

QUALITY CONTROL REQUIREMENTS FOR BAC5114 AND PS20722 SPECIFICATIONS

The following quality requirements are applicable for parts that specify BAC5114 and/or PS20722 on the part Product Definition Data (PDD).

For these quality requirements, the term 'Seller' refers to the organization who is the Purchase Contract holder and has complete responsibility to make sure all parts comply with the part PDD and contractual requirements. Seller must have documentation and quality records to show part compliance and must make all such documents and records available for Buyer review upon request.

SUB-TIER FLOW DOWN OF REQUIREMENTS:

When Seller uses their sub-tier supplier to do part machining, make plug map(s), and/or do verifications Seller must have a quality management process of their sub-tier and flow down all applicable requirements specified in the part PDD and these quality requirements.

- Seller must make sure all assessments, checklists, documentation, and/or verifications specified in the part PDD and these quality requirements are complete and parts comply with all requirements before they ship to Buyer.
- Seller must use the BAC5114 checklists or their own comparable checklists to assess and verify sub-tier compliance to all applicable requirements.
- Seller may delegate to their sub-tier to complete quality requirements, such as the part verification checks and/or PS20722 digital color photograph(s) inspection, in accordance with AS9117.
 - When delegated personnel do validations, a second "independent process" validation is not necessary.
 - When PS20722 is applicable, delegated personnel must know how to validate correct masking in accordance with PS20722 and these quality requirements.
 - Qualification must include a minimum documented training curriculum and roster.
 - Sub-tier's inspection plan or an AS9117 Appendix A verification type checklist must show validation of all the necessary requirements.

For parts that specify BAC5114 ENHANCED PROCESS TO CONTROL CNC MACHINING Seller must do the following:

PRIOR TO CONTRACT AWARD:

Seller must have completed a BAC5114 process control and capability assessment with Buyer's Supplier Management, Engineering and Supplier Quality representatives using the BAC5114

Capability Assessment Checklist before the contract award. If the assessment was not completed, or for a copy of the checklist, contact Buyer's Authorized Procurement Representative to have the assessment scheduled before the start of part production planning.

DURING PART PRODUCTION PLANNING AND MANUFACTURING ACTIVITIES:

- Seller must validate BAC5114 process control requirements by using and completing a BAC5114 requirements checklist during initial part production planning. Contact Buyer's Authorized Procurement Representative for a copy of an acceptable checklist. The intent for Seller to complete this checklist for their facility is to show they have processes in place and all necessary documentation and training to make sure parts are consistently compliant to the BAC5114 and PS20722, when applicable.
 - The completed checklist and all records and documentation (e.g., procedures, work instructions, evidence of technical conformance, dimensional evidence of compliance or an industry recognized inspection plan, etc.) must be available for Buyer review.
 - Correct and close any gaps in records and documentation before the start of manufacturing activities.
 - Coordinate any exceptions with Buyer's Supplier Quality and Authorized Procurement Representatives before continuing finish machining the parts.
- Seller must have a Statistical Product Acceptance Plan per the following:

Seller shall perform 100% inspection for in-process and final inspection, or Seller shall conform to requirements of document AS9138 "Aerospace Series – Quality Management Systems Statistical Product Acceptance Requirements" as may be amended from time to time. With the exception noted herein Seller's statistical sampling procedure/plan conformance to AS9138 with minimum protection levels meeting SAE AS9138 Table A1 and C=0 will constitute Boeing Quality approval subject to restrictions noted in AS9138, Section 4.3 Safety/Critical Characteristics, and part Design Data sampling requirements and/or prohibitions.

- The verification plan (e.g. an inspection/witness plan) must be available for Buyer review.

For parts that specify masking in accordance with PS20722 - HOLE MASKING FOR ENHANCED PROCESS CONTROLLED METALLIC PARTS Seller must do the following:

- Use a Chemical Processor (CP) listed on the latest revision of the PS20722QPL (Qualified Producer List).

NOTE: PS20722QPL is available in PSDS via the supplier portal or by contacting the Buyer's Authorized Procurement Representative.

- Give the CP a part-specific plug map that shows which 9M1084 plugs are required in each hole in accordance with PS20722 and the part PDD. For an example of a plug map contact the Buyer's Authorized Procurement Representative.

- Make sure the plug map is in a format the CP can use.
- When the part PDD specifies an authoritative “Engineering provided PS20722 plug map(s)” or similar, Seller may use this plug map instead of creating their own.

NOTE: In accordance with the part PDD the Engineering provided plug map is authoritative and may be used instead of PS20722 Table 1 to determine the correct 9M1084 plug size for each specified hole. Plug maps in REDARS identified as “For Reference Only” are not authoritative.

- When the part PDD does not specify an Engineering provided plug map, Seller must make a derivative engineering plug map in accordance with PS20722 and the part PDD with the following minimum information.
 - The hole diameters and their locations on the part
 - The quantities of each hole size
 - The 9M1084 plug to be used for the hole diameters
 - Other necessary plugging requirements and/or exclusions from the part PDD
 - The Buyer’s part-model number, revision, and Seller revision control number and release date
 - An appropriate export control requirement statement
 - A “Boeing Proprietary Information” or “Proprietary Information” statement

NOTE: It is Seller’s responsibility to meet the sub-tier flow down requirements for Digital Product Definition (DPD) in accordance with D6-51991.

- Seller is responsible for each part conformance to the PS20722 and the part PDD masking requirements and must do the following:
 - For parts with 50 or less PS20722 masked holes do a minimum end-item inspection of the digital color photograph(s) before the parts ship to Buyer.
 - For parts with 51 or more PS20722 masked holes do a minimum in-process desktop inspection of the digital color photograph(s) before the parts continue through the chemical or finishing process (e.g., Pre-penetrant etch, Anodize or Sol-Gel).
 - For all parts, Seller’s manufacturing planning (e.g. work-order or in-process inspection plan) must have a buy-off for the inspection of the PS20722 digital color photograph(s).

NOTE: Seller may do more masking validation based on the CP performance history and any identified risks, such as additional in-process digital color photograph(s) inspection or on-site witnessing.

END ITEM VERIFICATION ACTIVITIES:

- Seller must use and complete the manufacturing and verification planning specified in accordance with these quality requirements to meet the BAC5114 and/or PS20722 process control requirements, as applicable.

Terms and Conditions

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- Buyer will continually assess Seller processes and part compliance to the part PDD requirements and these quality requirements at intervals selected by the Buyer.