

Production Part Approval Process **(PPAP)** **Assessment**

PPAP Submission Assessment

The following general criteria and element specific are developed to drive detail for robust submissions and assessment. Also reference “APQP Activities” and minimum submission elements for all A Risk, B risk and other identified components.

1. Is there evidence of APQP execution?
2. Is there evidence of supplier team engagement?
3. Is there evidence of Organization team engagement?
4. Are all documents controlled?
5. Is the submission to PPAP 4th edition requirements?
6. Is there clear and proper detail provided on “Reason for Submission”?
7. Was proper submission level agreed upon prior to submission?
8. If Level 2 or 4 submissions shall clearly document elements being submitted.
9. Is there evidence of prior agreement for submission requirements?
10. In case of re-submissions, is it identified the reason for resubmission, previous gaps, corrective action taken and updated results provided?
11. Are all documents legible and understandable?
12. Are all submission subcomponents/processes included?
13. Does the PPAP exhibit proper detail and compliance?
14. Was the PPAP submitted on time?

2.2.1 Design Record

Complete drawing(s) for both purchased level and all components. Characteristics Library or fully ballooned drawing including all Dimensions, Characteristics, Specification, Attributes, Customer Specific Requirements, ETC.. Released drawing at PPAP level requirement. Special Characteristics identified. A note stating access to controlled current drawing(s) and specification is available through REDI, Workflow, EPIX, ETC.

1. Is a copy of the drawing included that support the part or assembly – both Organization and supplier drawing?
2. Is a list of specification supporting the production of this part provided?
3. Is change level verification assured or available that the supplier has the latest revisions of specification?
4. Is the form of dimension throughout the PPAP identical in all documentation, (metric / English)
5. Is the form of reporting dimensions throughout the PPAP per Organization drawing?
6. Have dimensions that affect fit, function and durability been identified?
7. Are reference dimensions identified to minimize inspection layout time?
8. Are sufficient control points and datum surfaces identified to design functional gages?

9. Are tolerances compatible with accepted manufacturing standards?
10. Are there any requirements specified that can't be evaluated using known inspection techniques?

2.2.2 Authorized Engineering Change Documents

Authorized engineering change documents for those changes not yet recorded in the design record but incorporated in the product, part or tooling. Submissions shall include written and approved Deviation authorization for anything that varies from the Design Record.

1. If applicable is approved deviation attached?
2. Is deviation completely filled out?
3. Are proper approvals in place?
4. Does deviation clearly identify number of pieces, time limit, change forthcoming, ETC. information for proper PPAP disposition?

2.2.3 Customer Engineering Approval

Organization requires formal engineering approval unless engineering waiver documented and in place. Include any supporting documentation that formalizes Organization's consent to the design (i.e. application checklist, functional specification, etc.) Include Internal (suppliers) documents that re-interpret Design Records, including Process Instruction sheets used to communicate the Design Record data throughout the process. (see Control Plan and addendum for Process Instructions)

1. Formal controlled document for "Customer Engineering Approval".
2. Formal controlled document of engineering waiver.

2.2.4 Design Failure Mode and Effects Analysis (design responsible organization)

Design FMEA

A single Design FMEA may be applied to a family of similar parts or materials. All characteristics must be addressed. Highest risk must be addressed. There shall be a current detailed Design FMEA in place for each component or family of components.

1. The supplier shall attach the Design FMEA of saleable part number and components.
2. Other design FMEAs shall be attached to fully cascade the product
 - a. Product Vehicle
 - b. System / Group Level
 - c. Assembly Level
 - d. Component Level
3. Does the FMEA drive Design Improvements as primary objective?
4. If proprietary, is statement attached that DFMEA is available at supplier or to be presented at Organization upon request?
5. Does FMEA address all high-risk Failure Modes, as identified by the FMEA team, with executable Action Plans?
6. Does Analysis/Development/Validation (A/D/V) and/or Design Verification Plan and Report (DVP&R) consider the failure modes from the Design FMEA?

7. Does FMEA scope include integration and interface failure modes in both block diagram and analysis?
8. Does FMEA consider all major “lessons learned” (such as high warranty, campaigns, etc.) as input to failure mode identification?
9. Does FMEA identify appropriate Special Characteristics candidates, as input to the Special Characteristics selection process?
10. Were similar part FMEA’s considered?
11. Were personnel from all support groups as well as manufacturing included in preparing the FMEA?
12. Have customer reliability/warranty data been utilized in preparing FMEA?
13. Is there evidence that the FMEA is a living document?
14. Have customer product problems and/or rejections been included, with counter measures?
15. Have appropriate counter measures been planned or taken for high-risk numbers?
16. Is the FMEA data being used in continuous quality improvement programs?
17. Is the individual responsible for the improvement and/or corrective action identified?
18. Were customer plant problems used as an aid in developing the FMEA?
16. Have the causes been described in terms of something that can be fixed or controlled?
17. Are the criteria used to determine Special Characteristics documented?
18. Were the appropriate personnel involved in determining the Special Characteristics?
19. Has all dimensional tolerances and material properties been considered?
20. Was the design FMEA utilized to determine the Special Characteristics?
21. Have Special Characteristics been identified for all products?
22. Has warranty and reliability data been included to determine the characteristics?
23. Is there evidence that all known Special Characteristics were included?
24. Were attribute characteristics included?
25. Are New Product Introductions and design changes included in identifying Special Characteristics?
26. Is there clear linkage to PFMEA and other APQP documents?
27. Does submission include action list from Design Review?
28. Are similar or historical DFMEAs attached?
29. Is historical campaign and warranty data attached?
30. Is objective evidence from VOC cascaded throughout QFD?

List of Special Characteristics from Supplier Design responsible

All Special Characteristics must be addressed. Supplier recommended Special Characteristics.

1. If applicable, are all the Special Required Characteristics identified and listed?
2. Are the Special Design Characteristics identified and listed?
3. Are the Special Process Characteristics identified and listed?
4. Was Supplier design to above criteria?

2.2.5 Process Flow Diagram Assessment

“Process Flow Diagram is a representation of the process flow.”

Diagram accurately reflects process, rework, and inspection. All stations shall be identified that create Required, Design and Process Characteristics and shall match

with the Design Record, FMEAs, Control Plan, Work Instructions and ALL APQP documentation. Process flow diagrams for “families” of similar parts are acceptable if the new parts have been added and process flow revised.

Each distinct manufacturing process shall have a Process Flow Chart. The flow chart shall be a schematic representation of the current or proposed process flow. All rough, intermediate, and finishing operations shall be included as well material handling techniques, inspection steps and sub-contracted products and processes. Additionally, the flow shall demonstrate cleaning, packaging and other logistics steps until the customer consumes product. Alternate and/or backup processes shall be documented.

1. Process Flow Chart must be in place, which identifies all manufacturing operations, handling techniques, inspection steps, alternate/back-up processes and sub-contract suppliers.
2. Method of handling rework and scrap shall be clearly illustrated.
3. Process layout shall reflect planning so that a logical flow of material can occur during manufacturing of the product.
4. Does the flow chart illustrate the sequence of production?
5. Does the flow chart start with and detail the actual beginning of process (including purchased material and processes) and movement of material throughout all manufacturing operations?
6. Has the pull system/optimization been considered for this process?
7. Is the process flow chart controlled, updated and reviewed for completeness?
8. Does the flow chart include all assembly and packaging operations?
9. Are the sequences identified (operation or sequence number) so as to follow through to other APQP requirements?
10. Were all appropriate FMEA's available and used as aids to develop the process flow chart? Are inspection/quality assurance steps, data recording, attribute checks and/or functional testing included for each process step?
11. Does the flow chart indicating the material flow and control for handling rework and scrap?
12. Does the material flow consider potential quality problems due to handling and sub-contracted operations?
13. Does the flow chart illustrate shipment to the customer and steps to consumption?
14. Does the flow chart describe how the product will move, i.e. roller conveyor, slide containers, tubs, etc?
15. Are steps in the process where product is stored and/or staged clearly identified?
16. Does the flow chart illustrate special handling requirements (green pre-heat, post grind, assembly)?
17. Does the flow chart identify in detail all in-house alternate or back-up processes?
18. Does the flow chart identify in detail all sub-contract alternate or back-up sources of supply for products or services provided?
19. Have alternate or back-up processes or sub-contract suppliers been validated?
20. Process(s) shall be identified that create Special Characteristics.

2.2.6 Process Failure Mode and Effects Analysis

Complies with AIAG FMEA Manual w/appropriate rankings. All special characteristics identified. Highest risk addressed. Supplier has reviewed DFMEA or special characteristics list. Addresses typical/historical failure modes. The PFMEA shows connection to the flow chart, control plan and other APQP documentation.

1. The supplier shall attach approved PFMEA(s).
2. Other design FMEAs shall be attached to fully cascade the product
 - a. Product Vehicle
 - b. System / Group Level
 - c. Assembly Level
 - d. Component Level
3. Are other tier suppliers PFMEA's included?
4. If proprietary, is statement attached that DFMEA is available at supplier or to be presented at Organization upon request?
5. Is a list of recommended actions from the PFMEA attached?
6. Did the supplier attach a list of confirmed Special Required Characteristics?
7. Did the supplier attach a list of confirmed Special Design Characteristics?
8. Did the supplier attach a list of confirmed Special Process Characteristics?
9. Is the correct part number, engineering change and other info documented?
10. Are top Severity & Occurrence addressed with recommended actions?
11. Next in line, are the top RPNs addressed with recommended actions?
12. Are all Special Characteristics (Required, Design and Process) identified?
13. Is the PFMEA provided in English or translated?
14. Is there evidence that all print, specification, purchase order, attribute, etc. characteristics are included?
15. Are adequate controls in place for all characteristics?
16. Are special controls / actions in place for all Special Characteristics?
17. Does FMEA drive Process Improvements as the primary objective, with emphasis on Error/Mistake Proofing solutions?
18. Does FMEA address all high-risk Failure Modes, as identified by the FMEA team, with executable Action Plans?
19. All other failure modes are considered?
20. Is there evidence that the failure modes with action are carried over to the Process Control Plan??
21. Is Process FMEA integrated and consistent with the Process Flow Diagram, Process Control Plan and other APQP documents?
22. Is FMEA completed during the "window of opportunity" where it could most efficiently impact the design of the product or process?
23. Did the right people participate as part of the FMEA team throughout the analysis, and are adequately trained in the procedure?
24. Is FMEA document completely filled out "by the book," including "Action Taken" and new RPN values?
25. Are recommended actions identified as required and the actions are implemented?
26. Are the criteria used to determine Special Characteristics documented?
27. Were the appropriate personnel involved in determining the Special Characteristics?
28. Has all dimensional tolerances and material properties been considered?
29. Was the design FMEA utilized to determine the Special Characteristics?

30. Have Special Characteristics been identified for all products?
31. Has warranty and reliability data been included to determine the characteristics?
32. Is there evidence that all known Special Characteristics were included?
33. Were attribute characteristics included?
34. Are New Product Introductions and design changes included in identifying Special Characteristics?
35. Is there clear linkage to PFMEA and other APQP documents?
36. Have all process dimensional tolerances and material properties been considered?
37. Are all Special Characteristics documented for this product?
38. Were Special Characteristics established for assembly and packing operations?
39. Have the Special Characteristics been included in all other PPAP documents?
40. Is there evidence of Statistical Process Control for all Special Characteristics or controls as identified and approved in the Control Plan?
41. Have capability studies been performed to validate the control of the characteristics?
42. Verify the Organization supplier quality performance indicators provide evidence that sufficient methods are in-place to monitor and control all characteristics.
43. Are there measurable quality improvement projects in place for Special Characteristics, where required?
44. Have the Special Characteristics affected by sub-contract supplier been identified?
45. Are Special Characteristics communication to the sub-contract suppliers?
46. Is there evidence that sub-contract suppliers have specific controls in place?

2.2.7 Control Plan

Process Control Plan

A Process Control Plan shall be developed for each process step. The Control Plan shall identify all actions and reactions necessary to assure product and process variables are being controlled.

1. Detailed and complete Process Control plans shall be in place to purchase, manufacture, inspect, test, assemble, package, and ship product for each operation performed.
2. Control Plans and input criteria shall be reviewed with Organization personnel.
3. Evidence that the Process Control Plan is a working document, including NPI products.
4. The Control Plan shall provide detail methods of handling nonconforming products and corrective action program on all quality problems including attribute variables.
5. All print, specification, attribute, purchase order requirements, etc. shall be identified on the Control Plan.
6. Is a Production Control Plan per AIAG APQP& Control Plan (manual) requirements?
7. Are all sections filled out including evidence of cross-functional team involvement?
8. Is the right part number and current engineering change identified?
9. Is the original and version date noted?
10. Is the document controlled?
11. Are Control Plan processes keyed to Process Flow Chart, PFMEA and other APQP documents?
12. Is Receiving Inspection, Process Inspection, and Final Inspection included in CP?
13. Are Special Characteristics from DFMEA and PFMEA identified on the Control Plan?
14. Are Performance Testing requirements identified and are they at the proper intervals?
15. Is all manufacturing equipment identified i.e. press type, paint booth type, etc?

16. Is the control method for Special Characteristics identified (e.g. x-chart,.)?
17. Are all inspection gages, techniques, and equipment identified?
18. Are appropriate reaction plans included in the Control Plan?
19. Is the Control Plan available in English or translated?
20. Have all known customer concerns been identified to facilitate the selection of Special Required/Design/Process Characteristics?
21. Are all Special Required/Design/Process Characteristics included in Control Plan?
22. Were SFMEA, DFMEA and PFMEA used to prepare Control Plan?
23. Are material specification requiring inspection identified?
24. Does the Control Plan address incoming (material/components) through process/assembly including packaging?
25. Are Engineering Test and Performance requirements identified?
26. Is there evidence of a team developed Control Plan?
27. If a supplier references a procedure, Work Instructions, specification, etc. for control, a copy shall be provided.
28. Is there evidence for control of attributes and other non-print requirements?
29. Are there Process Control Plans in place for all Organization part numbers?
30. Is there a Process Control Plan for each manufacturing operation?
31. What methodology was utilized in preparing the Control Plans?
32. Were DFMEA's, PFMEA's, Flow Chart, Initial Capability and other APQP documents used in the construction of the Control Plan?
33. Is there a documented program for establishing sample sizes and test frequencies?
34. Does the Control Plan state in detail specific data such as progress step (Flow Chart), process description, Organization part number, and individual responsible for plan, date and revision?
35. Are Special Characteristics and other major, significant, features of special interest, etc. process variables identified?
36. Does the Control Plan provide detail on: machine make & model, machine type, machine number/identification, etc.?
37. Does the plan contain reference support documents such as setup, process, inspection and operator instructions?
38. Are Control Plans completed and readily available for alternate or backup process?
39. Do Control Plans include all attribute characteristics?
40. Does the Control Plan include specific controls for assembling and packaging product?
41. Are Process Control Plans prepared for sub-contract supplier's products and services?
42. Are specification/requirements communication to the sub-contract suppliers?
43. Is there evidence that the plan is effective and is a living document?
44. Does the plan provide a method for handling nonconforming products?
45. Does the plan provide a method for correcting out of control processes?
46. Is the Control Plan updated when process changes are made?
47. Is there evidence of feedback from customer problems or rejections?
48. Are Process Control Plans completed/updated for new product or design changes?
49. Are Engineering Test and Performance requirements identified?
50. Are gage methods compatible and are they traceable to national standards?

Additionally, a natural extension / cascade to the Control Plan should be a review of Operator / Process instructions.

Process Documentation

All aspects of the process shall be documented in sufficient detail for all personnel who have direct responsibility for operation of the process. A variety of support documentation that may include Design/Process FMEA's, engineering requirements, visual standards, process flow charts, special characteristics and capability studies.

1. Each process step shall have sufficient written instructions to describe all actions required to manufacture, inspect, test, assemble, package and ship the product.
2. Corrective action, problem solving and handling of quality issues shall be defined with evidence of compliance.
3. Customer quality results shall be documented and traceable to process control procedures.
4. Manufacturing personnel qualification and training requirements shall be documented in detail.
4. Is the documentation controlled?
5. Does the documentation include operation #, equipment #, description of operation, product characteristics produced, process characteristics monitored/controlled, person responsible for control, revision date with signatures and all other information as defined on the Control Plan?
6. Is the documentation readily available with all information needed for operators and setup personnel?
7. Is there documentation for operator instructions, setup instructions, trouble shooting guidelines, visual aids, machine operating manual, statistical process checks and inspection instructions for each process step?
8. Are all machine settings and tolerances documented in detail for each process step?
9. Does all the documentation include alternate or backup processes?
10. Does process documentation provide a method for tracking pilot or prototype products?
11. Is there a preventative maintenance program for each process step?
12. Is there a documented program for validating fixturing, tooling and gaging?
13. Is there detail documentation for all assembly and packaging operations?
14. Are special characteristics communicated to the operator?
15. Is there a procedure to identify, segregate and control nonconforming products to prevent shipment?
16. Are quality requirements for sub-contract suppliers documented in adequate detail?
17. Is there a specific document stating the course of action to be followed when known nonconforming products have been shipped to the customer (procedure/work Instruction/ETC.)?
18. Do operators have written procedures for documenting required corrective action?
19. Is there a documented training program that lists all employees who have been trained to perform all aspects of a specific process?
20. Is there a detailed program for cross training employees?

21. Are there defined operator qualification such as education level, special training requirements and experience for each process step?

2.2.8 Measurement Systems Analysis Studies (MSA)

Studies shall be performed per acceptable AIAG method. Gage name and characteristics properly identified. Gage revision level identified on the gage. All the results are within acceptable range per AIAG guideline (Gage R&R under 10% error generally considered to be an acceptable measurement system, 10-30% error - maybe acceptable based on importance of application, cost of measuring device, cost of repair, etc., >30% - generally considered not to be acceptable – every effort should be made to improve the measurement system.)

1. Are MSAs for all (including attribute, process controls, etc.) gages listed on the control plan provided?
2. Do all MSAs refer to the correct part number and/or gage family
3. Did the supplier submit an acceptable MSA as above and documented in the AIAG MSA Manual?
4. Have correlation concerns been addressed?
5. Have results been reviewed and approved by the customer?

2.2.9 Dimensional Results

Report complies with Organization Sample Report Form or minimally complies with AIAG format or equivalent. Correct part number and change level. All identified and documented dimensions match with the Design Record and are within specification/tolerance. Results for specification should reference those documents and location within document.

1. Are the dimensions references on a ballooned customer drawing or documented within a characteristics library?
2. If reported from ballooned drawing is there evidence that all specification and other requirements were documented?
3. Are the correct numbers of parts laid out? (Five (5) parts unless other wise directed by SDE)
4. Do all requirements, including drawing notes have a response (pass/fail statement is unacceptable)?
5. Are all Special Characteristics highlighted?
6. Do results meet all Design Record Requirements?
7. Are any nonconformance highlighted in the report? if yes deviation or PPAP rejection!
8. Is layout result legible and understandable?
9. Are the Dimension Result sheets completely in English?
10. Are the inspection sheets approved and signed?
11. Is all reporting in customer format (English or Metric)?
12. Is all reporting against Organization specification?
13. Results indication print location or specification location.

2.2.10 Records of Material / Performance Test Results

Records of Material and/or Performance Test Results compliance for tests specified on the design record or control plan shall be provided.

Material Test Results

Material test results include steel, castings, aluminum, plastics, etc.

1. Are material test results provided for chemical, physicals or metallurgical to the Organization Specification and compliance confirmed?
2. Does the submission include:
 - a. correct part and engineering change level
 - b. specification numbers, date and change level
 - c. authorized engineering change documents not yet incorporated into the design
 - d. test date
 - e. quantity tested
 - f. the actual results
 - g. the material supplier's name and, when required by the customer, the customer-assigned vendor code
 - h. special requirements for approved steel, heat treatment, plating, etc.
 - i. other relevant information specifically required by the customer
3. Are all Special Characteristics from the drawing (and drawing notes) included?
4. Is any nonconformance highlighted in the report? If so is deviation provided or PPAP shall be rejected!
5. Are all testing results less than one (1) year old?
6. Is all testing summarized with actual criteria and data (pass/fail statement is unacceptable)?
7. Will all product testing be done in-house? If not, does an approved subcontractor do it?
8. Have parts manufactured at minimum and maximum specification been tested?
9. Can additional samples be tested when a reaction plan requires it?
10. Are documented regularly scheduled tests conducted?
11. Is the specified test sampling size and/or frequency feasible?
12. If required, has customer approval been obtained for the test?

Performance Test Results

Performance test results include torque, flow, pressure, endurance, packaging, etc.

1. Are performance test results provided for all parts(s) or product material(s) when performance or functional requirements are specified by the design record or Control Plan.
2. Does the submission include:
 - a. correct part and engineering change level
 - b. specification numbers, date and change level
 - c. authorized engineering change documents not yet incorporated into the design
 - d. test date
 - e. quantity tested
 - f. the actual results
3. Are all Special characteristics from the drawing (and drawing notes) included?
4. Is any nonconformance highlighted in the report?
5. Are all testing results less than one (1) year old?
6. Is all testing summarized with actual criteria and data (pass/fail statement is unacceptable)?

7. Is test loading sufficient to provide all conditions, i.e. production validation and end use?
8. Will all product testing be done in-house? If not, does an approved subcontractor, do it?
9. Have parts manufactured at minimum and maximum specification been tested?
10. Can additional samples be tested when a reaction plan requires it?
11. Are documented regularly scheduled tests conducted?
12. Is the specified test sampling size and/or frequency feasible?
13. If required, has customer approval been obtained for the test?

2.2.11 Initial Process Studies

Process Capability

Process Capability studies shall be performed on each Special Characteristic.

1. Capability studies shall be performed and readily available on all special characteristics.
2. Variable data reporting is preferred for process capability reporting.
3. Did the supplier attain the 1.67 CPk target?
4. Does all variable reporting meet the 1.33 Cpk minimum?
5. Those not meeting 1.33 Cpk shall have a corrective action plan to improve the results and additional special controls until achieved.
6. The method utilized to perform studies and calculate capability level shall be documented along with evidence that results are within customer requirements.
7. Complete documentation shall be available stating the preventive maintenance, gage and fixture calibration, tooling verification needed to maintain an acceptable level of capability.
8. A documented program shall be available for new products or design changes to existing products.
9. Was the method utilized for capacity studies based on statistical practices?
10. Were personnel trained to perform capability studies?
11. Are capability studies performed on all Special Characteristics?
12. Are procedures and special controls in place for inspection of processes not meeting 1.33 Cpk or greater?
13. Were studies performed utilizing the print tolerances or specification ranges (pre-control tolerances)?
14. Were studies performed on alternate or back-up manufacturing operations?
15. Was production tooling, gages and fixturing in place for the study?
16. Were results utilized in determining preventative maintenance schedules?
17. Is Capability assessed for Special Attribute Characteristics?
18. Is supporting process capability provided to support product attribute reporting?
19. Were correlation studies required and performed?
20. Was a study performed on the packaging of products for shipment to Organization?
21. Was a study performed on assembly operations and final product conformance?
22. Is there evidence of capability results feedback to management and production personnel?
23. Are all Special Characteristics from the drawing (and drawing notes) included? If not: is a measurement agreement for Special Characteristic attached?
24. Does the data indication that the process is under control?
25. Do the results refer to the correct part number?

26. Is the measurement method/device noted?
27. Are results for standard deviation and the distribution noted?
28. Is the sample size per the agreed upon criteria?
29. Is the sample size documented within the submission?
30. Are all initial process studies completely in English or translated?
31. Are statistical charts and data included?
32. Was all data taken from a production run?
33. Does the attribute data indicating zero (O) defects were found?
34. Are controls in place to ensure Special Attribute Characteristics will meet drawing requirement?
34. If PPK or CPK is less than required values complete the following: Is 100% inspection in place and defined in the Control Plan? Is corrective action planned and a modified Control Plan included in PPAP submittal?
35. Does Supplier have capability documentation for critical purchased material and processes?
36. Are procedures in place for inspection of supplier processes not meeting 1.33 Cpk or greater?
37. Is there a program to update the studies on a routine basis with suppliers?
38. Are capability studies performed on new product and/or design changes?
39. Are capability studies performed when process changes are implemented?
40. Is there a program to validate the capability study results from prototype or pilot products to full production products?
41. Is a mechanism in place to feedback the product testing results to the capability study?

2.2.12 Qualify Laboratory Documentation

Supplier will provide Qualified Laboratory Documentation as identified by the design record, control plan or specific customer requirements. All laboratory documents for both internal and external laboratories will include the laboratories accreditation, or Organization approval and laboratory scope.

1. Is a complete, signed and dated lab scope available?
2. Does the lab scope (as defined on the certification or addendum to the certification) list all tests performed by the lab?
3. Are qualified independent laboratory checks defined?
4. Results shall be reported on Companies letterhead.
5. Are all Special Characteristics from the drawing (and drawing notes) included?
6. Is any nonconformance highlighted in the report? If so a deviation shall be provided or PPAP rejected!
7. Is material test (chemical, metallurgical, etc) results included?
8. Are performance test results included?
9. Has testing specification been identified on all tests?
10. Are all testing results less than one (1) year old?
11. Is all testing summarized with actual criteria and data (pass/fail statement is unacceptable)?
12. Is the quantity tested identified (if required)?
13. Is test loading sufficient to provide all conditions, i.e. production validation and end use?

14. Will all product testing be done in-house? If not, does an approved or accredited subcontractor do it as stated above?
15. Have parts manufactured at minimum and maximum specification been tested?
16. Can additional samples be tested when a reaction plan requires it?
17. Are documented regularly scheduled audits conducted?
18. Is the specified test sampling size and/or frequency feasible?
19. If required have correlation studies been conducted?
20. If required, has customer approval been obtained for the test?

2.2.13 Appearance Approval Report (AAR)

“Appearance item is a product that is visible once the vehicle is complete. Certain customers will identify appearance items on the engineering drawing. In these cases, special approval for appearance (color, grain, texture, ETC.) is required prior to production part submission”

Note: vehicle for Organization could mean product such as engines, transmissions or other systems, or components. Additionally, Organization identifies appearance requirements on the purchase order such as paint.

1. Is the standard AAR form filled out completely?
2. Is a formal, approved, controlled waiver submitted?
3. Is formal approval in place from the proper organization (engineering, marketing, met lab)?
4. Was submission to Organization specification?

2.2.14 Sample Production Parts

Include documentation of the part(s) sent as a sample product. Note the sample size, serial numbers or other method used to identifying the individual parts included in the sample. Samples must be measured parts from the PPAP Production Trial Run or production run. Measurements must be available upon customer request. The sample size is to be determined in cooperation with your APQP/CPD team or SDE – in advance of PPAP submission. Samples should be shipped on a separate non-production P.O.

1. Are the formal requirements for samples documented?
2. Is there a formal, approved, controlled waiver for samples attached?
3. Are the samples shipped before PPAP Submission with documentation of the parts included?
4. Were the samples measured from taken from the Production Trail Run or a production run?

2.2.15 Master Sample

Suppliers shall retain a master sample as defined in the AIAG PPAP standard or provide approved controlled waiver. NOTE: Generally due to the volume and size of Organization parts we may not want the supplier to retain a master sample, BUT formal waiver shall be in place!

1. Is there evidence of a master sample as per standard? (OR)
2. Is there a formal, approved, controlled waiver in place for master sample or documentation to consume master sample in production?

3. Does the supplier control master samples for life of PPAP records or until new sample is approved and disposition of old sample?
4. Is the master sample approved by the customer and identified as a master sample?
5. Are master samples available for multiple dies, cavities, molds, impressions, ETC.?

2.2.16 Checking Aid

Checking aids can include fixtures, variable and attribute gages, models templates, and mylars specific to the product being submitted. Example: Sweep Gages (actual print of gage)

Submissions must be to specific customer requirements.

1. Is submission to customer specific requirements?
2. Is there a formal, approved, controlled waiver in place?
3. Were prints copies submitted, if required?
4. Were duplication gages submitted, if required?
5. Were correlation studies conducted, if required?
6. Are all Checking Aids numbered and calibrated?
7. Are all Checking Aides numbered and included in the Control Plan?
8. Are all Checking Aids provided for with preventative maintenance plans?
9. Do all Checking Aids have acceptable Measurement Systems Analysis studies?

2.2.17 Customer Specific Requirements

Records of compliance shall be provided for all “Customer Specific Requirements”.

1. A list of “Specific Requirements” along with compliance documentation shall be provided or waiver that none exist.
2. Reporting shall take place for those requirements listed on Organization Connect and all others identified by PPAP approver representative plus other process partners. (met. Lab, engineering, logistics, etc.)

2.2.18 Part Submission Warrant (PSW) Assessment

“Industry-standard document required for newly-tooled or revised products in which the organization confirms that inspection and tests on production parts show conformance to customer requirements.” No parts shall ship to Organization unless approved PSW is in place! All part numbers shall have separate approved warrant prior to shipment!

1. Is the warrant to the standard PPAP 4th edition or truck industry templates or equivalent?
2. Is the PSW according and compliant to AIAG PPAP 4th edition?
3. Are ALL fields completed as per PPAP instructions “Appendix A – Completion of the Part Submission Warrant (PSW)”, as found on page 9 of the PPAP 4th edition manual?
4. Is proper detail provided for “Reason for Submission”?
5. If submission is for Interim Approval is the PSW clearly identified as requesting “Interim Approval” with deficiencies noted, clearly defined action plan and timeline for resubmission?

6. If resubmissions are changes, corrections and additions clearly identified.
7. If Level 3 submission are all 16 elements provided along with full explanation of any that are not provided in full?
8. If Level 2 or 4 are specific elements clearly identified for the submission?
9. If multiple tools/cavities/ETC. are used the PPAP shall have separate dimensional and capability for each tool or cavity.
10. Is there an electronic or hand signature from the supplier?

2.2.18 Part Submission Warrant (PSW) Assessment – Bulk Material Checklist

“Bulk Material is a substance (e.g., non-dimensional solid, liquid, gas) such as adhesive, sealants, chemicals, coatings, fabrics, lubricants, etc. A bulk material may become production material if used in a customer production part number.”!

1. A completed bulk material checklist and warrant shall be in place for all bulk material used in production parts. (See page 36 of AIAG PPAP Manual)