

**Below are the main PPAP elements and a description of what is involved in each element:****Design Records**

A printed copy of drawing needs to be provided. If the customer is responsible for designing, this is a copy of customer drawing that is sent together with the Purchase Order (PO). If supplier is responsible for designing this is a released drawing in supplier's release system. "Each and every feature must be "ballooned" or "road mapped" to correspond with the inspection results (including print notes, standard tolerance notes and specifications, and anything else relevant to the design of the part)." [3]

**Authorized Engineering Change (note) Documents**

A document that shows the detailed description of the change. Usually this document is called "Engineering Change Notice", but it may be covered by the customer PO or any other engineering authorization.

**Engineering Approval**

This approval is usually the Engineering trial with production parts performed at the customer plant. A "temporary deviation" usually is required to send parts to customer before PPAP. Customer may require other "Engineering Approvals".

**DFMEA**

A copy of the Design Failure Mode and Effect Analysis (DFMEA), reviewed and signed-off by supplier and customer. If customer is design responsible, usually customer may not share this document with the supplier. However, the list of all critical or high impact product characteristics should be shared with the supplier, so they can be addressed on the PFMEA and Control Plan.

**Process Flow Diagram**

A copy of the Process Flow, indicating all steps and sequence in the fabrication process, including incoming components.

**PFMEA's**

A copy of the Process Failure Mode and Effect Analysis (PFMEA), reviewed and signed-off by supplier and customer. The PFMEA follows the Process Flow steps, and indicates "what could go wrong" during the fabrication and assembly of each component.

**Control Plan**

A copy of the Control Plan, reviewed and signed-off by supplier and customer. The Control Plan follows the PFMEA steps, and provides more details on how the "potential issues" are checked in the incoming quality, assembly process or during inspections of finished products.

**Measurement System Analysis Studies (MSA)**

MSA usually contains the Gauge R&R for the critical or high impact characteristics, and a confirmation that gauges used to measure these characteristics are calibrated.

**Dimensional Results**

A list of every dimension noted on the ballooned drawing. This list shows the product characteristic, specification, the measurement results and the assessment showing if this dimension is "ok" or "not ok". Usually a minimum of 6 pieces is reported per product/process combination.

**Records of Material / Performance Tests**

A summary of every test performed on the part. This summary is usually on a form of DVP&R (Design Verification Plan and Report), which lists each individual test, when it was performed, the specification, results and the assessment pass/fail. If there is an Engineering Specification, usually it is noted on the print. The DVP&R shall be reviewed and signed off by both customer and supplier engineering groups. The quality engineer will look for a customer signature on this document. In addition, this section lists all material certifications (steel, plastics, plating, etc.), as specified on the print. The material certification shall show compliance to the specific call on the print.

**Initial Sample Inspection Report**

The report for material samples which is initially inspected before prototype made

**Initial Process Studies**

Usually this section shows all Statistical Process Control charts affecting the most critical characteristics. The intent is to demonstrate that critical processes have stable variability and that is running near the intended nominal value.

**CLAMASON INDUSTRIES UK LIMITED**

Dudley Road • Kingswinford • West Midlands • DY6 8XG • UK • T: +44 (0) 1384 400000

Company Registration No: 420452 • VAT Reg No: GB260438907

**CLAMASON SLOVAKIA, S.R.O**

Rastislavova 12 • 949 01 • Nitra • Slovakia • T: +421 37 772 20 77

Company Registration No: 35929162 • VAT Reg No: SK2022010859

**Qualified Laboratory Documentation**

Copy of all laboratory certifications (e.g. A2LA, TS, NABL) of the laboratories that performed the tests reported on section 10.

**Appearance Approval Report**

A copy of the AAI (Appearance Approval Inspection) form signed by the customer. Applicable for components affecting appearance only.

**Sample Production Parts**

A sample from the same lot of initial production run. The PPAP package usually shows a picture of the sample and where it is kept (customer or supplier).

**Master Sample**

A sample signed off by customer and supplier, that usually is used to train operators on subjective inspections such as visual or for noise.

**Checking Aids**

When there are special tools for checking parts, this section shows a picture of the tool and calibration records, including dimensional report of the tool.

**Customer-Specific Requirements**

Each customer may have specific requirements to be included on the PPAP package. It is a good practice to ask the customer for PPAP expectations before even quoting for a job. North America auto makers OEM (Original Equipment Manufacturer) requirements are listed on the IATF website.

**Part Submission Warrant (PSW)**

This is the form that summarizes the whole PPAP package.

This form shows the reason for submission (design change, annual revalidation, etc.) and the level of documents submitted to the customer. There is a section that asks for "results meeting all drawing and specification requirements: yes/no" refers to the whole package.

If there are any deviations the supplier should note on the warrant or inform that PPAP cannot be submitted.

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