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PURPOSE: To explain the procedure for submission of sample parts and evaluation results

SCOPE: Applies to any part submitted to TMI at any production phase or at ECI changes at mass production level

EXPLANATION: This process allows TMI to confirm part quality and supplier preparation.

RELATED DOCUMENT(S):


- QUALITY ASSURANCE PROJECT PLAN (QAPP) (TMI SQAM Section 25)
- INSPECTION STANDARD (TMI SQAM Section 7)
- ECI IMPLEMENTATION LOG (TMI SQAM Section 6)
- TMI SQAM SECTION 28 - FLAMMABILITY**

REQUIRED DOCUMENT(S):

- SAMPLE DATA SHEET - TMI APPENDIX 12A
- QUALITY DEVIATION REQUEST - TMI APPENDIX 12B

RESPONSIBILITIES:

- 1) The supplier must develop a SAMPLE DATA SHEET **format** (TMI Appendix 12A) for each part based on drawing and inspection standard. Submission of the initial format will be required by TMI – Plant and Development QC for confirmation that all required inspection items are properly listed. The initial format must be submitted with the Inspection Standard. Revisions to the Inspection Standard at any time will require revision to the “Sample Data Sheet” and approval by TMI Plant QC.
- 2) The supplier must conduct sample part evaluation for each process, tool cavity, and machine.
- 3) **The supplier must submit raw material certifications with each sample submission at phases 1 and 2 unless otherwise approved by TMI Development or Plant QC.**
- 4) **The supplier must conduct testing for any regulation items as specified by drawing. In the case of flammability (FMVSS / CMVSS) testing is to be conducted where applicable and as instructed per TMI SQAM Section 28 - FLAMMABILITY. Testing is to be done at 1st Off Tool part.**
- 5) Parts that require a checking fixture should be measured on the checking fixture. If a checking fixture is not available, CMM data will be required. Depending on phase, TMI Development or Plant QC must be notified before CMM data is substituted for checking fixture data.

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- 6) Using the evaluation results, the supplier must complete a SAMPLE DATA SHEET which includes all items from the inspection standard and / or the drawing. The SAMPLE DATA SHEET must detail the following:
- A) Supplier name and part identification
 - B) Sample level - 1A / 2A / QCS, etc. - If the parts are the results of ECI or PCR, the ECI / PCR number must be indicated. If ECI parts, a copy of the ECI should be attached.
 - C) Sketch indicating measuring portions of the part
 - D) Item(s) - To be numbered to match layout in sketch
 - E) Class - Indicate control characteristics
 - F) Requirement - List specifications, target with tolerance, Go / No Go, etc. per inspection standard or drawing
 - G) Data type - Identify as variable or attribute
 - H) Data for sample - List actual measurements from sample part. A minimum of three parts per cavity or tool per production phase is required. Each physical part must be numbered to indicate its sequence to the sample data sheet. If the part is too small to place a number on the part, the supplier should negotiate with TMI Development and /or Plant QC on labeling method. These numbered parts

must


be clearly identified and segregated so that TMI - QC can conduct part confirmation upon receipt.

NOTE: For Master Seat orders 100% of parts must be 100% dimensioned to meet the inspection standard criteria using a check fixture or CMM. Parts must be numbered so that they correspond with the 100% data.

- I) X – bar - Calculate average measurements from all samples list
- J) R - Range - Calculate the range between the high and low data point within the sample series
- K) Cp / Cpk - Calculate capability where required by TMI Plant QC where allowed by shipping volume
- L) Judge - Indicate acceptability of the part based on the following:
 - aa) Acceptable - Measurements within specification - Indicated by “O”
 - bb) Unacceptable - Measurements do not meet specification - Indicated by “X”
 - cc) Acceptable through rework - Measurements are acceptable only after rework - Indicated by \triangle

NOTE: If sample parts cannot be reworked to an acceptable condition, the supplier must submit a QUALITY DEVIATION REQUEST (TMI Appendix 12B) to the TMI department that originated the order to obtain permission to ship parts. The supplier will be required to conduct a review at TMI of the parts using the check fixture where applicable with TMI - Development or Plant QC and submit countermeasures. This activity must be completed before parts can be shipped to TMI. Permanent countermeasures must be implemented before the next shipment.

- M) Countermeasure and due date - Reference the Quality Deviation Request number.
- N) Parts status - Indicate tooling and process level for parts submitted. Copies of the “ECI Status Sheet” should be sent with the “Sample Data Sheets” when submitted. If parts are not off correct level tooling regardless of production phase, a TPR (Tool Progress Report) should be attached to the data indicating tooled parts availability dates.
- O) Approval signatures - Obtain approval signature from the originator, quality management, and

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manufacturing management at minimum.

- 7) The supplier should submit the completed sample data sheet to TMI – Development or Plant QC by fax prior to shipment of any sample parts. A hard copy of the completed “Sample Data Sheets” must be sent with each shipment of parts unless otherwise specified by TMI Development or Plant QC. If “Sample Data Sheets” are not available for Phase 1 parts at shipment, an approved “Quality Deviation Request” must be submitted to TMI Development QC prior to shipment of the parts.

An “ECI Implementation Log” must accompany the sample data sheets at all phases submission. The actual shipment of parts must also be labeled using the TMI SPECIAL IDENTIFICATION CARD (TMI Appendix 6B) unless otherwise approved by TMI - QC.

- 8) Data submitted should be representative of all parts shipped. The supplier will be held accountable for the quality of the entire sample submission - not just for those parts used to complete the sample data sheet. Immediate correction of nonconforming product at TMI will be required, and formal investigation and countermeasures must be completed and submitted to TMI Development or Plant QC.
- 9) Failure to submit sample data sheets as required may result in rejection of the entire shipment.

REVISION	REVISED DATE	SECTION	UPDATING DESCRIPTION
0	07/09/01	ALL	Initial release
1	05/02/03	ALL	Revision record added
2	10/15/03	12	SCOPE modified to specify effectiveness at 1 st Off Tool part. Added “Burn Test Report” and “FMVSS / CMVSS Regulation Item Data Submission Sheet” to REQUIRED DOCUMENTS. Add RESPONSIBILITIES - 3. Flammability testing and reporting.
3	08/09/04	ALL	Added Phase 1 rules and requirements
4	12/15/04	RESP – 3 & 4	Added requirement for raw material certification at each sample submission / Added reference to new TMI SQAM Section 28 - Flammability