITY** is a non-compliance that, based on judgement and experience, is not likely to result in the failure of the quality system or reduce its ability to assure controlled processes or products or to result in the shipment of non-conforming product. It may be either:

- A failure in some part of the supplier's quality system relative to TS 16949, OR
- One or more observed lapse(s) in following a requirement of the company's quality system.

An **OPPORTUNITY FOR IMPROVEMENT** is an observed situation which is NOT a major or minor non-conformity, but where results achieved, based upon the assessor's judgement and experience, are not optimal. These opportunities shall be recorded in the final audit report for the benefit of the customer.

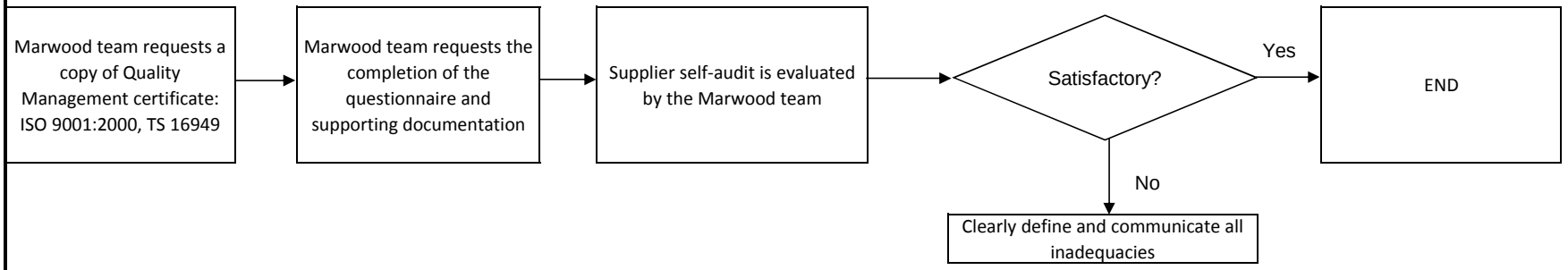
CONFORMS - No major or minor non-conformities were noted in the audit.

QUALITY SYSTEM ASSESSMENT

AUDIT PROCESS FLOW

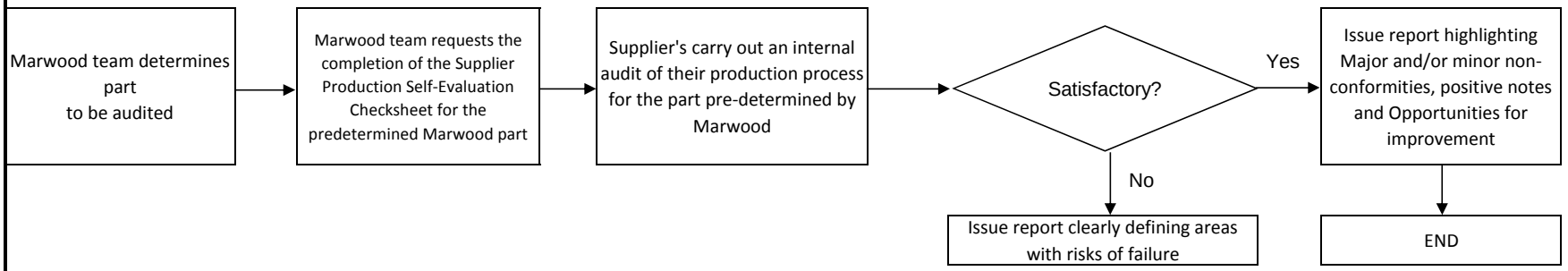
PHASE 1
Documentation Audit Questionnaire

MANDATORY



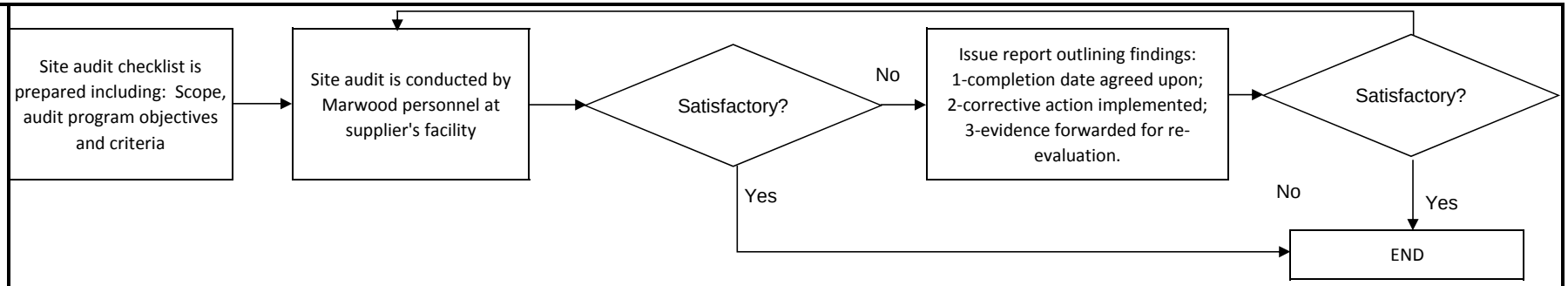
PHASE 2
Supplier Production Self-Evaluation

MANDATORY



PHASE 3
Site Audit

Marwood's DISCRETION



QUALITY SYSTEM ASSESSMENT

PHASE 1 - DOCUMENTATION AUDIT QUESTIONNAIRE

BOLD ITALICS ARE TS 16949 REQUIREMENTS

#	TS 16949 Ref. # Element		Question	Supplier Eval	Marwood Eval	Comments
1	4.1 b) Quality Mgmt System	**i**	Is the supplier able to adequately demonstrate the sequence and interaction between **ALL** processes?			
1	**QUESTION APPLICABLE:**		**SUBTOTAL**	**0**	**0**	
2	4.2.3 Control of Documents		Does the supplier's **CONTROL OF DOCUMENTS** process maintain a record to ensure that:			
		i	documents are approved, reviewed, updated and re-approved as necessary?			
		ii	document changes and current revision status are indicated?			
		iii	the necessary documents are available in the areas required for reference, ***are legible and identifiable*** ?			
		iv	the identification and distribution of external and/or client documents are controlled and ***kept confidential*** when necessary?			
		v	***there is a timely review (max of 2 working weeks), for the distribution and implementation of customer engineering standards/specifications and changes when they occur?***			
		vi	***a record is maintained of the date on which engineering changes were implemented in production?***			
		vii	***there is evidence of updated customer documents when they affect production part approvals, control plans, FMEAs, etc.***			
7	**QUESTIONS APPLICABLE:**		**SUBTOTAL**	**0**	**0**	

QUALITY SYSTEM ASSESSMENT

PHASE 1 - DOCUMENTATION AUDIT QUESTIONNAIRE

BOLD ITALICS ARE TS 16949 REQUIREMENTS

#	TS 16949 Ref. # Element		Question	Supplier Eval	Marwood Eval	Comments
3	4.2.4 Control of Records		Does the supplier's **CONTROL OF RECORDS** process demonstrate that:			
		i	records are properly identified, stored, protected?			
		ii	***the same applies to customer specified records?***			
		iii	***production part approvals, tooling records, purchase orders and amendments are kept so as to ensure its production and service requirements plus one year?***			
		iv	***quality performance records are kept for one calendar year?***			
		v	***internal quality audits and management review records are kept for 3 years?***			
		5	**QUESTIONS APPLICABLE: SUBTOTAL**	**0**	**0**	
4	6.2.2.2 Training		Does the supplier's **TRAINING** process demsontrate:			
		i	***the identification of individual needs and the competence achieved for those who perform product quality activities?***			
		ii	***that this is applied to all product quality oriented employees at all levels of the company?***			
		iii	***that employees are qualified when assigned to tasks which require particular customer requirements?***			
		iv	that training is periodically evaluated for effectiveness?			
		4	**QUESTIONS APPLICABLE: SUBTOTAL**	**0**	**0**	

QUALITY SYSTEM ASSESSMENT

PHASE 1 - DOCUMENTATION AUDIT QUESTIONNAIRE

BOLD ITALICS ARE TS 16949 REQUIREMENTS

#	TS 16949 Ref. # Element		Question	Supplier Eval	Marwood Eval	Comments
5	8.2.2 Internal Audits		Does the supplier's **INTERNAL AUDIT** process demonstrate:			
		i	the ***annually scheduled*** intervals in which the quality management system shall be evaluated and includes all processes, ***activities and shifts*** ?			
		ii	that the company's quality management system is implemented and maintained?			
		iii	the importance of the process to be audited considering previous audits and ***external non-conformities or customer complaints must affect the audit frequency accordingly (increase)?***			
		iv	that internal auditors are not evaluating their own work, that they are objective and impartial?			
		v	the undertaking of responsibility to resolve detected non-conformities and their causes, without delay?			
		vi	the results of follow-up audits demonstrating the actions taken and the results?			
		vii	***the quality management system audit, the manufacturing process audit and the product audits are held to determine their effectiveness?***			
		viii	***the product audit includes the validation of product dimensions, functionality, packaging and labelling, at appropriate stages of production?***			

8	**QUESTIONS APPLICABLE:**	**SUBTOTAL**	**0**	**0**

QUALITY SYSTEM ASSESSMENT

PHASE 1 - DOCUMENTATION AUDIT QUESTIONNAIRE

BOLD ITALICS ARE TS 16949 REQUIREMENTS

#	TS 16949 Ref. # Element		Question	Supplier Eval	Marwood Eval	Comments
6	8.3 Control of Nonconforming Product		Does the supplier's **CONTROL OF NONCONFORMING PRODUCT** process ensure that:			
		i	the defective, unidentified or suspect product is marked and quarantined to ensure unintended use or delivery?			
		ii	the roles and responsibilities of personnel concerned are known?			
		iii	one of the following methods were used when dealing with non-conforming product? a) that action was taken to eliminate the non-conformity OR b) that its use was authorized for release or acceptance under concession or, deviation by the customer prior to shipment? OR c) that its original use was prohibited?			
		iv	the records of the non-conformity and the actions taken to rectify same are maintained?			
		v	***the repaired and / or reworked products are re-inspected and / or tested accordingly?***			
		vi	***the reworked instructions are accessible and utilized by the appropriate personnel in their work areas?***			
		vii	when the non-conforming product is found after delivery or use, a process exists to demonstrate that action shall be taken appropriate to the effects, or potential effects?			
		viii	***customers will be advised that defective product was shipped?***			

8	**QUESTIONS APPLICABLE:**	**SUBTOTAL**	**0**	**0**

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PHASE 1 - DOCUMENTATION AUDIT QUESTIONNAIRE

BOLD ITALICS ARE TS 16949 REQUIREMENTS

#	TS 16949 Ref. # Element		Question	Supplier Eval	Marwood Eval	Comments
7	8.5.2 Corrective Action		Does the supplier's **CORRECTIVE ACTION** process demonstrate:			
		i	its ability to take action in the elimination of root causes with the goal of preventing recurrences? ***(a defined process for problem solving leading to root cause identification and elimination)***			
		ii	its non-conformity review methods, including customer complaints?			
		iii	its problem solving method which determined the root cause identification?			
		iv	its method for determining and implementing the appropriate action? ***is poka-yoke used?***			
		v	its revision of the corrective action taken and the recording of such results?			
		vi	***the consideration of the impact of the corrective actions on other similar processes and products?***			

6	**QUESTIONS APPLICABLE: SUBTOTAL**	**0**	**0**

8	8.5.3 Preventive Action		Does the supplier's **PREVENTIVE ACTION** process demonstrate:			
		i	the method used to determine potential non-conformities and their causes?			
		ii	the evaluation of risk associated with the potential non-conformity?			
		iii	how the action required was determined and implemented?			
		iv	the revision and records of results of the action taken?			

4	**QUESTIONS APPLICABLE: SUBTOTAL**	**0**	**0**

QUALITY SYSTEM ASSESSMENT

PHASE 1 - DOCUMENTATION AUDIT SUMMARY REPORT

Supplier Name: _____

Date: _____

TYPE OF ACTIVITY

New Supplier ☐

Supplier Development ☐

TYPE OF AUDIT

Documentation Audit ☐

Supplier's Production ☐

Site Audit ☐

	Element	Supplier	Marwood
1	Quality Management System	0	0
2	Control of Documents	0	0
3	Control of Records	0	0
4	Training	0	0
5	Internal Audit	0	0
6	Control of Nonconforming Product	0	0
7	Corrective Action	0	0
8	Preventive Action	0	0
	TOTAL	0	0
	AVERAGE NOTE %	0%	0%

Comments and future steps which will improve present performance:

Supplier's Rep: 0

0

Marwood Rep: 0

0

EVALUATION GRID

Rating	Description
0	No written process, no proof of comprehension or application
2.5	Not ALL notions are applied to ISO 9000
5	ISO 9000 requests certain notions BUT the majority of TS elements are not met
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QUALITY SYSTEM ASSESSMENT

PHASE 2 - GUIDELINES FOR SUPPLIER'S PRODUCTION SELF-EVLAUTION CHECKSHEET

	EXPECTATION	HOW TO JUDGE	TS 16949 REFERENCE
1A	**FACILITIES, TOOLING AND EQUIPMENT**	**1A. FACILITIES, TOOLING AND EQUIPMENT**	
1	Tooling must be at mass production and in its mass production location.	Confirm that the tooling is completed per the last Process Plan and that both the setup sheet & checksheet matches the actual condition during the trial.	7.5.4.1
2	Equipment is to be at mass production level and in its mass production location. **Equipment already in production:** > Equipment must be in good condition (no rust, no oil leaks,…) > The maintenance manual must be available. > Provide the list of spare parts to be coded to the store. > Working layout must have sufficient lighting. **New Equipment:** > Analysis of risks in the work environement form.	Confirm that the tooling is complete per the last Process Plan and that both the setup sheet and checksheet matches the actual condition during the trial. Visually confirm equipment & tooling conditions (paint, oil, bolting) & validate lighting conditions.	7.5.1.4 7.5.1.5 8.2.4.2 6.3
3	Mass production parts must be according to latest ECI level (engineering change).	Verify the part number (ex: in molds).	
4	Mass production packaging must be according to the latest revision. Ensure part quality after boxing. Ensure packaging instructions are available at work post.	Compare the actual packaging with the Customer's packaging standard for production packaging. Validate that no boxes are damaged or in bad condition. Confirm boxing specs availability. Boxing specs must have been approved.	7.5.5
5	Make sure part quality after boxing is good. Make sure packaging instructions are available at work post.	Confirm availability of internal boxing specifications and boxes.	7.5.5.1
1B	**MATERIALS / COMPONENTS**	**1B. MATERIALS / COMPONENTS**	
1	All materials / components number for mass production must match the process plan, the Bill of Material (BOM) and is at the proper engineering level.	Confirm that all parts/components number for mass production match the process plan and the BOM. Visually confirm that components have a kanban/identification/label.	7.5.3
2	Important characteristics of material/components must be verified & certified as PPAP procedure.	Confirm that material components are PPAP approved.	7.3.3 7.3.6.3
3	The Purchasing Dept. must provide examples of how it confirms that our suppliers have capacity to meet the required volumes for key components.	Must have reviewed Purchasing's documentation which shows capacity is confirmed for suppliers and that it meets the volume requirements.	
1C	**MANPOWER / TRAINING**	**1C. MANPOWER / TRAINING**	
1	The supervisor / manager must be aware of the hiring plan.	The hiring plan must be defined.	
2	Must demonstrate that all operators have been trained for the mass production process. The production supervisor must provide some type of training chart or matrix. This also includes the fit & function training as well as the training on quality tools at the work post by Quality Dept.	A training matrix must show that each operator has been trained on his/her process (abnormal situations, defective parts, inspection report, process set-up, fit & function…). Presence of completed learning guide.	6.2.1 6.2.2.2 9.2.2.3
3	Must demonstrate that all quality specialists have been given the fit & function training. Must ensure that programmation and training of lab technicians is taken care of.	A training matrix must show that both the QC & Testing Lab departments have been trained as per their quality function requirements.	6.2.1 6.2.2.1 6.2.2.2
4	The same number of team members must be present as stated in the Process Plan. Only team members are allowed to operate equipment.	The actual team members must run the line & produce the parts.	
1D	**PRODUCTION PROCESS**	**1D. PRODUCTION PROCESS**	
1	The risk analysis' (equipment & work environment) must have been previously performed and approved. Any major issue must have been already solved, and known countermeasures must be ongoing for the others.	Should have a copy of each risk analysis report at mass production for confirmation.	6.4 6.4.1

MARWOOD

QUALITY SYSTEM ASSESSMENT

PHASE 2 - GUIDELINES FOR SUPPLIER'S PRODUCTION SELF-EVLAUTION CHECKSHEET

	EXPECTATION	HOW TO JUDGE	TS 16949 REFERENCE
2	The production process for mass production must be exactly the same for all processes (material, component, equipment, tooling, process name, manufacturing sequence, process location,..)	Must have previously compared the actual conditions to the process plan & confirm that there are no differences (validate part numbers, materials quantities, machine numbers)	7.3.6.2
3	Work instructions & set up sheets must be posted on line and clearly indicate (1) what to do, (2) how to do it and (3) how often to do it.	Presence of work instructions & set up sheets must be visually confirmed, as well as their update. Validate their use by the production team members.	7.5.1 7.5.1.2
4	The process must have areas marked to keep defective or reworked parts from being placed with finished good parts, as well a retention zone for uncertain products awaiting inspection. Process must have scrap bins at the process that are clearly labelled.	Validate that an area exists where they keep defective parts, parts that will be reworked, and also the retention zone for suspect or non-conforming product. Visually confirm that the process has scrap/rework bins and that they are properly identified.	8.3
5	The operators must know what to to with the defective parts, what to communicate and to whom (official procedure). Make sure labels are available to identify the suspect or non-conforming material (ex: "Suspect material and Product on Hold" and "Rejection tag").	Have Quality Dept. explain his understanding of the defective part procedure.	8.3
6	Compare set up specifications vs actual results.	Confirm that the process has a documented method of tracking parameters from workpost to workpost. Confirm that the work instructions & set up sheets are respected.	4.2.4
7	The proper kanban/identification/label must be available to the operator. The process lay out and the position of parts must prevent confusion between kanbans.	Have production team member demonstrate his kanban/identification/label allocation throughout his workpost.	7.5.5
8	The proper label must be available to the operator who must put one on each single box.	Visually confirm that a label is on each box.	7.5.5
9	FIFO's (First In First Out) material flow system must be in place, identified with all required accessories.	Visually confirm that FIFO of each process and each component is respected & used as designed.	7.5.5.1
10	Every storage instruction must be followed regarding aging, temperature, humidity, shelf life, lighting exposure…	Visually confirm that storage conditions & time are respected: aging, material expiration date, cmpd & glue in cold room, etc.	7.5.5.1
11	Good management of parts at previous engineering level. No mixing of parts at two different engineering levels.	Confirm that a detailed plan indicating what to do with parts at a previous engineering level. Parts at previous engineering levels must be clearly identified and segregated (in cases of change with obsolescence) or contained in (in case of a running change). The inventory of parts at previous engineering level must be know for each process step.	7.1.4 8.3.2
2	**QUALITY**	**2. QUALITY**	
1	1-Correct engineering level 2-Control Plan: Latest ECI# available and approved by Quality Dept. 3-Checksheet: At the workpost & at the Lab 4-Visual aids/drawings: Available, approved & up-to-date	1-All ECIs incorporated into the latest level drawing 2-Control Plan: Confirm Ctrl Plan (ECI # & Quality approval) 3-Checksheet: At the proper locations & as per the control plan 4-Visual aids/drawings: Updated copy distributed, if applicable	7.5.1.1 7.1 8.2.4
2	Know whether some of the inspections are not feasible. If so, find out why these inspections are not feasible. Plan otherwise for cases where inspections are not feasible.	Checksheet: Validate whether the operator carries out the inspection as required. Verify that the inspection is feasible by the operator (ref: item with 100% inspection frequency)	8.2.4
3	Individual data (n=number of samples as per the control plan frequency) from mass production must meet checksheet specifications. All performance tests and specified requirements must be met for mass production parts.	No out of specification data. Confirm on checksheets, dated and signed, that all items have a "PASSING" result for the most recent test.	8.2.4 7.3.6
4	Boundary samples must have tags with the customer's approval signature and be located close to or at the production zone. Defect and visible surfaces samples must be identified and available.	Visually confirm that the boundary samples are approved by the customer and that they are located at or near the production area. Visually confirm that the defect and visible surfaces samples are tagged.	8.2.4.2
5	All test results from the testing lab must meet customer requirements.	Confirm that lab report is done and that all passes.	7.6.3.1
6	Rework methods and methods used for identifying reworked parts must be clearly documented. All reworked parts must be inspected. Rework personnel must be properly trained.	Obtain copy of documented rework method and physically verify that the method is being followed. Obtain list of qualified operator names. Visually confirm that parts that will be reworked are properly isolated from production parts.	8.3 8.3.2

MARWOOD

QUALITY SYSTEM ASSESSMENT

PHASE 2 - GUIDELINES FOR SUPPLIER'S PRODUCTION SELF-EVLAUTION CHECKSHEET

	EXPECTATION	HOW TO JUDGE	TS 16949 REFERENCE
7	First piece/sample required by the inspection instruction must be at the process with proper approvals.	Visually confirm validation of the first piece/sample of the trial.	7.5.1.3
8	A process capability study must be performed - Ppk > 1.67 if KPC	Present Ppk results and validate that they are correct. Provide countermeasures if below target.	8.2.3.1
9	Must make sure that inspection, measuring and test equipment (lab devices & dimensional gages) are calibrated and to the latest ECI level. They must meet the R & R targets. R&R and Ppk status indicator report as validation	Provide information showing that inspection, measuring and test equipment (dimensional & lab & performance jig) have been calibrated and at the latest ECI level Provide R&R study and validate results <30% if applicable.	7.6 7.6.1
3	**PPM PREVENTION**	**3. PPM PREVENTION**	
1	No missing components / raw materials on parts.	Is there a system in place to prevent or detect missing components / raw materials on parts (is there a risk of not installing a component on a part and not detecting the defect?)?	
2	Raw materials are prepared so as to ensure consistent quality, each time.	Instruction available and understood. Functional tools / equipment. Equipment malfunction alarm in place and functional (agitator, low pressure, low level, etc.).	8.3 7.5.5.1
3	The set up is such as to make good parts, quickly, consistently and repeatable at each start up.	Can the equipment start up if the set up is not correct? Is the equipment set up such that a good part can be made on first try?	8.2.3.1 7.5.1.2 7.5.1.3
4	The process must prevent or detect parts that do not conform to dimensional characteristics (colour code, guage, detector, alarm, etc.)	Error proofing (Poka yoke) is present, functional and cannot be bypassed?	7.3.2.2 7.3.3.1 7.3.3.2
5	The process does not damage characteristics that were judged to be conforming at previous process steps.	Can the process warp, tear, mark, scratch or otherwise damage the parts?	
6	All operations are carried out each time on each part.	Layout and flow of the material is clear, respected and cannot be easily bypassed.	
7	Operators must know what to do with defective parts, what to communicate and to whom (official procedure). Make sure labels are available to identify suspect or non-conforming material (ex: "Suspect Material and Product on Hold" and "Rejection tag".	Must explain his understanding of the defective parts procedure.	8.3
8	Zero defects found at following process.	100% inspection of parts made during mass production for process characteristics (see checksheet).	8.3
9	No risk of mixing parts and no risk of labelling mistake. The parts must be well isolated from each other to avoid the following mix-up: part number, front/rear, LH/RH, paint dot color…	The operator must never have 2 different parts in his hands at a time. If that is the case, is there a Poka Yoke to detect potential mistakes? Are the different parts at a safe distance from each other? Good identication of zones. The operator must show that he knows the difference between the parts (left, right, front, rear, etc.). Have team member demonstrate part segregation throughout his workpost.	7.5.3
10	No part damaged by boxing.	Not part damaged by boxing during mass production.	7.5.5
4	**CAPACITY**	**4. CAPACITY**	
1	Must show that they can meet the cycle time/pcs/hr requirement based on the Process Plan.	Confirm the number of good parts produced during the mass production and compare to the Process Plan daily requirement divided by the production hours planned for this part. Don't count defective parts.	
2	Must show that they can meet the target change-over time.	Visually confirm that the process can meet the changeover time by watching the operator changeover the line when practical.	
3	Must show that he has tools to meet the productivity targets.	Elements for follow-up available.	7.1

QUALITY SYSTEM ASSESSMENT

PHASE 2 - GUIDELINES FOR SUPPLIER'S PRODUCTION SELF-EVLAUTION CHECKSHEET

	EXPECTATION	HOW TO JUDGE	TS 16949 REFERENCE
4	Must document process start-up time with an explanation and countermeasure for excessive delays.	Review the process time tracking chart to confirm that the start up is being tracked. Compare to similar existing process & have supervisor set targets on tracking chart.	
5	The process must not have an operation where parts accumulate in front of the operation (above predetermined WIP levels) or where the process must wait for the prior operation to be completed. Molds must not open too early.	Visually confirm that there are no part build ups in front of any station or that there is no process which must repeatedly wait for the completion of the preceeding process. Also validate that each mold in a workcell is well balanced.	

EVALUATION GRID

Rating	Description
0	No written process, no proof of comprehension or application
2.5	Not ALL notions are applied to ISO 9000
5	ISO 9000 requests certain notions BUT the majority of TS elements are not met
7.5	ISO 9000 + CERTAIN aspects of the elements which are unique to TS BUT lacking proof
10	ALL the elements of TS are met WITH proof

QUALITY SYSTEM ASSESSMENT

PHASE 2 - SUPPLIER PRODUCTION SELF-EVALUATION CHECKSHEET

EVALUATION GRID	
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0	No written process, no proof of comprehension or application
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ITEM		RATING	COMMENT/FOLLOW UP	WHO	WHEN
1A	**FACILITIES, TOOLING AND EQUIPMENT**				
1. Tooling: Is it at mass production level and in its mass production location? Are they identified & in their proper location?					
2. Equipment: Is it at mass production level and in its mass production location? **Work post conditions:** Are the equipment & tooling in god working condition? Is there adequate lighting?					
3. ECI: Is the part to the latest ECI / part level? Is the part number in the molds the right one?					
4. Final Packaging: Is the process using approved, returnable packaging for the part? Or approved expendables? Are boxing specs available to the operators?					
5. Internal Packaging: Is the internal boxing specifications available? Are the boxes available?					

5	**QUESTIONS APPLICABLE SUBTOTAL**	**0**

1B	**MATERIALS / COMPONENTS**				
1. Materials: Are all materials/components at mass production level? Are there Kanbans/Identification/Labels for the components? Do the used materials/components correspond to the BOM?					
2. Material/Component Certification: Evidence that material & components meet customer requirements (PPAP).					
3. Capacity: Has process capacity been confirmed for all key components / services?					

3	**QUESTIONS APPLICABLE SUBTOTAL**	**0**

QUALITY SYSTEM ASSESSMENT

PHASE 2 - SUPPLIER PRODUCTION SELF-EVALUATION CHECKSHEET

1C	MANPOWER / TRAINING				
1. Hiring: Have all necessary personnel for all planned shifts been hired? Has the planning been diffused?					
2. Team Member Training: Have the operators been trained on their operation and parts identification and does the supervisor have a plan to train operators on all work shifts?					
3. Staff Training: Has the Quality Dept. (QC, lab testing) been trained on their operations?					
4. Operators: Are the necessary number of operators present (day shift)? How does it compare to the Process plan?					

4	QUESTIONS APPLICABLE	SUBTOTAL	0

1D	PRODUCTION PROCESS				
1. Risk Assessment: Have both equipment and work environment risk analysis been performed? Is there any important issue still unsolved?					
2. Process: Is the process the same as what was planned for mass production according to the process plan (name, sequence and location of process)?					
3. Work Instructions: Do the operators have and follow standard work/written work instructions that allow them to make a good part?					
4. Designated Areas: Does the process have a clearly marked area or holder for designated parts awaiting disposition, suspect (retention), defective and reworked parts? **Scrap/Rework:** Are scrap/rework bins clearly labelled and easily located?					
5. Defective parts procedure: Do the operators have clear instructions telling them what to do with defective parts? (communication, disposition…)					
6. Process Control: Does the operator have a method to track process control parameters? (if applicable)					
7. Product Kanban/Identification/Label: Is all required info indicated on the kanban/identification/label? Is the information accurate? Is there a risk of associating the wrong kanbans/identifications/labels? Is there a backup procedure for the identification when a major breakdown occurs?					
8. ID Sheets: Is all required info indicated on the ID sheet? Is the information accurate? Is the ID sheet number on the part correct, if applicable?					
9. FIFO: Clearly identified, functional & all accessories in place? Is there a FIFO for components / raw materials?					
10. Parts & Material storage condition & time: Is the storage condition and time respected?					
11. Parts at previous level: Is there a plan to rework, dispose of or ship parts at the previous engineering level?					

QUALITY SYSTEM ASSESSMENT

PHASE 2 - SUPPLIER PRODUCTION SELF-EVALUATION CHECKSHEET

11	QUESTIONS APPLICABLE	SUBTOTAL	0

QUALITY SYSTEM ASSESSMENT

PHASE 2 - SUPPLIER PRODUCTION SELF-EVALUATION CHECKSHEET

2	QUALITY				
1. Quality documents: a) Drawings b) Control Plan c) Checksheet d) Visual aids / drawings					
2. Inspection criteria: Are the inspection criteria, required on the checksheet, feasible on the process?					
3. Dimension data results: Number of samples as per the control plan frequency, made by the operator and all within specifications.					
4. Samples - boundary, defect example, training and visible and sealing surfaces: (if applicable). Are samples approved, present and easily located?					
5. Engineering standards: Are engineering standards as per customer requirements?					
6. Rework Procedure: Are the rework method and identification method clear? And/or is a new rework method required? Are rework operators trained? Are reworked parts 100% inspected?					
7. Validation: Is the first piece/sample present/kept and does it have a dedicated area? Has it been validated per the inspection instruction requirements?					
8. Capability Study: A process capability study should have been performed.					
9. Inspection, Measuring and Test Equipment: If an inspection, measuring or test equipment is required, is it calibrated and to the latest ECI level?					

9	QUESTIONS APPLICABLE	SUBTOTAL	0

3	PPM PREVENTION				
1. Components: Is there a system in place to prevent the shortage of components/raw materials on the part?					
2. Raw materials: Does the process ensure consistency in the preparation of raw materials?					
3. Set up: Does the equipment set-up prevent the making of defective parts?					
4. Poka Yoke: Are the mistake-proofing devices functional, understood and used? Can they be bypassed or turned off?					
5. Process: Can the process damage a product characteristic from a previous process?					

QUALITY SYSTEM ASSESSMENT

PHASE 2 - SUPPLIER PRODUCTION SELF-EVALUATION CHECKSHEET

6. Process step: Is there a risk of a part easily bypassing a process step?				
7. Segregation: Is there a risk of mixing good parts with defective parts? Do the operators have clear instructions telling them what to do with defective parts? (communication, disposition,…)				
8. Zero Defect: Is there a risk that a defective part may be forwarded to the next process? If so, will that part be detected?				
9. Mixed parts: Is there a risk of mixing parts or components on this process (ex: left / right, front / rear, different parts, etc.)?				
10. Boxing: Can a defect appear after internal or final boxing? Can the boxing process damage parts or fail to protect them? Is it easy to evaluate whether the box contains the right number of parts?				

10	**QUESTIONS APPLICABLE SUBTOTAL**	**0**

4	**CAPACITY**				
1. Cycle time: Can the process meet the cycle time/pcs/hr to meet the customer requirement? (excludes manual operations) See annex 2: Time Study / Capacity Confirmation					
2. Change-Over: Was a required change-over time provided and can it be demonstrated that it can be met? (if applicable)					
3. Productivity indicators: TPS (Toyota Productivity System) studies, standardized productivity charts, productivity targets… etc. used?					
4. Start-up time: Does the operator track start-up time? Is the start within an acceptable limit?					
5. Waiting time: Are certain manufacturing processes cycle times balanced to avoid an accumulation of parts?					

5	**QUESTIONS APPLICABLE SUBTOTAL**	**0**

QUALITY SYSTEM ASSESSMENT

PHASE 2 - SUPPLIER PRODUCTION SELF-EVALUATION SUMMARY REPORT

Supplier Name: _____

Date: _____

TYPE OF ACTIVITY

New Supplier ☐

Supplier Development ☐

TYPE OF AUDIT

Documentation Audit ☐

Supplier's Production ☐

Site Audit ☐

	Element	Supplier Evaluation
1a	Facilities, Tooling & Equipment	0
1b	Materials/Components	0
1c	Manpower/Training	0
1d	Production Process	0
2	Quality	0
3	PPM Prevention	0
4	Capacity	0
	TOTAL	0
	AVERAGE NOTE %	0%

Comments and future steps which will improve present performance:

_____

_____

_____

_____

Supplier's Rep: _____ 0

0

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QUALITY SYSTEM ASSESSMENT

PHASE 3 - SITE AUDIT

Auditor: 0 Date: 0

Supplier Name: 0 Part Number Audited:

ELEMENTS TO BE VERIFIED	
1. Indicate the Process in question	**2. Detail the input elements which could be in the form of documents, material, tooling, planning, etc.**
PRODUCTION PIECES ** Respect of the manufacturing steps and the client's requirements	- Marwood's Purchase Order - Production Plan - Operator's Manual - OIS - Parameters for operating - Set up - Control Plan and/or verification sheets - Packaging Specifications - Non-expired Raw Material (FIFO) - Qualified Team Member -Service Note: is it still valid?
3. Detail the output elements which could be in the form of product, documentation and which should be linked with the efficiency measurables described in # 7.	**4. Detail the existing links between the main process and the support processes as well as with the procedures, methods, instructions, etc.**
- Characteristic Inspection and Records - Good production pieces identified (ID Sheet / Kanban) - Delivery (FIFO) - Nonconforming Product: tagged and placed in a quarantined zone	DEVELOPMENT CONCEPT - Drawing - Control Plan - Process plan - PFMEA - Process Flow Diagram

QUALITY SYSTEM ASSESSMENT

PHASE 3 - SITE AUDIT

Auditor: 0 Date: 0

Supplier Name: 0 Part Number Audited:

ELEMENTS TO BE VERIFIED	
5. Detail the resources used in the process (machine, material, equipment, etc.)	**6. Determine the people implicated, detail the competency and the competency criteria, indicate the security equipment, etc.**
- Process Plan - Measuring Instruments (cards, rulers, jigs) - Raw Material	- Team Member (process, lab, shipping….) - Supervisor - Production / Quality Director - Mechanics
7. Process efficiency measurables: targets and results	**8. Previous nonconformities follow-up or other processes**
- Observe on site the Continuous Improvement Objectives as defined ….. Examples: i) Customer Complaints ii) PPM iii) Mixed Kanban iv) Short Shipment v) Etc.	- Example: previous SCAR with Marwood i) validate the implementation of corrective action(s) ii) validate the justifying evidence demonstrating the efficiency improvement following the implementation iii) other