

## All State Fastener Corp. PPAP Requirement Check List

All State Fastener Corp. adheres to the Production Part Approval Process as noted in the AIAG PPAP edition manual. All documentation shall be submitted in conformance to the current edition of the applicable AIAG manual.

- Each supplier shall prepare a PPAP submission with dividers for the items required per the AIAG PPAP manual per table 4.2 Retention/Submission requirements.
- **A completed copy of the All State Fastener Corp.” PPAP Requirement Check List” is submitted, with each box checked indicating compliance.**

Suppliers should plan on a Level 3 Submission but have a Level 5 submission available if requested by All State Fastener Corp. See the following for clarification of requirements. Any questions should be addressed to All State Fastener Corp. Quality Department.

NOTE: All ASF customers require annual re-submissions of either a new FULL PPAP or just a new PSW with current dimensional layout and material/performance certs. All product characteristics must be measured annually and conform to the drawing as well as material and performance specifications. These records are to be forwarded to ASF or retained and available upon request. Current Laboratory Certificates are to be available as well. Check with ASF PPAP manager for clarification of your specific requirement.

### Design Record

- Drawing (s) – All Drawings must be “Ballooned” for all dimensions. Final submitted layout print must be marked “Controlled” by All State Fastener Corp. If manufacturer’s prints are used they must contain OEM or All State Fastener Corp. approval. (Signature and date)
- Copy of ASF “Controlled” print, with ballooned number to match dimensional results included with PPAP package.

### Process Flow

- (See AIAG APQP and Control Plan reference manual latest edition)
- **Include all sub-contractors Process Flow, including Heat Treat, Plating, & Patch**

### PFMEA

- **Include all sub-contractors PFMEA, including Heat Treat, Plating & Patch**
- PFMEA –RPN – Corrective action required for higher RPN values based on customer REQ.
- Severity numbers  $\geq 7$  must be addressed. Per the AIAG Potential Failure Mode and Effects Analysis Manual. (latest edition)

### Control Plan

- Process Control Plan must include all print dimensions and 2 levels of control or 100% optical or laser inspection. Control Plan must include at a minimum annual part layout and annual check fixture certification.
- Control Plan must include a final optical or visual sort.
- **Must include all sub-contractors Control Plan, including Heat Treat and Plating or other**

### Measurement System Analysis (Refer to AIAG MSA manual current edition)

- All State Fastener Corp. Variable standard Gauge R & R is 10 parts, 3 operators, and 3 trials. All State Fastener Corp must sanction any deviation.
- All State Fastener Corp’s Attribute Gage R & R standard is 20 parts, 2 operators, 2 times. All State Fastener Corp must sanction any deviation.
- Gage R&R for all gages used in the Control Plan must be submitted, and show TV < 10%.

- Ideally 1 out of 20 parts will be out of specification but near the upper and/or lower specification limit. See AIAG MSA current edition Manual.
- Gage Studies on equipment used for Statistical Studies. (Must include hand measurement equipment i.e. calipers etc). Per the AIAG Measurement Systems Analysis Reference manual.
- An ANOVA Study GR&R may be required, please check with the PPAP coordinator. Or the Quality manager for clarification.
- Copy of check fixture certifications.

#### Dimension Results

- All Print “AND” Math data dimensions reported on Dimensional Results CFG-1003 (March 2006)
- 100% Dimensional Layout (6 piece) to print/math data. Each part to be numerically identified to correspond with the Dimension Results Layout Sheet
- All Dimensions should be listed with the actual results (Unless noted as reference)
- Dimensions shall match the print {ex Inches should be measured in inches }
- If production parts will be produced from more than one cavity, header, mold, tool, die, pattern or production process, the supplier must submit a completed dimension results for each.

#### Material & Performance Results

- Laboratory Requirements: All data to comply with the AIAG format for Material Test Results CFG-1004 (March 2006) and Performance Test Results CFG-1005 (March 2006). All tests must be listed in a format with the required specifications as compared to the actual results. The supplier shall retain all test samples unless specifically requested by ASF to submit the test pieces. Test samples shall be available for All State Fastener Corp. review. These result documents must include at least:
  - Stated Specification number from print
  - All product must have lot number traceability
  - Number of pieces checked
  - Specified tolerance range
  - Actual Data
  - Material Certifications. Results of all tests when chemical, physical, or metallurgical requirements are specified. Provide “Approved Source” documentation when applicable.
  - Compliance to SAE / USCAR 5 & 7 – Avoidance of Hydrogen Embrittlement of Steel

#### Initial Process Study (Refer to AIAG Statistical Process Control Reference Manual)

- A minimum of 300 parts must be run on production tooling. For variable data, 100 of the 300 must be measured, and resulting SPC data shown. For attribute data, all 300 must be measured. I.E., flush, feeler, etc
- If no KPC are noted on drawing, the supplier shall contact All State Fastener Quality dept and review critical characteristics and designate KPC deemed appropriate.
- Process Capability Studies on all 100 pieces of variable, for SAFETY parts 300 parts must be run. For variable data, 100 of the 300 must be measured. For attribute data, all 300 must be measured. I.E., flush, feeler, etc
- Process Capability Studies on all 100 pieces of variable, SAFETY and Key Product Characteristics require a CPK > 1.67. Histograms required capability along with X Bar and R charts to demonstrate control process capability.

#### Qualified Laboratory Documentation

- Certification for ALL testing facilities used, test facilities must be certified by a 3<sup>rd</sup> party to ISO 17025.
- ISO/ or TS certification for all sub-Suppliers must be submitted

#### Sample Parts

- Sample Parts – Quantity 6 Labeled with part number, change level, and sequential inspection number correlated to Inspection Report. Supplier must retain represented sample of samples submitted.

#### Warrant (PSW)

- Warrant CFG-1001(March 2006) Complete and accurate to the correct drawing and Eng. Level. Warrant must include **weight in kilograms to four decimal places**. Separate warrant for each part number, must be signed by a responsible supplier official. Production Rate required.

**IMDS (International Material Data System)**

- IMDS numbers must be submitted to All State Fastener Corp's. ID# 13813 prior to PPAP submission
- IMDS number must be documented on the PSW (warrant)

**USMCA (United States, Mexico, Canada Agreement)**

- All USMCA documentation must be included in the PPAP. (Domestic vendors only)
- A Certificate of Origin must be included in the PPAP. (Foreign vendors only)

**CQI-9 (Heat Treat Survey)**

- All suppliers providing heat treated components to All State Fastener regardless of tier must submit annual self assessments
- Self-assessments are due annually in September.

**CQI-11 (Plating Assessment Survey)**

- All suppliers providing plated components to All State Fastener regardless of tier must submit annual self assessments
- Self assessments are due annually in September.

**CQI-12 (Coating Assessment Survey)**

- All suppliers providing coated components to All State Fastener regardless of tier must submit annual self assessments
- Self assessments are due annually in September.