

The following table lists all Benchmark Approved Quality (Restriction) Codes. These Codes and Descriptions are listed in the Corporate ERP System Quality (Restriction) Code table and outline specific Purchase Order expectations. Supply Chain should provide additional details in the Purchase Order text when needed. The Supplier should review these Codes and Descriptions with the Benchmark buyer/engineer for explicit needs or clarification, as needed.

| Restriction Code | Description                            |
|------------------|--|
| 01               | BURN-IN REQ                            |
| 02               | <del>(Do Not Use)</del>                |
| 03               | MOISTURE SENSITIVE MATERIAL            |
| 04               | CERTIFICATE OF TEST REQ                |
| 05               | IMPEDANCE TEST REQ                     |
| 06               | IMMERSION GOLD REQ                     |
| 07               | CERTIFICATE OF COMPLIANCE REQ          |
| 08               | DO NOT BUY DATE OR LOT CODE            |
| 09               | <del>BELLCORE REQ DO NOT USE</del>     |
| 10               | SAFETY TRACEABILITY REQ                |
| 11               | PROGRAM CRITICAL                       |
| 12               | <del>BUY PER DRAWING DO NOT USE</del>  |
| 13               | <del>SEE EXPANDED ASL DO NOT USE</del> |
| 14               | TAPE AND REEL REQ                      |
| 15               | THIRD PARTY TEST REQ                   |
| 16               | CERTIFICATE OF ANALYSIS REQ            |
| 17               | BUY BULK ONLY                          |

| Restriction Code | Description                            |
|------------------|--|
| 18               | DEVIATION DO NOT USE                   |
| 19               | RECENT PURGE OR CONTAINMENT DO NOT USE |
| 20               | DATE CODE TO BE PKG SEPARATELY         |
| 21               | FIRST ARTICLE INSP REQ                 |
| 22               | CERT OF ROHS COMPLIANCE REQ            |
| 23               | SOLDERABILITY INSP REQ >2 YRS          |
| 24               | SEE SPECIAL INSTRUCTIONS               |
| 25               | ROHS XRF TEST REQ                      |
| 26               | WAFFLE PACK OR TRAYS REQ               |
| 27               | RDC PENDING DO NOT USE                 |
| 28               | DATE CODE MUST BE <2 YEARS OLD         |
| 29               | EXPIRATION DATE / SHELF LIFE REQ       |
| 30               | REFRIGERATION REQ                      |
| 31               | MUST REMAIN FROZEN                     |
| 32               | FLAMMABLE MATERIAL                     |
| 33               | MFG PROCESS CONTROLS REQ               |
| 34               | MICRO-SECTION ANALYSIS REQ             |
| 35               | H-CLASS SIGNATURE REQ                  |
| 36               | HIGH ESD RISK MATERIAL                 |
| 37               | CLEANROOM REQUIREMENTS APPLY           |
| 38               | DO NOT TOUCH PARTS                     |

| Restriction Code | Description                    |
|------------------|--------------------------------|
| 39               | MATERIAL CERTIFICATION REQ     |
| 40               | IPC SPECIFICATION REQ          |
| 41               | PROGRAMMED PARTS               |
| 42               | SECONDARY SOURCE RESTRICTED    |
| 43               | SUBJECT TO GOVERNMENT INSP     |
| 44               | NADCAP COMPLIANCE REQ          |
| 45               | CONTROLLED CHEMICALS-MATERIALS |
| 46               | CONTROL OF DESIGN CHANGES      |
| 47               | CUSTOMER SPECIFIC FA REQ       |
| 48               | AS9102 FA REQ                  |
| 49               | BUY TUBE ONLY                  |
| 50               | X-OUTS NOT ALLOWED             |
| 51               | MIL-SPEC OR MIL-STD REQ        |
| 52               | GOLDEN UNIT PART REQ           |
| 53               | CUSTOM INSP DOC                |
| 54               | PICK-UP TAB REQ                |
| 55               | EXPORT CONTROLLED              |
| 56               | DATE CODE MUST BE <18 MONTHS   |
| 57               | DATE CODE MUST BE <12 MONTHS   |
| 58               | CHAIN OF CUSTODY REQ           |
| 59               | <del>FAR/DFAR</del> DO NOT USE |

| Restriction Code | Description                    |
|------------------|--------------------------------|
| 60               | LEAD TERMINATION REQ           |
| 61               | MOISTURE BARRIER COMPLIANCE    |
| 62               | COUNTRY OF ORIGIN REQ          |
| 63               | FROZEN BELOW -40 DEGREES C REQ |
| 64               | SAFETY DATA SHEET REQUIRED     |
| 65               | SUPPLIER SITE SOURCE INSP REQ  |
| 66               | PROCESS\TEST VALIDATION REQ    |
| 67               | SUPPLIER SELF SOURCE INSP REQ  |
| 68               | DATE CODE RESTRICTIONS         |
| 69               | HIGH IP CONTROL REQUIRED       |
| 70               | MFGR SITE CHANGE APPROVAL REQ  |
| 71               | X-RAY REQ                      |
| 72               | CHANGE NOTIFICATION REQUIRED   |
| 73               | PCB SPEC BE-46003 REQUIRED     |
| 74               | MOISTURE SENSITIVE PROCESS     |
| 75               | 75% REMAINING SHELF LIFE REQ   |
| 76               | AMMO PACK REQ                  |
| 77               | SUB-TIER APPROVAL REQ          |
| 99               | 180 CHANGE NOTIFICATION REQ    |

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Highlighted and struck out (~~struck-out~~) restriction codes are no longer in use or are being retired, and are not to be used on active items. The “REQ” in a title is an abbreviation for required.

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## Code Definitions

The following definitions explain the general purpose of each code. These definitions are to be used as guidelines for procedures regarding the usage and handling of items with codes.

Sites can define local policies which provide additional detail or processes for how codes are used internally and how supporting details may be conveyed to suppliers. However, sites may not redefine the general intent of the code as it is listed here.

### 01 – BURN-IN REQ

A Burn-In test is required before the item is to be used. Burn-In is where the item is operated for a length of time in order to reveal defects or stabilize its characteristics.

### 02 – (Do Not Use)

No longer in use.

**03 – MOISTURE SENSITIVE MATERIAL** The item is moisture sensitive and has a Moisture Sensitive Level (MSL). Moisture Sensitive items require special controls for packaging and exposure to air prior to assembly. The MSL is indicated in the Corporate ERP System and this code should be reserved for components defined as MSL 4 or above.

### 04 – CERTIFICATE OF TEST REQ

A certificate of test is required for the item. Suppliers or Manufacturers must provide a certificate showing the item has been tested. This would include electrical test data as required. Certificates will be stored by Benchmark, or imbedded with the item.

### 05 – IMPEDANCE TEST REQ

An impedance test is required on a sample of the item or lot, before the items in the lot are to be stocked or used. Items are typically Printed Circuit Boards or electronic packages. The requirement for an impedance test is specified by the customer. Suppliers or Manufacturers must provide documentation that the item or lot passes the test, unless Benchmark is to perform the test.

### 06 – IMMERSION GOLD REQ

Electroless nickel with immersion gold (ENIG) is the required surface finish for the Printed Circuit Board.

NOTE: The surface finish\coating should be specified on the PCB fabrication drawing.

### 07 – CERTIFICATE OF COMP REQ

A Certificate of Compliance is required for the item. Suppliers or Manufacturers must provide a certificate showing the item complies with listed specifications or standards. Certificates will be stored by Benchmark, or imbedded with the item.

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Note: Code 07 is not used for RoHS certificates – See Code 22.

**08 – DO NOT BUY DATE OR LOT CODE**

Specific Date or Lot Codes of the item should not be purchased or received. This code requires additional text to be entered in the purchase order to indicate the Date or Lot code(s) to be excluded. Date Codes should be listed in the format provided by the manufacturer or supplier.

**09 – ~~BELLCORE REQ~~ DO NOT USE**

No longer in use – refer to print requirements.

**10 – SAFETY TRACEABILITY REQ**

Traceability is required per regulatory or safety standards. Items are defined as safety critical within independent agency laboratory reports (e.g. UL, TUV SUD, BABT, CSA, etc.).

**11 – PROGRAM CRITICAL**

The item has been identified as being in limited supply or requires specific controls or component management. Contact Benchmark for specific requirements.

**12 – ~~BUY PER DRAWING~~ DO NOT USE**

No longer in use.

**13 – ~~SEE EXPANDED ASL~~ DO NOT USE**

No longer in use.

**14 – TAPE AND REEL REQ**

Tape and reel packaging is required. This code is used on Surface Mount Devices, to ensure they are on reels for automated placement equipment. Items are to be purchased and provided in tape and reel packaging.

**15 – THIRD PARTY TEST REQ**

A third-party test certificate or document is required. The test is performed by a third party, not Benchmark or the item's manufacturer. Testing must be done by an accredited/certified lab and results must be traceable to statutory standards.

**16 – CERTIFICATE OF ANALYSIS REQ**

A certificate of analysis is required for the item, typically for each lot received. This includes specific conformance data not found in a Certificate of Compliance (07).

**17 – BUY BULK ONLY**

The item should be purchased and provided in bulk packaging.

**18 – ~~DEVIATION DO NOT USE~~**

No longer in use.

**19 – ~~RECENT PURGE OR CONTAINMENT DO NOT USE~~**

No longer in use.

**20 – DATE CODE TO BE PKG SEPARATELY**

Individual date codes or material lots must be packaged individually.

**21 – FIRST ARTICLE INSP REQ**

A First Article Inspection is required by the supplier for each new revision of the component. Specific data may be requested from the supplier beyond items defined by the print. Contact Benchmark for specific requirements.

**22 – CERT OF ROHS COMPLIANCE REQ**

A certificate of RoHS and/or ROHS2 compliance is required for the item. Suppliers or Manufacturers must provide a certificate showing the item meets RoHS compliance.

**23 – SOLDERABILITY INSP REQ >2 YRS**

Material is more than 2 years old, requires solderability testing to ensure it meets solderability requirements.

**24 – SEE SPECIAL INSTRUCTIONS**

Special instructions are associated with the item for Purchasing, Receiving, Inspection, or Supplier Process and/or Inspection Controls. Contact Benchmark for specific requirements if not provided.

**25 – ROHS XRF TEST REQ**

An XRF (X-Ray Fluorescence) Test is required on the item or a sample of the lot, to verify it meets RoHS or ROHS2 compliance or listed specifications.

**26 – WAFFLE PACK OR TRAYS REQ**

Waffle Pack or Matrix Tray packaging is required. This code is used on Surface Mount Devices, to ensure they are on trays for automated placement equipment..

**27 – ~~RDC PENDING DO NOT USE~~**

No longer in use.

**28 – DATE CODE MUST BE <2 YEARS OLD**

The Date Code on the item must be less than 2 years from date of receipt by Benchmark.



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**29 – EXPIRATION DATE / SHELF LIFE REQ**

An expiration date is required for the item. Expiration dates indicate when the item must be used by. Expiration dates must be provided by the supplier or manufacturer. Benchmark requires that at least 50% of the shelf life is remaining upon receipt. Any material with less than 50% shelf life must be pre-approved.

**30 – REFRIGERATION REQ**

The item is temperature sensitive and requires refrigeration when being stored. Refer to product specific requirements once opened.

**31 – MUST REMAIN FROZEN**

The item is temperature sensitive and must be kept frozen (below 0°C) when being stored. Refer to product specific requirements once opened.

**32 – FLAMMABLE MATERIAL**

The item is flammable and must be handled with caution. Items are to be stored in hazardous material cabinets or containers. Safety policies are followed when the item is handled or stored.

**33 – MFG PROCESS CONTROLS REQ**

The item has been identified as requiring special process controls at the supplier. This may include test points, process flow, FOD mitigation, control plans, PFMEA, SPC, capability requirements, or other means of process control or verification. Contact Benchmark for specific requirements.

**34 – MICRO-SECTION ANALYSIS REQ**

A micro-section analysis is required on a sample of the item per lot. Contact Benchmark for specific requirements if not provided.

**35 – H-CLASS SIGNATURE REQ**

A H-Class (high value class) signature is required to have access to the item. Items are stored in a secure area, with limited access.

**36 – HIGH ESD RISK MATERIAL**

The item has extremely high sensitivity to Electrostatic Discharge. Items which are Class 0 on the Human Body Model (HBM). The items require special handling beyond normal ESD requirements.

**37 – CLEANROOM REQUIREMENTS APPLY**

The item must only be opened or removed from its sealed packaging in a dedicated cleanroom meeting ISO class requirements for the product. Packages must not be opened in normal Receiving or Inspection areas.

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**38 – DO NOT TOUCH PARTS**

The item may not be physically handled without special care. For example, fingerprints or oils from the skin or contact with a tabletop may damage the item. The item could also be extremely fragile, and should not be handled except by specialized personnel. Receivers should not open packaging or handle the item without taking precautions to avoid damage.

Notes concerning necessary precautions may be available in other documentation.

**39 – MATERIAL CERTIFICATION REQ**

The item requires documented material content confirmation, through test data or traceability of origin, as it applies. Contact Benchmark for specific requirements.

**40 – IPC SPECIFICATION REQ**

Specific IPC requirements have been defined, although the requirement may not be defined by print. Typical applications include: IPC-A-600, IPC-A-610, and IPC/WHMA-A-620. Contact Benchmark if not defined.

**41 – PROGRAMMED PARTS**

The item must be pre-programmed and must include validation data that assures acceptable programming per description or purchase order.

**42 – SECONDARY SOURCE RESTRICTED**

This item may not be procured from a secondary (broker) source without specific written authorization from the customer per purchase order.

**43 – SUBJECT TO GOVERNMENT INSP**

The item and related processes are subject to government source inspection.

**44 – NADCAP COMPLIANCE REQ**

The item is subject to NADCAP compliance.

**45 – CONTROLLED CHEMICALS-MATERIALS**

Suppliers shall attest that parts meet current materials directives, rules, or disclosures as defined by Benchmark. This may include elements such as Country of Origin, Conflict Materials, CE markings, or other documented requirements.

**46 – CONTROL OF DESIGN CHANGES**

When product design is the supplier's responsibility, changes shall not be made to the design without written acknowledgement from Benchmark prior to the change.

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**47 – CUSTOMER SPECIFIC FA REQ**

The supplier must provide specific documentation, such as: first article protocols, data supporting customer specific specifications, GR&R data, inspection protocols, proof parts, process flow, control plans, PFMEA, capability requirements, or other specific elements as defined by the customer. Contact Benchmark for specific requirements.

**48 – AS9102 FA REQ**

The supplier must provide an AS9102 first article document.

**49 – BUY TUBE ONLY**

Items are to be purchased or provided in tube packaging only.

**50 – X-OUTS NOT ALLOWED**

PCB arrays must be complete and fully compliant. Industry referenced X-out boards, non-conforming, are not allowed at all in a delivered array. Segregated packaging including X-out panels may be allowed as an exception when pre-approved.

**51 – MIL-SPEC OR MIL-STD REQ**

This component must comply with at least one MIL-SPEC or MIL-STD. Contact Benchmark for specific requirements.

**52 – GOLDEN UNIT PART REQ**

This identifies that a golden unit has been identified for inspection at the supplier and/or Benchmark. The golden example must be reconfirmed annually.

**53 – CUSTOM INSP DOC**

This identifies that a customized inspection document has been defined for inspection. Specific elements such as Control Elements\Dimensions and their requirement may be included. Contact Benchmark for specific requirements if not provided.

**54 – PICK-UP TAB REQ**

This identifies that components require a pick-up pad consistently oriented when on a reel or within a tray.

**55 – EXPORT CONTROLLED**

This identifies that the defined material requires specific export documentation or is limited from export entirely.

**56 – DATE CODE MUST BE <18 MONTHS**

The Date Code on the item must be less than 18 months from date of receipt of the item by Benchmark.

**57 – DATE CODE MUST BE <12 MONTHS**

The Date Code on the item must be less than 12 months from date of receipt of the item by Benchmark.

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**58 – CHAIN OF CUSTODY REQ**

To assure Benchmark compliance to AS5553 and AS6081, traceability of material back to the manufacturer or authorized distributor is required. This includes company purchase order(s), quantity, and dates.

**59 – ~~FAR~~DO NOT USE**

No longer in use.

**60 – LEAD TERMINATION REQ**

No pure tin allowed on the terminations for soldering. This material must contain lead in the termination solder or pads.

**61 – MOISTURE BARRIER COMPLIANCE**

Storage and shipping bags must be compliant with J-STD-033C\ MIL-PRF-81705 moisture barrier and ESD requirements.

**62 – COUNTRY OF ORIGIN REQ**

Country of origin composition/analysis summary is required.

**63 – FROZEN BELOW -40 DEGREES C REQ**

The item is temperature sensitive and must be kept frozen below -40°C when being stored and temperature protected as best possible in shipping\transit prior to use. Refer to product specific requirements once opened.

**64 – SAFETY DATA SHEET REQUIRED**

Safety Data Sheets must be included with the material.

**65 – SUPPLIER SITE SOURCE INSP REQ**

On-site source inspections at the supplier may be required by Benchmark, Benchmark's customer, or government personnel pending the product and program.

**66 – PROCESS\TEST VALIDATION REQ**

On-site source witness\validation\verification at the supplier of production process may be required by Benchmark, Benchmark's customer, or government personnel pending the product and program.

**67 – SUPPLIER SELF SOURCE INSP REQ**

For a supplier that has been certified by Benchmark to perform a self-source inspection. Benchmark shall determine when a supplier meets the requirement to be certified to perform Self Source Inspection for a specific product by part number and revision as needed, being procured from the supplier. Certification for supplier self-source inspection may be canceled based on supplier performance.

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**68 – DATE CODE RESTRICTIONS**

Specific date codes or ranges of date codes have been restricted from use and cannot be shipped to Benchmark. Contact Benchmark for specific requirements if not provided.

**69 – HIGH IP CONTROL REQUIRED**

Material where Intellectual Property must be protected by secure means in receipt, storage, use, and transfer at all times. Specific guidance and requirements will be provided as needed.

**70 – MFGR SITE CHANGE APPROVAL REQ**

Benchmark must be notified of any intent to move production to alternate equipment or manufacturing site prior to any such move. Re-qualification or validation may be required. Sufficient notice must be provided to review, and if needed, re-validate prior to resuming shipping without interruption.

**71 – X-RAY REQ**

Benchmark requires a sample of the material be x-rayed for confirmation of internal structure prior to shipment. The results must be shared with Benchmark upon request.

**72 – CHANGE NOTIFICATION REQUIRED**

Benchmark must be notified in writing of any production change in material, qualified process, defined sub-tiers, or location with sufficient time to validate the change as needed. (Minimum of 90 days.)

**73 – PCB SPEC BE-46003 REQUIRED**

Benchmark PCB Specification (BE-46003) compliance required.

**74 – MOISTURE SENSITIVE PROCESS**

This item is extremely moisture sensitive and must be managed closely once opened and throughout processing. The material may require a humidity-controlled manufacturing environment. Verify the MSD rating as it applies or specification/instructions for any specific controls necessary prior to opening the package and using in manufacturing processes.

**75 – 75% REMAINING SHELF LIFE REQ**

Requires that a minimum of 75% shelf life remains upon receipt at the Benchmark..

**76 – AMMO PACK REQ**

To be used on Plated Through Hole components, to ensure they are loaded in ammo pack for automated insertion equipment. Items are to be purchased and provided in ammo pack packaging.

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### **77 – SUB-TIER APPROVAL REQ**

Any sub-tier sources engaged in the provision of material used in the delivered product must be approved by Benchmark and possibly the end customer. Any changes from the approved source must also be approved prior to making the change.

### **99 – 180 CHANGE NOTIFICATION REQ**

The supplier agrees to meet Benchmark's expectation of 180 days' notice for all proposed changes in fabrication and availability of the material ordered. Additionally, the supplier agrees to use commercially reasonable effort to meet 365 days' notice of any such changes or confirm the inability to make such a commitment.

**Revision History**

| Date       | Rev | Reason for Change:   | DCO/ECO Number: |
|------------|-----|--|-----------------|
| 12/19/2024 | W   | Correction: The table was not updated to reflect the update to the definition on the previous revision.  | DCO0000282      |
| 12/17/2024 | V   | Made adjustments to 29 – EXPIRATION DATE \ SHELF LIFE REQ adding the 50% percentage detail and adding the SHELF LIFE reference to the title.<br>Added 77 – SUB-TIER APPROVAL REQ<br>Made other minor grammar corrections.<br><br>Revision History Rev E through J have been removed from the Revision History Table. Details of Rev E-J can be found in Agile.   | DCO0000273      |
| 08/07/2023 | T   | Correct code number error alignment from Rev P and R updates for codes 74-76. Updated header definition for 74 from “MATRL” to “PROCESS” for clarity, updated header definition for 75 to include “75%”, switched 74 and 75 number assignments. ERP tables had not yet been updated for Rev P and none of these corrections will have impact on code usage from that release.<br>Updated header definition for 03 to add “MATERIAL” and clarify differences from 74.   | DCO0000069      |
| 06/02/2023 | R   | Correct code number error in the table. Duplicated 74 = 76.  | DCO0000039      |
| 05/26/2023 | P   | Cleaned-up, clarified, and edited codes without changing intent: 7, 10, 11, 14-16, 20-26, 29-31, 33, 34, 36-38, 40, 42, 45, 46-53, 58, 63, 64, 67-70.<br>Retitled code 99 to avoid customer specific reference while maintaining intent.<br>Added two codes that guidance was removed from the Supplier Assurance Manual:<br>73 – PCB SPEC BE-46003 REQUIRED<br>74 – REMAINING SHELF LIFE REQ<br>Added two codes at the request of Operations Excellence:<br>75 – MOISTURE SENSITIVE MATRL<br>76 – AMMO PACK REQ | DCO0000022      |
| 10/25/2021 | N   | Added 72 – CHANGE NOTIFICATION REQUIRED  | CORP004660      |
| 06/22/2021 | M   | Template change only, no content change  | CORP004564      |
| 1/6/2020   | L   | Added:<br>99 – AMAT CHANGE NOTIFICATION REQ  | CORP004262      |
| 7/30/2019  | K   | Added:<br>71 – X-RAY REQ   | CORP004218      |