

Supplier Training



Product Assurance Provision Training

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Objective

To guide suppliers through Marvin Engineering's Product Assurance Provision (PAP) clauses. This includes:

- Where to find the PAP clauses on Marvin's website
- Where to find the PAP clauses on Marvin POs
- The structure of Marvin PAP clauses
- Select PAP clauses for explanation

PAP Clauses on Marvin Website

Go to marvingroup.com/pap

Document with ALL PAP clauses

 **The Marvin Group**

[WI-600 Appendix A](#) – Purchasing Product Assurance Provisions

- [MG280](#) – Applicable to Major Assemblies/Electro Mechanical Assemblies: Applies to parts and/or components a complete assembly including all processes and testing requirements as directed on the purchase order.
- [MG215](#) – Applicable to Sheet Metal FAB (including Minor Assemblies): Fabricate (form, punch, etc) complete includes all thermal, testing & processing requirements.
- [MG117](#) – Applicable to SHIMS: Fabricate (form, punch, etc) complete includes all thermal, testing & processing requirements.
- [MG40](#) – Applicable to Extrusions: Manufacturing process in which metal or plastic material is forced through a shaped metal piece or die to produce includes all thermal and testing requirements as specified on the drawing and purchase order.

PAP Clauses for specific Material Groups / Commodities

PAP Clauses on Marvin Website

What do we mean by “Material Group” or “Commodity”?

- They are the general groupings MEC uses for the product types we procure
- Material Groups (MG) are the coding MEC uses in our ERP system to refer to our commodity types
- Example:
 - MG280 = Major Assemblies
 - MGS-PRO = Processing
 - Etc.

PAP Clauses on Marvin Purchase Order

MEC Purchase Orders will have three general sections

1. Header information which includes information such as PO number and Ship To address
2. Header text which may contain reference information or modifications to the PO
3. PO Line items with information and scope of work for each items listed

MARVIN ENGINEERING CO., INC
261 W BEACH AVENUE
INGLEWOOD CA 90302
Ph: (310) 674-5030 - Fax: (310) 671-1256
e-Invoice: APINVOICE@MARVINENG.COM

Page 1 of 7
Order date: 01/30/2020

Vendor: 101728
Purchase Order
Ship To: Marvin Engineering Co., Inc.
498 N. Oak Street
Inglewood CA 90302

PHONE : 310-323-7175 SHIP VIA : As Standard PAY TERMS : Net 30 days
FAX : 310-323-8494 SHIP TERMS : FOB - ORIGIN

MEC LOT# [REDACTED] APPLIES TO THE WHOLE ORDER.

THE FOLLOWING PAP CLAUSES ALSO APPLY TO THIS PURCHASE ORDER IN ADDITION TO THE PAP CLAUSES CALLED OUT WITHIN EACH LINE ITEM:
PAP 3: QUALITY SYSTEM
PAP 73: STANDARD WORKMANSHIP
PAP 77: SUPPLIER DISCLOSURE OF DISCREPANT MATERIAL

UNIT PRICE: \$5.50 EA

Line	Order Qty	Part Number/Description/Rev	Unit Price - USD	Ext Price - USD	Tax
00010	270.000 EA	[REDACTED]	5.50	[REDACTED]	No

Ovr/Del. 0.0 % / Und/Del. 0.0 %
Production Order: [REDACTED]

SHOT PEEN IAW SAE-AMS-S-13165, .006-.010 ALMEN A INTENSITY PER DRAWING NOTE 7.

MEC SHALL PERFORM ALL FINAL PROCESSES FOR PROTECTION, PACKAGE PARTS IN SUITABLE CONTAINERS. NO METAL TO METAL CONTACT IS ALLOWED.

Material Code MGS-PRO, which contains the full text of each applicable PAP clause, is hereby incorporated by reference into this order and can be accessed at marvingroup.com/pap.

DUE DATE Quantity

00020	123.000 EA	[REDACTED]	5.50	[REDACTED]	No
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PAP Clauses on Marvin Purchase Order

PO line item in increments of 10

PO line item quantity

MEC production order number (if applicable)

Line	Order Qty	Part Number/Description/Rev	Unit Price - USD	E
00010	270.000 EA	██████████ / ██████████ / Rev. H	5.50	

Ovr/Del. 0.0 % / Und/Del. 0.0 %
Production Order: ██████████

SHOT PEEN IAW SAE-AMS-S-13165, .006-.010 ALMEN A INTENSITY PER DRAWING NOTE 7.

MEC SHALL PERFORM ALL FINAL PROCESSES.
FOR PROTECTION, PACKAGE PARTS IN SUITABLE CONTAINERS. NO METAL TO METAL CONTACT IS ALLOWED.

Material Code MGS-PRO, which contains the full text of each applicable PAP clause, is hereby incorporated by reference into this order and can be accessed at marvingroup.com/pap.

DUE DATE Quantity

Part revision

Part description

Part number

PAP Clauses on Marvin Purchase Order

Line	Order Qty	Part Number/Description/Rev	Unit Price - USD	E
00010	270.000 EA	██████████ / ██████████ / Rev. H	5.50	

Ovr/Del. 0.0 % / Und/Del. 0.0 %

Production Order: ██████████

Scope of work

SHOT PEEN IAW SAE-AMS-S-13165, .006-.010 ALMEN A INTENSITY PER DRAWING NOTE 7.

MEC SHALL PERFORM ALL FINAL PROCESSES.
FOR PROTECTION, PACKAGE PARTS IN SUITABLE CONTAINERS. NO METAL TO METAL CONTACT IS ALLOWED.

Material Code MGS-PRO, which contains the full text of each applicable PAP clause, is hereby incorporated by reference into this order and can be [accessed at marvingroup.com/pap](https://marvingroup.com/pap).

DUE DATE

Quantity

Every PO line will have a Material Code call out that relates to a PAP clause document (MGS-PRO in this example). This is MECs way of flowing down PAP clauses. All clauses found within this document are applicable to that line.

PAP Clauses on Marvin Purchase Order

MEC LOT# [REDACTED] APPLIES TO THE WHOLE ORDER.

THE FOLLOWING PAP CLAUSES ALSO APPLY TO THIS PURCHASE ORDER IN ADDITION TO THE PAP CLAUSES CALLED OUT WITHIN EACH LINE ITEM:

PAP 3: QUALITY SYSTEM

PAP 73: STANDARD WORKMANSHIP

PAP 77: SUPPLIER DISCLOSURE OF DISCREPANT MATERIAL

UNIT PRICE: \$5.50 EA

Header text contains supplemental information that may modify the scope of work in a PO. In this example, the header text is adding PAP clauses that are not found in the MGS-PRO PAP document but are still applicable to the order.

All exceptions to PAPs must be taken prior to product delivery.

PAP Clause Structure

MEC PAPs are broken down into three categories:

1. PAP clauses on ALL purchase orders
 - Standard clauses that will always be applicable to our orders
2. PAP clauses for each commodity
 - The applicability of these clauses will vary by commodity
 - machining, processing, assembly, etc.
3. PAP clauses based on contractual requirements
 - Specific requirements MEC customer's have imposed on us through their contract. Applicability will vary by purchase order.

PAP clauses on ALL purchase orders

PAP 1 – Inspection of Supplier

PAP 4 – Calibration System

PAP 6 – Right of Access

PAP 11 – Lot Control and Identification

PAP 21 – Nonconforming Material (NCM) Control

PAP 22 – Documentation Change Control

PAP 31 – PPP&M Requirements

PAP 43 – Current Revision

PAP 45 – Foreign Object Debris

PAP 47 – Suppliers and their Sub-tier Suppliers

PAP 49 – Ozone Depleting Chemicals

PAP 52 – Record Retention

PAP 59 – Supplier Process Change Control

PAP 60 – Executive Order 13496 & 13465

PAP 62 – Counterfeit Parts

PAP 65 – International Traffic in Arms
Regulations (ITAR)

PAP 72 – Return Material Authorization (RMA)
Request

PAP 73 – Standard Workmanship

PAP 78 – Monitoring External Providers
Performance

PAP 79 – Competences, Awareness &
Communication

PAP 80 – Production Process Verification

PAP clauses for each commodity

PAP 9 – Material Identification Requirements

PAP 15 – Certified Process

PAP 16 – Certification (COC)

PAP 17 – Age Control – Certification

PAP 18 – Test Reports

PAP 19 – Raw Material Certification

PAP 24 – First Article Inspection

PAP 26 – Printed Circuit Boards

PAP 27 – Hardness Test Certification

PAP 27.1 – Conductivity Test Certification

PAP 28 – Continuity Test (MIL-PRF-55110)

PAP 32 – Electrostatic Discharge (ESD) Control

PAP 35.1 – Welding Certification

PAP 35.2 – Welding Procedure

PAP 53 – Domestic Specialty Metals

PAP 56 – Do not off-load to sub-tier suppliers

PAP 64 – Purchase Order Lot Increases

PAP 66 – MEC Supplied Tooling

PAP 67 – Data Requirements for Turnkey Parts /
Machining POs

PAP 68 – Standard Hardware Components

PAP 70 – Use of Pure Tin Finishes Prohibited

PAP 74 – Soldering Requirements

PAP 75 – Cable & Wire Harness Assemblies

PAP 77 – Supplier Disclosure of Discrepant
Material

PAP clauses based on contractual requirements

PAP 2 – Quality Program

PAP 3 – Quality System

PAP 5 – MEC or MLS Source Inspection

PAP 7.1 – Government Source Inspection (GSI) at Supplier Facility

PAP 7.2 – Government Source Inspection (GSI) at MEC or MLS Facility

PAP 23 – Approved Source

PAP 29 – Direct Shipment

PAP 30 – Qualified Products List (QPL)

PAP 33 – Statistical Process Control (SPC)

PAP 34 – Ballistic Certification (Armor)

PAP 34.2 – Ballistic Testing for US Government Contracts

PAP 36 – Workmanship Specimen

PAP 37 – Welding Equipment Approval

PAP 40 – Certification for Grade 5 & Higher Fasteners

PAP 42 – No PAP Required

PAP 47.1 – Special Process – Customer-Specified Approved Sourced Only

PAP 48 – Written Special Processes

PAP 50 – Grain Direction

PAP 55 – Software Control

PAP 58 – Open

PAP 61 – Supplier Requirements of Use of Reduced Dimension Drawings (RDD)

PAP 63 – LM Aero Quality Appendix QJ & QX Process – Appendix QJ

PAP 69 – NADCAP Approved Suppliers

PAP 71 – Acceptance Test Plan/Procedure

PAP 76 – Frozen Planning

Select PAP clauses for explanation

The following PAP clauses were selected due to being the PAPs that are most frequently improperly fulfilled. The slides contain an explanation on each PAP but the explanation is for reference only. The PAP clause documents found on the MEC website remain the authority. Final interpretation and acceptance will be based off those documents.

Select PAP clauses for explanation

PAP 11 – Lot Control and Identification

This PAP is particularly important when parts are being shipped in with multiple lot numbers. Lot numbers must not be mixed and must always be identified.

Identifying information includes lot number (always) and heat lot number, part number, and material code or spec (as appropriate).

Select PAP clauses for explanation

PAP 15 – Certified Process

This PAP applies anytime a part undergoes processing or testing. This is similar to a Certificate of Conformance (CoC) but also includes the process or test performed and the revision to which it was performed to.

If the process was NDI/NDT, the document will also include the number of items inspected / accepted / rejected, what the acceptance criteria was, and identification of who performed the test and their level of proficiency.

Select PAP clauses for explanation

PAP 18 – Test Reports

This PAP applies whenever a test (beyond what is captured in PAP 15) is performed. For example, there may be a call out to perform pressure testing on the parts. The submitted document must not only include the performance test data, it must also include the signature and title of the person who performed the test.

Select PAP clauses for explanation

PAP 19 – Raw Material Certification

This PAP applies whenever a supplier furnishes their own raw material. It does not apply for MEC furnished material. When invoked and if applicable, a Raw Material Original Mill Cert must be provided.

In addition, as outlined in PAP 11, if multiple heat lots are being used to fulfil a PO then the parts must be segregated by heat lot and positively identified at all times to avoid loss of traceability.

Select PAP clauses for explanation

PAP 24 – First Article Inspection

MEC expects the supplier to conduct a First Article Inspection (FAI) in accordance with AS9102 latest rev. Whether a full FAI or delta FAI, the requirements for either case are outlined in the PAP as well as AS9102.

When MEC furnishes material, the supplier will not commence production until MEC approves the FAI, unless written approval is given.

The part used for an FAI will be identified as “first article inspection sample” when shipped to MEC.

MEC may require an FAI even if the part has been in production for the past two years.

Select PAP clauses for explanation

PAP 26 – Printed Circuit Boards

PAP is self explanatory. PCBs will comply with ANSI/IPC-A_600 and will default to Class 3 requirements unless otherwise specified.

Select PAP clauses for explanation

PAP 27 – Hardness Test Certification

When invoked, hardness test results for the furnished material needs to be provided. This information may already be included in the mill cert (PAP 19). The cert must also include MEC's purchase order number.

Select PAP clauses for explanation

PAP 27.1 – Conductivity Test Certification

When invoked, conductivity test results must be provided if applicable. Applicability is limited to aluminium alloys when required by spec. The exception is for purchase orders that support Lockheed F-35 product. In this case, conductivity test results for aluminium have to be provided, regardless of aluminium alloy spec requirements.

Select PAP clauses for explanation

PAP 30 – Qualified Products List (QPL)

This PAP clause is applicable when a product or service has been evaluated by a Qualifying Activity and found to be compliant to a spec. The governing spec will have language referencing a QPL, QML, QPD, or Qualified Products.

Common QPLs include Defense Logistics Agency (DLA) Qualified Products Database and NAVAIR QPL-SIS (Supplemental Information Sheets).

Select PAP clauses for explanation

PAP 53 – Domestic Specialty Metals

When this PAP is invoked, it means the raw material the part is made from is a *speciality metal* as defined in DFAR 252.225-7008 and 252.225-7009. This specialty metal must be procured from the US or a qualified country, as listed in 252.225-7002. The country of origin is typically verified through the mill cert (PAP 19).

Select PAP clauses for explanation

PAP 54 – Inspection Sampling Plan

When this PAP is invoked, the supplier must include their inspection report with product shipment.

Unless otherwise stated, you must inspect to an ANSI Z1.4 General Inspection Level II at an AQL of 1.0, and modified acceptance criteria of accept at zero (0), reject at one (1)

PAP 54 also includes a list of features that shall be inspected 100% on all lots. Ranges are acceptable for these features.

Select PAP clauses for explanation

PAP 66 – MEC Supplied Tooling

The loaning of MEC owned inspection aids, gauges, and tooling fixtures in being phased out. However, for those that still have MEC supplied tooling, you are expected to maintain the condition of the tooling and will be debited for any scrap or damaged tooling.

Select PAP clauses for explanation

PAP 67 – Data Requirements for Turnkey Parts/Machining POs

This PAP applies to turnkey (built complete per drawing) and machining POs. When invoked, all requirements of PAPs 15, 19, 24 and 54 apply.

In addition, PAP 54 also applies to all lower level details including castings and forgings if the supplier furnished them.