PPAP Checklist — all 18 elements

Part number / revision: _____
Customer: _____
Submission level: _____
Reason for submission: _____
Prepared by: _____

#	Element	What it must contain	Where it usually fails	Status	Owner	Evidence — where it is
1	**Design records**	The drawing and specifications at the revision on the purchase order, plus the bill of materials for assemblies.	The revision in the file is not the revision on the purchase order.			
2	**Authorized engineering change documents**	Every change already in the product but not yet on the drawing, with the customer's authorization.	A change is running in production and exists only in an email.			
3	**Customer engineering approval**	Evidence of approval where the customer requires it — an engineering sign-off or an approved deviation.	Assumed not required, without asking.			
4	**Design FMEA**	The DFMEA for the part, if you are design-responsible.	Left out without explanation. If you are not design-responsible, say so in the file.			
5	**Process flow diagram**	Every step from receiving to shipping, including inspection, rework and scrap loops.	Shows the intended process rather than the line as it actually runs; rework loops missing.			
6	**Process FMEA**	One row per step of the flow diagram, with actions for the high-risk failure modes.	Steps do not match the flow diagram; actions never reach the control plan.			
7	**Control plan**	Every characteristic with its method, sample size and frequency, and a reaction plan for suspect product.	The reaction plan reads 'notify supervisor'; PFMEA actions are missing from it.			
8	**Measurement system analysis**	Gage R&R; and other studies for every gauge the control plan names.	The study was run on a different gauge from the one the control plan specifies.			
9	**Dimensional results**	Every characteristic on the drawing measured against its tolerance, for each cavity, mould, die or line.	Balloon numbers do not match the drawing; one cavity measured on a multi-cavity tool.			
10	**Material and performance test results**	Results against every material and performance requirement on the drawing and specifications.	A material certificate offered instead of results against your own specification.			
11	**Initial process studies**	Capability (Ppk) for the special characteristics, from a run long enough to mean something.	Too few readings, or parts that were not consecutive.			
12	**Qualified laboratory documentation**	The scope and accreditation of every laboratory that produced results in the file.	An external lab whose accreditation scope does not cover the test that was performed.			
13	**Appearance approval report**	Colour, grain and texture evaluation for parts with appearance requirements.	Missing where appearance requirements exist, or submitted where they do not.			
14	**Sample production parts**	Parts made on production tooling, with production gauges, operators and rate.	Parts from prototype tooling or a pre-production cell.			
15	**Master sample**	A retained sample, identified and signed off, kept for as long as the part is active.	Not retained, or not identified as the master.			
16	**Checking aids**	Every fixture and gauge used on the part, with calibration and MSA.	A fixture used for inspection that is neither in the MSA nor calibrated.			

#	Element	What it must contain	Where it usually fails	Status	Owner	Evidence — where it is
17	**Customer-specific requirements**	Evidence against every requirement in the customer's own supplier manual.	Treated as optional. Every customer adds its own.			
18	**Part submission warrant**	The one-page summary, signed, with every field completed.	Signed before the rest of the file was complete; fields left blank.			

The five submission levels — level 3 is the default

Level	What goes to the customer	Typical use
1	Part submission warrant only — plus the appearance approval report for appearance items.	Low-risk parts and repeat business, at the customer's discretion.
2	Warrant with product samples and limited supporting data.	Moderate risk; the customer states which data.
3	Warrant with product samples and complete supporting data.	The default level unless the customer specifies another.
4	Warrant and other requirements as defined by the customer.	Customer-defined combinations.
5	Warrant with product samples and complete supporting data, reviewed at your manufacturing location.	High-risk parts. The customer comes to you.

When a new PPAP is required

- A new part, or a part new to this customer
- Correction of a discrepancy on a previously submitted part
- An engineering change to design records, specifications or materials
- New, additional or modified tooling (perishable tools excepted)
- Tooling or equipment transferred to a different plant or an additional location
- A change of source for subcontracted parts, materials or services, such as heat treatment or plating
- A change in the manufacturing process or method
- Production from tooling inactive for volume production for twelve months or more
- A change to a test or inspection method

The numbers a reviewer checks

What the reviewer checks	The number	Note
Significant production run	1 to 8 hours of production, at least 300 consecutive parts	Unless the customer specifies otherwise
Initial process study size	At least 25 subgroups and 100 readings	From consecutive parts of the significant run
Ppk — meets acceptance	Greater than 1.67	
Ppk — may be acceptable	1.33 to 1.67	Contact the customer before submitting
Ppk — does not meet	Below 1.33	Expect to submit a corrective action plan
Gage R&R; — acceptable	Below 10%	Of tolerance or process variation, per AIAG MSA
Gage R&R; — may be acceptable	10% to 30%	Depends on the application and the customer
Gage R&R; — not acceptable	Above 30%	
Record retention	As long as the part is active, plus one calendar year	

These are the AIAG PPAP and MSA defaults. Your customer's specific requirements override every one of them — read the customer manual before you plan the production run, not after.