

BABT Production Scheme 340 for RoHS Compliance

**The Production Quality Certification Scheme for
RoHS compliance in manufacture**

BABT is the certification body of



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AMENDMENT RECORD

March 2006

New document derived from the BABT Production Scheme 340, designed to address the requirements for RoHS compliance in manufacture as a separate document.

PART 0

INTRODUCTION

0.0 Scope

- 0.0.1 This document explains the operation of the BABT Production Quality Certification Scheme for the manufacture of RoHS compliant products. The scheme is operated by BABT to assist producers and manufacturers in the demonstration of due diligence with regard to ongoing compliance of product falling within the scope of Directive 2002/95/EC (the RoHS Directive) on the restriction of the use of certain hazardous substances in electrical and electronic equipment. Two primary processes are involved, that combine to provide a high degree of compliance assurance for both the initial design and ongoing manufacture as defined below;
- Assessment of product information, assembled by the 'producer' in a technical construction file containing bills of materials, details of critical components and processes etc. together with evidence of compliance, by test or otherwise, of the initial design.
 - Assessment of the ongoing controls and processes used during manufacture, in order to ensure a maintained build level and the continuing compliance of the product. This is the process addressed in this document.
- 0.0.2 The Assessment of the product information in a TCF is best conducted by an independent, preferably third party, body. BABT provide such a service in the BABT RoHS Directive Product TCF Assessment scheme. (Refer to BABT 762 for details of the scheme) .
- 0.0.3 This document addresses the ongoing controls required during the manufacturing process, and assumes that the product being manufactured has already been 'design assessed' under this scheme. Whilst BABT will issue separate certificates of assessment for both initial product design validation and the assessment of the manufacturing quality system, clearly, unless the initial design is compliant, the ongoing manufacturing controls will be of limited value. Additionally, although the contract review process outlined in this document goes some way to ensure that relevant issues have been addressed at the commencement of manufacture, the methodology adopted by this document to assure subsequent ongoing compliance may not be adequate or appropriate for products that have not undergone initial BABT Product TCF assessment.
- 0.0.4 As compliance requires the compliance of individual components and materials within the product, this document places significant additional requirements on the purchasing and inspection functions, together with the general manufacturing controls involved.
- 0.0.5 It does not address reliability issues that may arise consequential to the introduction of RoHS compliant or lead free materials, processes and components.
- 0.0.6 It does not address regulatory issues related to other EU directives which may be applicable to the product (e.g. R&TTE, or EMC Directive). For information of BABT Services in support of those directives either refer to document BABT 724, or contact BABT Customer Services at Customer.Service@BABT.com.
- 0.0.7 This has been designed to provide an independent assessment service for manufacturers of RoHS compliant products and components which have been design assessed under the BABT RoHS compliance scheme. These are subsequently referred to as "Products" or "Components" throughout this document. The scheme is formally operated under the BABT Certification Regulations. This part outlines the applicability and operation of the scheme.
- 0.0.8 The scheme is applicable to both manufacturers and sub-contract manufacturers.

0.1 BABT RoHS Ready Quality Management System Certification

- 0.1.1 Certification to the requirements of this scheme will allow manufacturers to demonstrate by independent assessment that they have taken all measures necessary to ensure compliance of manufactured products with the technical construction file submitted by the 'producer' under the requirements of the RoHS Directive.
- 0.1.2 When an assessment is satisfactorily concluded, BABT issues a RoHS Ready QMS certificate clearly identifying the Scope of Certification of the manufacturing facility(s) together with an annex identifying, as relevant, the products types addressed, any specific processes or tests included in the assessment, and any particular conditions associated with the certification.
- 0.1.3 Specific processes or tests are referenced in the certificate annex by 'test number' in order to negate the impracticality of listing numerous individual standards and tests. The test numbers relate to the tests and processes as described in BABT document number BABT AP015, publicly available from BABT. A maintained listing of the relevant process and test descriptions will be available on the BABT website. New processes and tests will be included in the list on request, but at the discretion of BABT, provided they reference publicly available standards.
- 0.1.4 In conducting its assessment, BABT will take account of **Third Party Quality System certifications to ISO 9001: 2000 or equivalent standards, where such organisations hold a recognised accreditation to EN 45012, or ISO Guide 62**; hereafter referred to as **ISO 9000**. Such organisations are subsequently referred to in this document as "Third Party". Any subcontract certification arrangements or mutual recognition arrangements operated by these organisations are specifically excluded.
- 0.1.5 The recognition of existing ISO 9000 certification is to avoid duplication of the assessment of general quality system requirements. BABT's interest will be restricted in such cases to take account of the specific nature of the procedures relevant to this document. Notwithstanding BABT's reduced involvement in these cases, satisfactory assessment will result in the issue of a RoHS Ready certificate.
- 0.1.6 Exceptionally BABT may decline to recognise an existing ISO 9000 certification should we believe it not be in the best interests of the customer or the certification scheme.

0.2 RoHS Production Quality Certification Requirements

- 0.2.1 This document defines and details the specific requirements for RoHS Ready certification
- 0.2.2 Part 1 of this document sets out the basic pre-conditions for RoHS Ready QMS Certification. Quality Systems that are certified by a recognised Third Party as complying with **ISO 9000** will meet these basic pre-conditions, and BABT will only assess the system maintenance elements and any identified areas of concern. Companies not holding a recognised certification will be audited directly against the requirements of this section.
- 0.2.3 Part 2 identifies the minimum additional requirements that must be met for certification under this scheme. This section, in combination with Part 1, identifies the specific requirements applicable to the certification scope for RoHS compliance in manufacture. The purpose of the controls required by Part 2 is to ensure that a manufacturer continues to supply RoHS compliant product to a maintained build level through the assessment of ongoing controls and processes in accordance with the product information in the technical construction file.
- 0.2.4 Other tests and processes will be included, subject to satisfactory assessment, at the request of the Certification holder, where they wish to demonstrate additional assessed capability.

0.3 Definitions

The following is a glossary of terms and definitions used throughout this document:

BABT RoHS Compliance scheme

A voluntary scheme operated by BABT, to assist producers and manufacturers in the demonstration of due diligence with regard to both initial and ongoing compliance of product, falling within the scope of Directive 2002/95/EC (the RoHS Directive) on the restriction of the use of certain hazardous substances in electrical and electronic equipment. In order to minimize the high cost of compliance, the approach is risk based.

Certificate of Conformity

A certificate provided by a supplier of products, materials, components or sub-assemblies stating compliance with various parametric or order requirements. Such certificates should be dated, traceable to the particular products, components or sub-assemblies involved, and bear the authorising signature of the responsible person in the supplier's organisation. This should not be confused with a 'declaration of conformity' to an EU Directive.

Critical Process

For the purpose of this document, a critical process is any process that, if incorrectly executed, could have a significant affect on compliance of the final product with the requirements of this document or any of the relevant Directives referenced from this document.

Note: This definition differs from that in Note 3 to clause 3.4.1 of ISO EN 9000:2000.

Customer

An organisation or person that receives a product. A customer could be internal or external to the organisation.

Declaration of Conformity

A formal document declaring that particular products, materials, components or sub-assemblies satisfy the requirements of E.U. Directives that apply to them. The format for such declarations should normally be as defined in EN 45014. This should not be confused with 'certificates of conformity' as defined above.

Homogeneous Material

A material that cannot be mechanically disjointed into different materials. (i.e. of uniform composition)

e.g. Individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.

ISO 9000 Certification

Certification to the requirements of ISO 9001:2000 or equivalent standard, by a certification body holding accreditation to EN 45012 by an accreditation body recognised by BABT.

Note: For BABT to take account of an existing ISO 9000 certification within a RoHS PQC assessment, the scope of the certification must be relevant to that of the RoHS PQC.

Lead Free

For the purposes of the RoHS regulations, a component, product or material containing less than the maximum concentration value, by weight, in homogeneous materials, of lead. It should be noted that 'lead free' does not imply 'RoHS compliant' as the statement does not address any of the other banned hazardous substances that may be present.

Manufacturer

For the purposes of this document, the term 'manufacturer' relates to the organisation seeking or holding RoHS Ready QMS Certification.

Note: The terms 'manufacturer' and 'producer' are used in a different context in other related documents, such as the R&TTE and RoHS Directives. Care is therefore needed to avoid possible mis-interpretation.

MCV

Maximum Concentration Value.

For the purposes of the RoHS regulations, the maximum concentration values, by weight, in homogeneous materials for lead, mercury, hexavalent chromium, PBB, PBDE and cadmium.

PBB

Polybrominated biphenyls. – Flame retardants banned under the requirements of the RoHS directive.

PBDE

Polybrominated diphenyl ethers – Flame retardants banned under the RoHS Directive.

Ongoing (or continuing) Compliance

The ability of all manufactured product to comply with specified requirements as defined during the design, design verification and design validation processes. This would include the ongoing compliance with any essential requirements as defined in any declaration of conformity for the particular product concerned.

Producer

For the purpose of compliance with the RoHS Directive a 'producer' means any person who:

- Manufactures and sells electrical and electronic equipment under his own brand
- Resells under his own brand equipment produced by other suppliers (a reseller is not regarded as a producer if the brand of the producer appears on the equipment)
- Imports or exports electrical and electronic equipment on a professional basis into a member state

Please see article 3 of Directive 2002/95/EC for the full legal definition.

RoHS Critical Component

Directive 2002/95/EC of the European Parliament and of the Council places restrictions on the use of certain hazardous substances in electrical and electronic equipment. Unless exempt under the scope of the directive, new electrical and electronic equipment placed on the market from the 1st June 2006 onwards must not contain any of the following substances:

- Lead
- Mercury
- Cadmium
- Hexavalent Chromium
- Polybrominated biphenyls (PBB)
- Polybrominated diphenyl ethers (PBDE)

This ban also extends to the components used within the product.

For the purposes of assessing ongoing compliance of components with the requirements of the Directive, various grades of 'criticality' have been defined within the BABT RoHS PQC scheme, based on the risk of a particular component containing a banned substance and the extent of compliance evidence available by declaration or marking. Such an approach is structured to assist in the provision of evidence of due diligence by the manufacturer in relation to the establishment of appropriate controls for ongoing compliance, whilst concentrating main compliance resources into the high risk areas in order to minimize implementation costs.

RoHS Critical Component (Level 1) High Risk

- Any component identified as at high risk of containing a banned substance by the 'Producer', or by BABT subsequent to the assessment of a technical construction file submitted by the producer under the BABT RoHS TCF Assessment scheme.
- Any component known to contain banned substances at a level greater than 50% of the maximum concentration value, (MCV), allowed under the Directive. (This knowledge may be based on supplier declaration sheets, supplier data sheets, results of independent verification tests, industry publications, component reviews or other sources of data. A component previously classified at a lower level of risk, but subsequently found to come within the terms of this definition, should be re-classified to this risk level as soon as practically possible but at any event within 30 days of the relevant information becoming available.
- When a component is declared to be subject to an exemption by the supplier it may be considered of lower risk provided a clear justification of its use is included in the technical construction file.
- Any component where its original place of origin can not be confirmed or where reasonable doubt exists as to its compliance with the requirements of the Directive, even if the component is supplied with a declaration of conformity or it is marked to indicate RoHS compliance or 'Lead Free' etc.
- Any custom made components falling within the following generic descriptions:
 - Plastic mouldings, spacers and insulating materials
 - Printed circuit boards and laminated materials
 - Metal housings, machined, forged and other custom made metallic components
- Any components exempted from the requirements of Article 4.1 of the Directive, as defined in the annex to that Directive, but where that exemption itself places a limit on the maximum concentration values of banned substances for such an exemption to apply.

Examples of RoHS Critical Components (Level 1) High Risk:

- An electronic relay identified in the 'producer's' bill of materials as being a high risk component.
- A flame retardant insulating component known to contain >50% of the MCV (by weight) of polybrominated biphenyls (PBBs)
- A mains transformer sourced from a local manufacturer not holding ISO 9001:2000 certification and whose staff have no training in the requirements of the RoHS Directive
- A diecast aluminium box used to shield critical circuitry within the product
- A compact fluorescent lamp containing 4 mg of mercury

RoHS Critical Component (Level 2) Medium Risk

- Any component identified as at medium risk of containing a banned substance by the 'Producer', or by BABT subsequent to the assessment of a technical construction file submitted by the producer under the BABT RoHS TCF Assessment scheme.
- Any component known to contain banned substances that have been intentionally added by the producer in order to achieve certain product characteristics, but which contain less than the maximum concentration value, (MCV), allowed under the Directive, not classified as high risk as defined above. (This knowledge may be based on supplier declaration sheets, supplier data sheets, results of independent verification tests, industry publications, component reviews or other sources of data. A component previously classified at a lower level of risk, but subsequently found to come within the terms of this definition, should be re-classified to this risk level as soon as practically possible but at any event within 30 days of the relevant information becoming available.
- Any component, not classified as high risk as defined above, but not marked as RoHS compliant, unless specifically ordered as an RoHS compliant component and supplied under a declaration of conformity or contract of supply guaranteeing continuing compliance, as defined in section 2.2.5 Contract Review of this scheme. (Unless the component itself is exempt from the scheme).

Examples of RoHS Critical Components (Level 2) Medium Risk:

- A cable form identified in the 'producer's bill of materials as being a medium risk component
- An 'off the shelf' mains transformer from an established and known supplier, marked as RoHS compliant, but known from the datasheet to contain intentionally added flame retardants in the encapsulation material.
- A thick film circuit module for which the datasheet shows compliance but which is not marked compliant, not received with any declaration of conformity, and not supplied under a purchasing contract ensuring ongoing product compliance.

RoHS Critical Component (Level 3) Low Risk

- All remaining components used within a product falling within the scope of the RoHS Directive, unless such components fall within a category that is exempt from compliance with the Directive.

Examples of RoHS Critical Components (Level 3) Low Risk:

- A capacitor bearing a recognized mark indicating RoHS compliance;
- A resistor supplied with a declaration of conformity to the RoHS directive with each batch of supplied components;
- An integrated circuit supplied on a call-off over a fixed period of time under a contract ensuring ongoing compliance of the component with the requirements of the directive and notification of any changes to the build level of the component;
- All components declared to be subject to an exemption for a particular substance, which are not categorised as high risk, should be included in the low risk category with respect to other controlled substances .

RoHS Critical Material

RoHS critical materials are classified in the same manner as RoHS critical components. It should be considered that the overall product must be compliant, and therefore material used in the manufacturing 'processes' should also be assessed for RoHS compliance in addition to any material directly used within the product itself. Consideration should also be given to the processing of materials prior to delivery to the manufacturer and any affect that this could have on compliance with the Directive.

RoHS Critical Material (Level 1) High Risk

- Any material identified as at high risk of containing a banned substance by the 'Producer', or by BABT subsequent to the assessment of a technical construction file submitted by the producer under the BABT RoHS TCF Assessment scheme.
- Any material known to contain banned substances at a level greater than 50% of the maximum concentration value, (MCV), allowed under the Directive. (This knowledge may be based on supplier declaration sheets, supplier data sheets, results of independent verification tests, industry publications, material reviews or other sources of data. A material previously classified at a lower level of risk, but subsequently found to come within the terms of this definition, should be re-classified to this risk level as soon as practically possible but at any event within 30 days of the relevant information becoming available.
- When a material is declared to be subject to an exemption by the supplier it may be considered of lower risk provided a clear justification of its use is included in the technical construction file.
- Any material where its original place of origin can not be confirmed or where reasonable doubt exists as to its compliance with the requirements of the Directive, even if the material is supplied with a declaration of conformity or it is marked to indicate RoHS compliance or 'Lead Free' etc.
- Any material falling within the following generic descriptions:
 - Material supplied for moulding, forming, casting, machining etc. into component parts directly for use within RoHS compliant product;
 - Material used for the encapsulation of components within RoHS compliant product;
 - Materials used in major processes that could affect overall compliance of the final product with compliance with the directive.
- Any materials exempted from the requirements of Article 4.1 of the Directive, as defined in Article 5 and the annex to that Directive, but where that exemption itself places a limit on the maximum concentration values of banned substances for such an exemption to apply

Examples of RoHS Critical Materials (Level 1) High Risk:

- A clear plastic cover material, to be cut to size for use over a product information card, identified in the 'producer's' documentation as being a high risk material;
- Flame retardant fibreglass insulating material containing more than 50% of the MCV of PBBs;
- Paint mixed to a colour chart by a local supplier not holding ISO 9001:2000 or equivalent certification and who has inadequate knowledge of the RoHS Directive requirements;
- A shipment of Plastic moulding pellets;
- Epoxy resin and hardening compound for component encapsulation;
- Lead solder covered by the material exemption described above, for use in the manufacture of a RoHS compliant product.

RoHS Critical Material (Level 2) Medium Risk

- Any material identified as at medium risk of containing a banned substance by the 'Producer', or by BABT subsequent to the assessment of a technical construction file submitted by the producer under the BABT RoHS TCF Assessment scheme.
- Any material known to contain banned substances that have been intentionally added by the producer in order to achieve certain product characteristics, but which contain less than the maximum concentration value, (MCV), allowed under the Directive, not classified as high risk as defined above. (This knowledge may be based on supplier declaration sheets, supplier data sheets, results of independent verification tests, industry publications, material reviews or other sources of data. A material previously classified at a lower level of risk, but subsequently found to come within the terms of this definition, should be re-classified to this risk level as soon as practically possible but at any event within 30 days of the relevant information becoming available.
- Any material, not classified as high risk as defined above, but not marked as RoHS compliant, unless specifically ordered as an RoHS compliant material and supplied under a declaration of conformity or contract of supply guaranteeing continuing compliance, as defined in section 2.2.5 Contract Review of this scheme. (Unless the component itself is exempt from the scheme).

Examples of RoHS Critical Materials (Level 2) Medium Risk:

- A soft protective packaging material identified in the 'producer's documentation as being a medium risk material;
- A spray paint from an established and known supplier, marked as RoHS compliant, but known to contain intentionally added flame retardants;
- Lubricant, for use in a gearbox within a RoHS compliant product, for which the datasheet indicates RoHS compliance, but which was not received with any declaration of conformity, and not supplied under a purchasing contract ensuring ongoing material compliance.

RoHS Critical Materials (Level 3) Low Risk

- All remaining materials used within a product falling within the scope of the RoHS Directive, or within processes that could have an affect on compliance of that product with the requirements of the Directive, unless such materials fall within a category that is exempt from compliance with the Directive.

Example of RoHS Critical Material (Level 3) Low Risk:

- An insulating tape containing low levels of flame retardants , not falling within the scope of level 1 or level 2 critical materials as marked above, ordered as RoHS compliant, and received appropriately marked.
- All Materials declared to be subject to an exemption for a particular substance, which are not categorised as high risk, should be included in the low risk category with respect to other controlled substances.

RoHS Critical Sub-Assembly

- Any assembled collection of RoHS critical components and materials as defined above, or any assembled collection of components and materials, the overall condition of which could affect compliance of the final product with the relevant requirements of the RoHS Directive.

Example of RoHS Critical Sub-Assembly:

- A switch mode power supply unit supplied for incorporation into a product falling within the scope of the RoHS Directive.

RoHS PQC

RoHS Ready QMS Certification. The scheme as defined in this document. The scheme allows manufacturers to demonstrate third party certification of their production processes, procedures, controls and tests, leading to ongoing compliance of their manufactured product with RoHS Directive related requirements.

RoHS Ready QMS Certificate

The certificate granted by BABT when the requirements for Production Quality Certification described in this document have been met.

Technical Construction File (TCF)

A set of collated documentation that defines the design of a product, the materials, components and processes involved in its production, and evidence of compliance with relevant published, specification, third party or legal requirements as appropriate to the use of the file and the requirements of any validation authority.

This Document

The whole of this document (BABT AP008-F – BABT PS 340).

PART 1

PRE-CONDITIONS TO SUPPORT PRODUCTION QUALITY CERTIFICATION

1.0 Scope

- 1.0.1 This part describes the minimum level of general quality assurance control necessary to support the additional requirements as defined in Part 2 of this document.
- 1.0.2 In the case of a Quality System certified to **ISO 9000**, the requirements of this part are deemed to be met. BABT will however verify the effectiveness of the certification by reviewing the system maintenance elements. These are: internal audit, management review, corrective & preventative actions and customer complaints. It should be noted that relevant elements of the certified quality system may be verified if findings are indicative of a failing in those elements.
- 1.0.3 Where a recognised **ISO 9000** certification has been taken into account by BABT when granting RoHS Ready QMS certification, the manufacturer must advise BABT immediately, in writing, of any changes to the validity or scope of the certification. The responsibility for this shall be clearly defined within the manufacturer's documented quality system.

1.1 Quality System Requirements

The elements outlined below are the key requirements that must be in place if **ISO 9000** is **NOT held** by the Customer. The requirements are based on ISO 9000 and should be readily met by quality systems designed to comply with either the 1994 or 2000 versions of the standard.

1.1.1 Management Responsibility

The manufacturer's management with executive responsibility shall:

- a. define and document its policy for quality, including its objectives for, and commitment to, quality.
- b. define the responsibility and authority of all personnel who are involved in implementing the manufacturing quality requirements.
- c. review the quality system at defined intervals sufficient to ensure its continuing suitability and effectiveness in satisfying the requirements of the manufacturer's stated quality policy and objectives. Records of such reviews shall be maintained.
- d. appoint a management representative who, irrespective of other responsibilities, shall have authority for:
 - ensuring that a quality system is established, implemented and maintained in accordance with this document; and
 - reporting on the performance of the quality system to the manufacturer's management for review and as a basis for improvement of the quality system.

1.1.2 Quality Manual

The organisation shall establish and maintain a quality manual that includes:

- a. The scope of the quality management system;
- b. The documented procedures established in support of the quality management system;
- c. A description of the interaction between the processes of the quality management system.

1.1.3 Contract Review of requirements related to the product

The mechanism for generating and reviewing contract requirements related to the product shall ensure that:

- a. The product requirements are adequately defined;
- b. Differences between the contracts and any previously expressed requirements are resolved;
- c. The organisation has the capability to meet the defined requirements.

1.1.4 Document and Data Control

- a. The documents and data shall be reviewed and approved for adequacy by authorised personnel prior to issue. A master list or equivalent document control procedure identifying the current revision status of documents shall be established.
- b. Changes to documents or data shall be reviewed and approved by the same functions/organisations that performed the original review and approval, unless specifically designated otherwise.
- c. Obsolete documents shall be assured against unintended use and suitably identified if they are to be retained for any purpose.

1.1.5 Process Control

- a. The manufacturer shall identify and plan all processes that directly affect product quality to ensure that they are carried out under controlled conditions. Documented work instructions shall be available as necessary.
- b. The manufacturer shall identify plan, and validate production processes that cannot be easily verified by subsequent inspection (e.g. soldering) and shall ensure that these processes are carried out under controlled conditions and by qualified personnel.
- c. The manufacturer shall demonstrate in-process inspection and final test procedures necessary to establish product conformity to the specified requirements.
- d. The manufacturer shall provide methods of handling, storage, packaging, preservation and delivery that prevent damage or deterioration to critical parts or products.
- e. Material and assemblies must be clearly identified throughout production with respect to their inspection/test status.

1.1.6 Control of Inspection Measuring and Test Equipment

The manufacturer shall ensure that processes are in place for the control, calibration and maintenance of inspection, measuring and test equipment (including test software), whether owned by the manufacturer or otherwise, that is used to demonstrate conformance of the product to specified requirements. Calibration must be traceable to National or International Standards and must be recorded. In the event that traceability is not possible, then the methods used to calibrate the equipment must provide demonstrable confidence in the ability of the equipment to fulfil the required testing functions.

1.1.7 Quality Records

The manufacturer shall establish and maintain records to demonstrate continued compliance with the specified requirements and the effective operation of the quality system. Records shall be maintained by the use of permanent media, with appropriate procedures for their security and integrity.

1.1.8 Training

The manufacturer shall ensure that personnel performing activities related to conformance of the product with specified requirements are qualified on the basis of appropriate education, training and/or experience as required. Appropriate records of training shall be maintained.

1.1.9 Internal Audits

The manufacturer shall establish and maintain documented procedures defining the responsibilities and requirements for planning and conducting audits, reporting results and maintaining records. Audits shall be implemented to verify whether quality activities comply with planned arrangements and to determine the continuing effectiveness of the quality system. Management shall take timely corrective action to eliminate any non-conformity identified, and follow-up audit activities shall verify and record the implementation and effectiveness of the corrective and preventative actions taken.

1.1.10 Customer Complaints

The manufacturer shall establish and maintain documented procedures for the handling of customer complaints. The implementation and effectiveness of the corrective and preventative actions taken shall be verified and recorded.

PART 2

ADDITIONAL REQUIREMENTS FOR PRODUCTION QUALITY CERTIFICATION

2.0 Scope

- 2.0.1. This part identifies the minimum additional requirements that must be met for certification under this scheme. In combination with Part 1, it identifies the core requirements of the scheme needed to support the scope of the RoHS Ready QMS certification.

2.1 Field of Application

- 2.1.1 Where complex or modular equipment is manufactured at more than one site, it is not necessary to demonstrate full compliance with this document at each site if the overall requirements are met in full and agreed by the customer.

2.2 Quality System Requirements

2.2.1 Management Responsibility

- a. A management representative shall be appointed having the responsibility and authority for the implementation of the overall requirements of this document as applicable to the scope of the RoHS PQC certification requested or held by the Company. (This may or may not be the person having the overall responsibility for implementation of the ISO 9000 requirements). Any change of management representative must be notified immediately to BABT.
- b. The quality system, procedures and processes, in so far as they affect compliance with the requirements of this document, shall be reviewed on at least an annual basis for their continuing suitability and effectiveness. Records of such reviews shall be maintained. (This may, or may not, be combined with an ISO 9000 QMS review as defined in Part 1 of this document. Where separate ISO 9000 certification is held, this requirement does not impose an annual review on the whole of the certified quality system, but only on those elements identified in this document and the relevant associated annexes).

2.2.2 RoHS PQC Compliance Plan

- a. A BABT Compliance Plan (formerly known as BABT Quality Plan), or equivalent documentation acceptable to BABT, shall be produced to define and describe how compliance with this document is achieved within the manufacturer's quality system. The plan shall address all elements within the scope of the RoHS PQC certification, and be available as a controlled document in both English and the local working language. Supporting documented procedures and processes should be referenced.
- b. Where the Quality System is certified to **ISO 9000**, the Compliance Plan need only address Part 2 of this document and the annex. However, the third party certification body, registration number, and scope of certification are to be defined.
- c. Processes, records and documentation outlining the controls for RoHS compliance shall be referenced from the RoHS PQC Compliance Plan.

2.2.3 Implementation.

- a. The companies policy on RoHS compliance shall be clearly defined and declared both in the RoHS PQC compliance plan and in relevant customer-facing documentation.
- b. A person having overall responsibility for RoHS compliance on the site shall be appointed and documented within the RoHS PQC compliance plan.
- c. Personnel with adequate knowledge of the RoHS Directive and associated regulations shall be available on site. Those personnel having responsibility for RoHS critical processes shall have an adequate knowledge of the requirements as appropriate to their responsibilities.
- d. Personnel shall be adequately trained to undertake any of the activities defined in this document as appropriate to their responsibilities and function. Such training shall be formally documented and maintained up to date.

2.2.4 Document and Data Control

- a. Any changes to the documented Quality System, that affect compliance with the requirements of any part of this document must be advised to and agreed by BABT before being implemented into the quality system.
- b. Where the application of clause 1.0.2 has been accepted by BABT, this change requirement only applies to those changes that affect compliance with the requirements of Part 2 of this document.

2.2.5 Contract Review

Manufacturers of product that falls within the scope of the RoHS Directive must ensure that adequate information is available, prior to commencement of manufacture, to define all the relevant processes and test procedures sufficient to ensure ongoing compliance of the product with the requirements of the Directive. Documentary evidence that a Contract Review has been performed must be available that ensures:

- a. Review of the product to decide whether or not it is within the scope of the RoHS Directive. (The U.K. government D.T.I .have published a decision tree for this purpose in the government guidance notes to the RoHS regulations). Further requirements of this part do not apply to products outside of the scope of the Directive unless explicitly stated.
- b. The product file, (paper or electronic), contains a copy of the BABT RoHS TCF Assessment Certificate demonstrating compliance at the submitted build level. For product falling within the scope of the RoHS Directive, but for which no BABT TCF assessment certificate is available, facilities certified to this scheme must advise the Customer of the compliance limitations referenced in the introduction to this document; and provide equivalent evidence of assessment of the product design for the RoHS directive.
- c. The product file contains a full bill of materials identifying **all** components and materials as high, medium and low risk as defined in section 0.3 of this document. The review should ensure that all materials used during the manufacturing process itself are also included, although these may be addressed on a separate list. (e.g. Items such as adhesives, inks, encapsulation materials etc.) Note: This information should be readily available for BABT TCF assessed product.
- d. All components and materials are, as a minimum, identified by part number and manufacturer. Where this is not sufficient to identify RoHS compliant product, (e.g. where RoHS compliant components are sold under the same part numbers as previous non-compliant versions), additional information should be provided as necessary to ensure correct ordering and traceability of compliant parts.
- e. Initial evidence of compliance for component parts and materials is available as follows:

Low Risk (Level 3) Components and materials shall be supported by one or more of the following:

- Published manufacturer's datasheet stating RoHS compliance. (where the part number reflects a unique component or material).
- Inclusion of the part number in an industry standard list of RoHS compliant components and materials. (where the part number reflects a unique component or material).
- A signed and dated declaration of RoHS compliance from the manufacturer referencing the unique part number(s) involved.
- Specified materials or components to be supplied with an industry recognized 'RoHS compliance' marking on either or both of the parts or their packaging. (N.B. Lead Free marking not sufficient in its own right).
- Any set of documentation as identified for Medium Risk (level 2) or High Risk (level 1) components or materials as identified below.

Medium Risk (Level 2) Components and materials shall be supported by one or more of the following:

- Published manufacturer's datasheet where this includes the identification of all homogeneous materials involved and the concentration values of any banned substances contained within these materials. (where the part number reflects a unique component or material).
- Inclusion of the part number in an industry standard list of RoHS compliant components and materials, provided that this list identifies, in a 'material data form' or other format, the identification of all homogeneous materials involved and the concentration values of any banned substances contained within these materials. (where the part number reflects a unique component or material).
- A signed and dated declaration of RoHS compliance from the manufacturer referencing the unique part number(s) involved and identifying all homogeneous materials involved and the concentration values of any banned substances contained within these materials.
- Any set of documentation as identified for High Risk (level 1) components or materials as identified below.

High Risk (Level 1) Components and materials shall be supported by one or more of the following:

- A formal test report that includes the identification of all homogeneous materials involved and the concentration values of any banned substances contained within these materials. The results shall be reported in accordance with the requirements of ISO EN 17025 clause 5.10. In particular, the report will be signed and dated by the test laboratory, include the actual date of testing and define the item tested with clear traceability to the component or material under consideration. The report may contain an opinion on compliance of the product with the requirements of the RoHS Directive only when such an opinion is given in accordance with the requirements of ISO EN 17025 clause 5.10.5.
- Inclusion of the part number in an industry standard list of RoHS compliant components and materials, provided that this list identifies, in a 'material data form' or other format, the identification of all homogeneous materials involved and the concentration values of any banned substances contained within these materials. (where the part number reflects a unique component or material). Wherever possible, the data should be supported with the latest date of test of the component or material, either available from the industry standard list or as formally confirmed by the manufacturer in writing.

Components and materials declared to be subject to an exemption shall in addition to the above (as appropriate be supported by the following:

- A justification within the documentation for the use of the exemption in this instance.

- f. Where sub-contracted assemblies are involved, these should be reviewed to ensure that they are controlled under one of the following options:
- They are sourced from a supplier holding BABT RoHS Ready QMS certification to BABT AP008-F – ‘BABT Production Scheme 340 for RoHS Compliance’ and received with a declaration from the supplier indicating manufacture in accordance with the requirements of this scheme.
 - They are sourced from a supplier operating a quality system in accordance with the requirements of ISO EN 9001:2000 and certified to that standard by an accredited certification body, and where all components and materials used in the sub-assembly and during the course of its manufacture are issued to the supplier subsequent to the relevant controls under the requirements of this document.
 - They are supplied and treated as a High Risk (Level 1) component with a formal test report available in relation to the complete sub-assembly.
- g. Components and materials to be sent to an external sub-contractor for processing, (e.g. plating, painting etc.) should be treated on receipt after processing as High Risk (Level 1) items with formal test reports available in relation to the final processed items. The processing sub-contractor should hold ISO EN 9001:2000 certification from an accredited certification body.
- h. Where compliance of the components and materials within a product can not be adequately demonstrated, the responsibilities and actions are agreed as part of this review. The product shall not be ‘put on the market’ prior to being able to demonstrate compliance.
- i. The means of establishing ongoing compliance is agreed during the review meeting. In particular the frequency, responsibility and testing laboratories or organisations to be used for ongoing analysis of High Risk (Level 1) components and materials.
- j. The definition and agreement of actions to be taken when non-RoHS compliant components are identified in received goods or manufactured product, including stop ship arrangements.
- k. The definition and agreement of any RoHS critical processes to be used in the manufacture of the product and the controls to be applied. (e.g. re-flow soldering, painting, printing etc.)
- l. The definition and agreement of any RoHS compliance testing to be conducted directly by the manufacturer and a review of the capability to conduct the required processes and tests including training of the relevant test personnel.
- m. The definition and agreement of any marking to be applied to compliant final product to indicate either lead free or RoHS compliant, and the responsibility for this marking.
- n. Agreement of the product change process and authority together with the names of personnel responsible for authorization.
- o. The process shall ensure that results of contract reviews are available to all necessary personnel.

Further reviews should be undertaken on an annual basis for Contracts lasting more than one year or where there is ongoing manufacture of product over a longer timeframe than one year.

Note: For Original Equipment Manufacturers, such reviews could form part of the design release process, rather than being addressed in a separate internal contract review. However, under these circumstances, evidence must be available in the production facility that all the above issues have been adequately addressed and that relevant production personnel were present at such reviews.

2.2.6 Purchasing

- a. The manufacturer shall ensure that purchased materials, components, sub-assemblies or assemblies conform to the requirements as specified by the customer.
- b. All critical materials, components and sub-assemblies must be specified with respect to both their particular type and manufacturer. (Note: This does not prohibit purchase of such materials, components or sub-assemblies from a distributor.) Where applicable, the requirement for a certificate of conformity shall be referenced in the purchase order or contract, together with any particular specification, certification or marking and labelling requirements.
- c. All purchasing staff shall have had at least basic awareness training in relation to the requirements of the RoHS Directives and the constraints that this places on purchased components and materials.
- d. A process shall exist to ensure that all orders take full account of requirements and agreements resulting from the contract review.
- e. A process shall exist to ensure that any changes to processes, materials and components, notified by suppliers, are formally agreed and authorized using the change process agreed under the requirements of clause 2.2.5.n of this document.
- f. All orders should reference the need for RoHS compliant components and materials. Telephone orders should be backed up by written confirmation including this requirement.
- g. The manufacturer shall maintain a list of approved suppliers and distributors. This may be part of a more detailed supplier list, provided that the suppliers of RoHS compliant products are clearly identified as such. In order to ensure adequate traceability of supplied components, all such suppliers and distributors shall normally hold an accredited certification to ISO 9001:2000, or BABT AP008-F – BABT Production Scheme 340 for RoHS Compliance. Exceptionally, the manufacture may visit the supplier or distributor under a vendor assessment scheme in lieu of such certification. The audit should include verification of the traceability of any RoHS related test results to the product being considered for supply, and the process for notification of product changes to the Customer (manufacturer). Full records of any such audit visits shall be maintained.
- h. Other than where alternative manufacturers and suppliers have been identified in the contract review process, no changes shall be made to either without formal agreement and authorization as agreed during the contract review process, (clause 2.2.5.n), even if the proposed new supplier is on an approved vendor list.
- i. Where product is to be supplied on a batch basis with supporting evidence of RoHS compliance, this requirement shall be included in the order. Such evidence may be:
 - A certificate of conformity confirming compliance of the supplied product with a published manufacturer's data sheet stating RoHS compliance.
 - A signed and dated declaration of RoHS compliance from the manufacturer referencing the unique part number(s) involved.
 - Marking of the product or product packaging with an industry recognized 'RoHS compliance' marking. The marking to be used to indicate RoHS compliance should be agreed in writing with the manufacturer.
 - A signed and dated declaration of RoHS compliance from the manufacturer referencing the unique part number(s) involved and identifying all homogeneous materials involved and the concentration values of any banned substances contained within these materials.

- j. Where product is not ordered on a batch supply basis with evidence of conformity accompanying each batch, the contract for supply must ensure that each component or material is uniquely described. The supply contract must ensure that all changes to the supplied components or materials are notified in writing in advance of delivery. This is particularly important where items are delivered on a call-off basis over an extended period.
- k. Sub-assemblies should only be sourced from the suppliers agreed during the contract review meeting. The supplier contract should contain the requirement for RoHS Ready QMS and/or ISO 9001 certification as appropriate, and require notification of any changes to the company's certification status.
- l. Sub-contract processing, (e.g. painting, plating, etc.) should only be sourced from the suppliers agreed during the contract review meeting. The supplier contract should contain the requirement for ISO 9001 certification as appropriate, and require notification of any changes to the company's certification status and any changes to the process methodology or materials used. The contract should make clear that the returned product is to be RoHS compliant even if such processing is a 'service only' provision.
- m. Where the manufacturer has accepted the responsibility for ongoing testing of High Risk (Level 1) components and materials, and this is being sub-contracted, wherever possible the testing should be sub-contracted to the original test house that provided the report contained in the initial product TCF, and a report requested as referenced in clause 2.2.5.e for High Risk (Level 1). Should it be necessary to have the testing conducted at an alternative facility, the suitability the test facility should be agreed with BABT.
- n. Long term contracts should be reviewed with the supplier on at least an annual basis.

Note: Purchasing staff should be aware that several component manufacturers may update their products to RoHS compliant and Lead Free versions without formally changing the catalogue number of their products. Where a unique number is not available for a RoHS compliant version of a product, then clearly this number is not adequate for component identification in its own right.

2.2.7 Incoming Inspection

- a. The manufacturer shall establish a process to obtain assurance that received components and materials are compliant with the specified requirements and ensure that incoming components, sub-assemblies or assemblies are not used or processed until they have been inspected or otherwise verified for conformance to the defined requirements. Verification shall be in accordance with documented procedures. Refer also to the process definition charts (Figures 1 to 8) in the appendix to this document.
- b. All relevant incoming inspection staff shall have had at least basic awareness training in relation to the requirements of the RoHS Directive and the constraints that this puts on the components and materials involved. In particular staff shall be aware that single component parts may contain several homogeneous materials and that the maximum concentration values of the hazardous substances defined in the Directive relate to the concentration values within these homogeneous materials. They shall be able to read and analyse datasheets and test results to a sufficient degree to determine compliance or failure. Any staff actually conducting compliance testing for the presence of hazardous substances shall be fully trained in the use of the analysis equipment involved, including the limitations and measurement accuracies associated with both the equipment and measurement techniques used.
- c. Full information from the contract review process, in relation to any particular product shall be maintained available and up to date to relevant goods inwards inspection personnel. In particular this shall include the agreed classifications of components and materials as High Risk (Level 1), Medium Risk (Level 2) and Low Risk (level 3), and any agreed acceptance criteria for these items.

d. As overall product compliance is highly dependent on compliance of the individual components and materials, the controls placed on the acceptance of such critical components and materials are crucial to the ongoing compliance of the product. BABT have defined six means of acceptance of components and materials as defined below:

- By review of a manufacturer's datasheet
- By review of an industry recognised component listing addressing RoHS compliance data
- By review of a batch by batch declaration supplied by the manufacturer
- By the recognition of industry standard compliance marking on the items
- By control of the product compliance and supply under a suitable vendor contract
- By sample testing of the product for compliance.

The suitability of these methods and the extent of their implementation is related to the risk level associated with the likelihood of individual components and materials containing a banned substance. (Refer to the definitions of RoHS critical components in section 0.3 of this document).

These acceptance methods shall be implemented in accordance with the flow charts defined in Figures 1 to 8 inclusive in Appendix 1 of this document.

The charts are designed to provide a risk related approach to minimize the inspection work reasonably required to ensure compliance. It is anticipated that there may be a small number of instances where the process flows indicated do not fit in with an organisations current process structure. In these instances, an alternative process flow, guaranteeing equivalent confidence in compliance, should be agreed with BABT prior to any inspection visit. For large deviations from the indicated processes, BABT reserve the right to charge for the time involved in the assessment of any alternative implementation approaches.

e. Where items are to be sample tested for RoHS compliance prior to acceptance:

- The testing shall be conducted as agreed during the contract review process.
- The sample size, normal and tightened sampling plans to be used, and compliance criteria shall be as agreed during the contract review process.
- The sampling interval for items supplied on a long term contract basis shall be as agreed during the contract review process.
- The requirements for listed tests as defined in Part 2 clause 2.2.12 of this document apply in full to the execution of these tests, irrespective of whether or not they are listed on the RoHS Ready QMS certificate.
- The results of sample tests shall be reviewed taking due regard of the test methodology used, achievable accuracies and measurement resolutions, and uncertainties of measurement relevant to the testing techniques in use. This could involve the use of a two stage sampling process involving ongoing compliance 'checks' supported by more in depth measurements at agreed time intervals conducted at an agreed test laboratory.

f. Where items are to be accepted on the basis of data included in an Industry recognized RoHS Listing, a record of the listings that have been agreed as suitable for this use shall be maintained by the Company. The Organisation supplying the listings shall be treated as a 'supplier', and the service subjected to regular review to ensure that the listing remains fit for purpose.

- g. For components and sub-assemblies recognised by BABT as separately approved or certified under other BABT schemes, it should not be assumed that such approval or certification also extends to RoHS compliance and the full goods inwards inspection process as defined above should still be implemented for compliance with this document.
- h. Items received subsequent to sub-contract processing, (e.g. painting, plating etc) and sub-assemblies should always be treated as new items supplied under a vendor contract even where the base material was free issue from the RoHS Ready QMS Certificate holder. Any special acceptance requirements for these items, agreed during the contract review stage, shall be invoked prior to their acceptance.
- i. Where items are returned to the goods inwards department from other internal processes, (e.g. production over-issue, sub-assembly build etc.) they shall be checked to ensure continuing traceability of RoHS compliance prior to being returned to the stores.

2.2.8 Component / Material Storage

- a. Warehousing processes shall ensure the clear and adequate identification segregation and control of all RoHS compliant and non-compliant items, items awaiting verification of compliance, and items for use in product outside the scope or exempt from the RoHS requirements, at all times. In particular:
 - Items identified as non-compliant awaiting return to the supplier shall be held in a bonded store, with access only by necessary authorized personnel.
 - Items pending verification of compliance shall be held in a clearly marked and segregated area with access only by necessary authorized personnel.
- b. Where RoHS compliant items and similar items, for which RoHS compliance is not a requirement, are being handled on the same site:
 - Items should be held under unique store codes, especially where the items are available in both 'compliant' and 'standard' versions from the supplier, using the same part numbers.
 - Kits of components supplied to the production process shall be clearly marked with their RoHS status or marked with a unique build number or reference relating to the final RoHS compliant product.
 - Processes shall ensure that items returned to stores from other internal processes, (e.g. production over-issue, sub-assembly build etc.) shall only be returned to the stores via the goods inwards inspection.

2.2.9 Process Control

- a. The Manufacturer shall define and implement processes and controls to ensure and monitor product conformance to customer requirements, applicable European Directives, third party approval requirements, certification agency requirements and, where relevant, external standards.
- b. Where RoHS compliant and non-RoHS compliant or RoHS exempt product are being manufactured in the same plant, clear segregation shall exist between the relevant manufacturing processes. Such segregation shall be achieved by the use of clearly bounded and defined physical areas of operation.
- c. Where common processes and equipment are in use for both RoHS compliant and other product, the same process controls shall be in place for all categories of product passing through the process.
- d. A list shall be maintained of all RoHS critical processes in use in the site, together with the means of evaluating initial and continuing compliance. Records shall be maintained of all such evaluations conducted.

- e. Work and material shall be clearly labelled to avoid any possibility of confusion or mis-use. This requirement extends to material returned to stores areas following 'over issue' etc. or manufactured product or sub-assemblies where more than one version of such products or sub-assemblies are in existence, and any consumable materials used in critical processes, (eg. solvents, adhesives, epoxy resins etc.).
- f. Adequate stop-ship, bonding and recall arrangements shall be in place, should any non-compliances be identified affecting compliance of the final product with the RoHS directive. The responsibility and authority for implementing these arrangements and the trigger points initiating such action should be clearly documented and defined. The need for such action should be advised to and agreed with the official 'producer' (see definitions) of the product concerned .
- g. Training processes for both existing and new production personnel shall include the RoHS compliance requirements and be at an appropriate level for the functions of the relevant personnel involved. Relevant records shall be maintained.

2.2.10 Quality Records

Retention times for quality records shall be clearly defined in the quality system documentation and be appropriate for the processes involved.

- a. The following records shall be retained for at least 4 years:
 - Inspection records (C of Cs etc.).
 - Test records and reports.
 - Vendor audits of critical suppliers. (Where applicable)
 - Records of Contract Review meetings with the Customer or 'Producer'.
 - Records of the Purchase specifications to suppliers of RoHS critical components and materials.
 - Records of changes to product build standards.
 - Changes to Critical Processes.
- b. The following records shall be kept for at least 10 years after the last product has been manufactured:
 - The Quality Manual and BABT Compliance Plan(s) or equivalent documentation.
 - Details of any amendments to the Quality System documentation together with the notification of agreement from BABT where required (see Clause 2.2.4).
 - Reports from BABT on all routine surveillance audits and unannounced audits, and any product tests arising from such audits.

2.2.11 Internal Quality Audits

- a. The effective implementation of the quality system, procedures and processes, in so far as they affect compliance with the requirements of this document shall be verified at least once per calendar year by means of internal audit. The audit results and follow up actions shall be formally documented and made available to BABT on request. Where separate ISO 9000 certification is held, this requirement does not impose an annual audit on the whole of the certified quality system, but only on those elements identified in this document and the relevant associated annexes.

- b. Where separate ISO 9000 certification exists, and the above audit is combined with an ISO 9000 QMS audit, the planning documents and audit records should clearly identify coverage of the individual requirements as defined in this document.

2.2.12 Listed RoHS inspection Tests and Processes

Reference to specific tests or processes may be included in the annex to the RoHS Ready QMS Certificate at the Customer's request subject to compliance with the requirements of this clause. (see Part 0 clause 0.1.3)

Individual test numbers will only be included where:

- a. Suitable measurement equipment is available to conduct the listed test. (In certain cases the certificate may contain a restriction. – e.g. 'customer supplied test equipment').
- b. Suitably trained personnel are available to conduct the test or process, and relevant training records are available where appropriate.
- c. Suitable documentation and/or process controls are in place to ensure the traceability, repeatability and reliability of the test results or process. (Where test equipment is in storage, maintained calibration is not a requirement provided it can be demonstrated that adequate procedures and processes exist to ensure compliance with this requirement before the equipment is brought back into service)
- d. Procedures exist to ensure the notification to BABT of any change in circumstances affecting the capability for the listed tests or processes. (e.g. trained personnel leaving the company etc.)
- e. The above has been verified by BABT either during external audit, or, in the case of additional tests or processes not involving the need for additional training or new specialist test equipment, by verification of suitable submitted documentation. In the latter case, the testing will be witnessed during the next routine assessment visit.

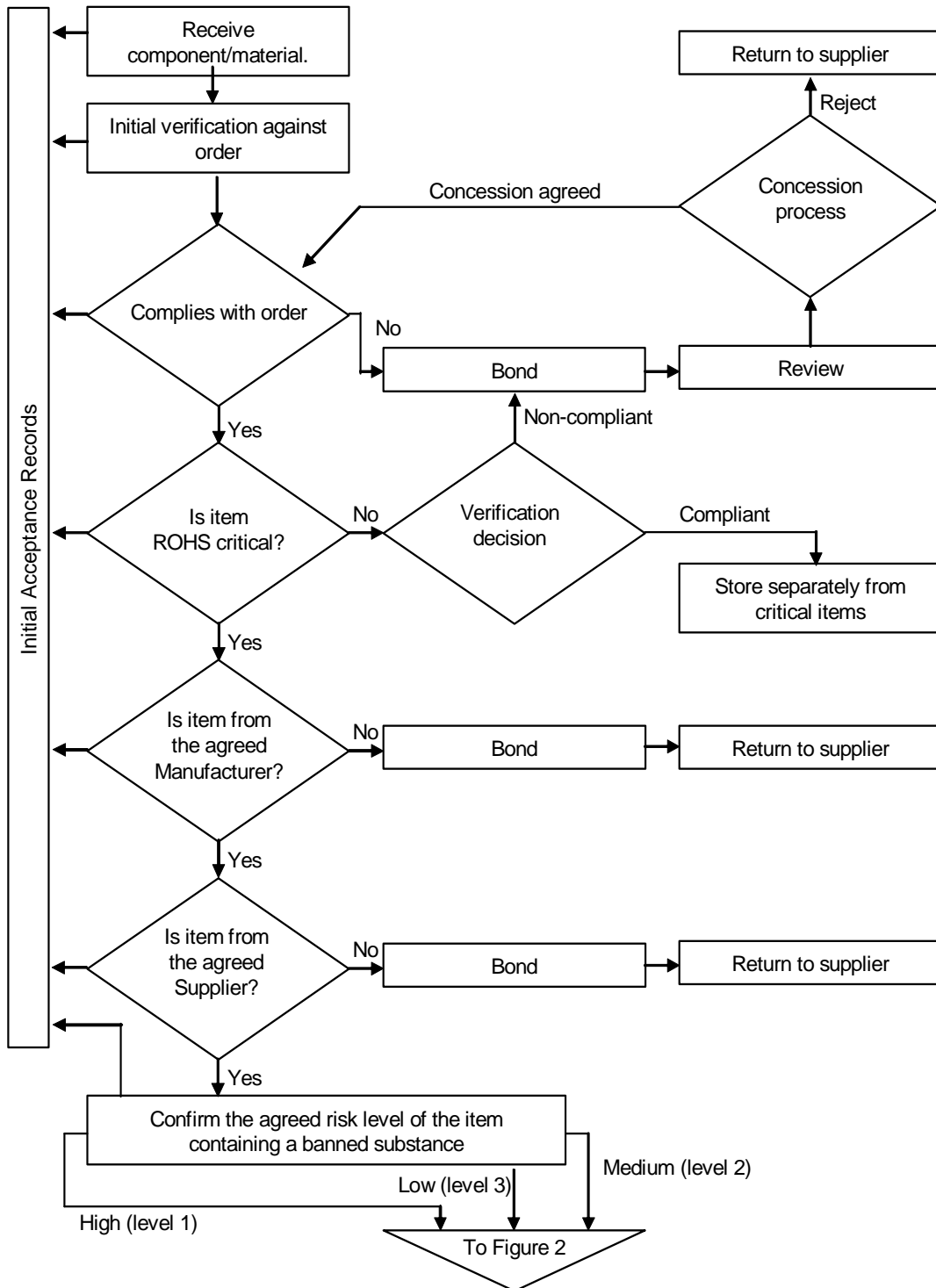
NOTE: Production tests normally form part of an overall process to ensure ongoing compliance of manufactured product with the initial design requirements. or to confirm compliance with restrictions on use of hazardous substances etc. As such, the testing invoked may not fully reflect a formal requirement or test method in published standards.

2.2.13 Continuing Assessment Program

- a. The manufacturer must be able to demonstrate the existence of an ongoing component/material assessment program to ensure continuing final product compliance. The program would normally be produced as the output from a contract review meeting, and be agreed with the Customer. It should be an issue controlled document defining all relevant responsibilities, dates and number of tests or checks to be performed, what tests or checks are to be conducted, and the test authorities or test houses involved. Any external test houses used should be appropriately accredited or accepted based on an assessment report addressing all relevant areas of competence.
- b. Components and materials defined as High Risk (Level 1) or Medium Risk (Level 2) should be subject to re-testing on at least an annual basis. This testing does not necessarily have to be commissioned by the PQC holder but could be included in a report issued by the component or material manufacturer, the distributor or other supporting body. A list should be maintained of the bodies from whom such test reports would be accepted.
- c. Where failures to comply have been identified during the incoming inspection processes, a root cause analysis shall be conducted. The procedures shall ensure that relevant corrective and preventive action is then taken. Such action should extend to restrictions on the usage of 'Industry standard lists', particular testing organisations, particular manufacturers, or particular distributors used where analysis casts doubt on the integrity of any of these bodies or organisations.
- d. Where relevant, additional contract review meetings shall be held in order to agree revisions to the ongoing compliance and continuing assessment programs.

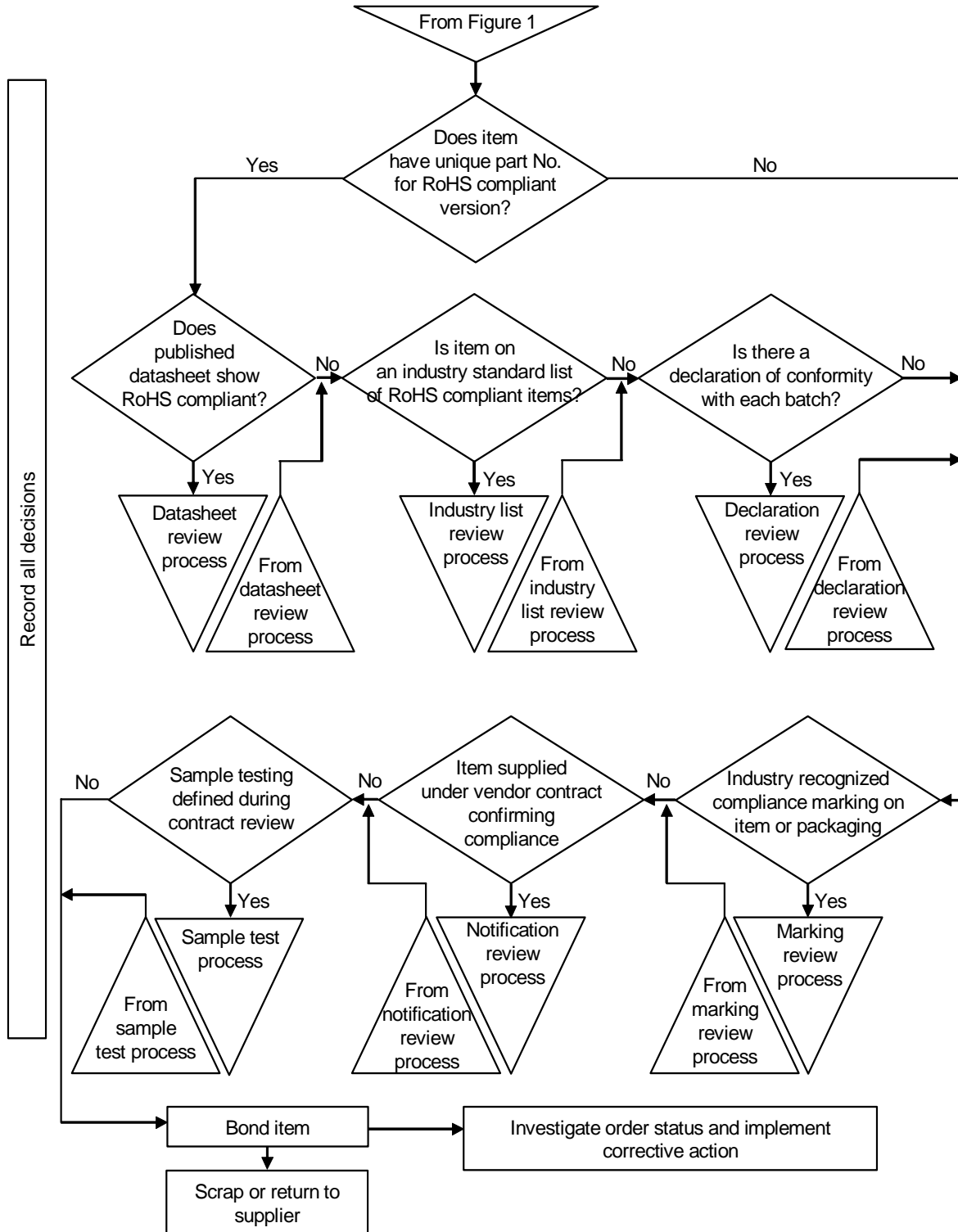
Appendix 1 – Figure 1

Component/Material Review Process
Incoming Goods Controls – RoHS Critical Items



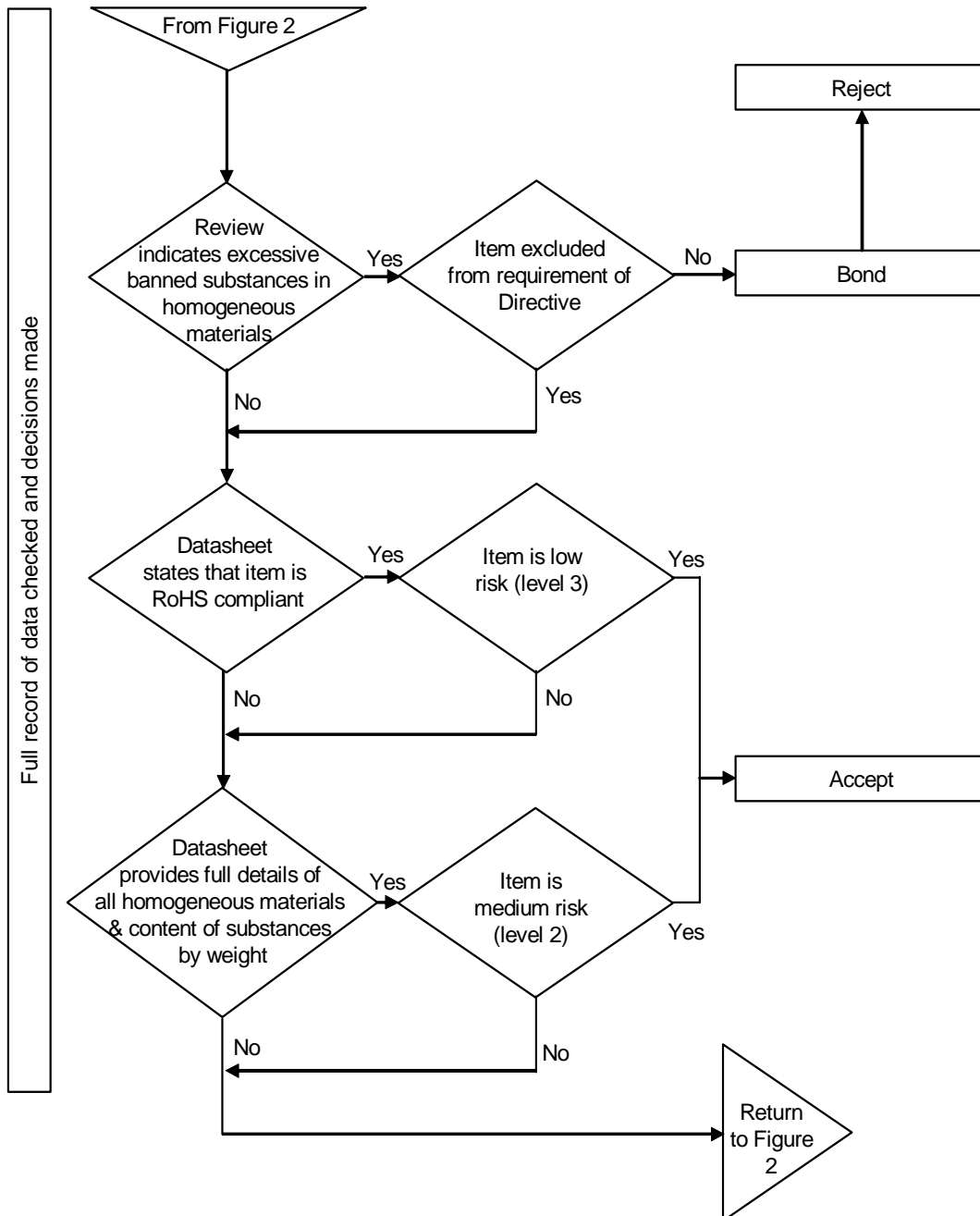
Appendix 1 – Figure 2

Component/Material Review Process
Incoming Goods Controls – RoHS Critical Items



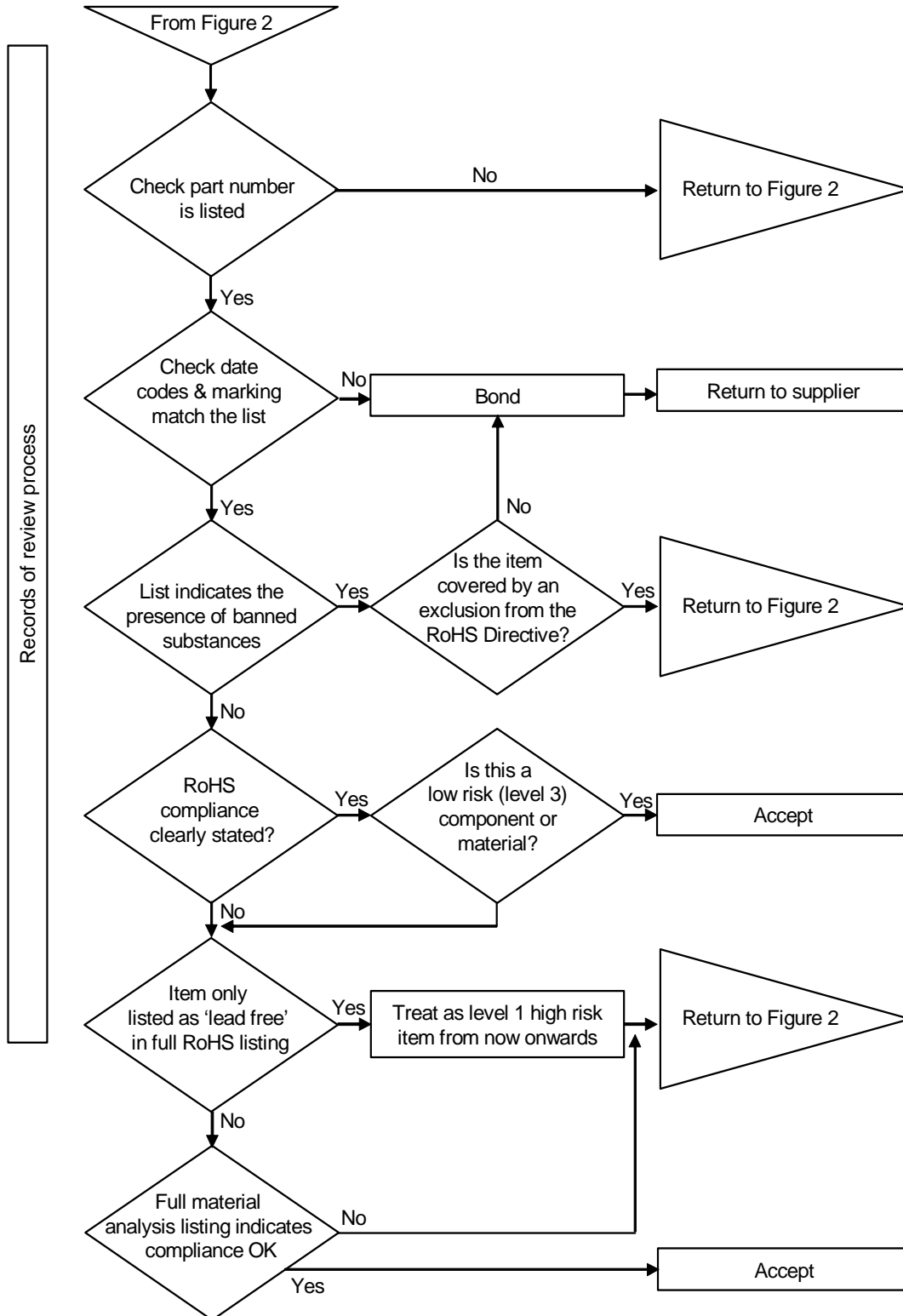
Appendix 1 – Figure 3

Datasheet Review Process



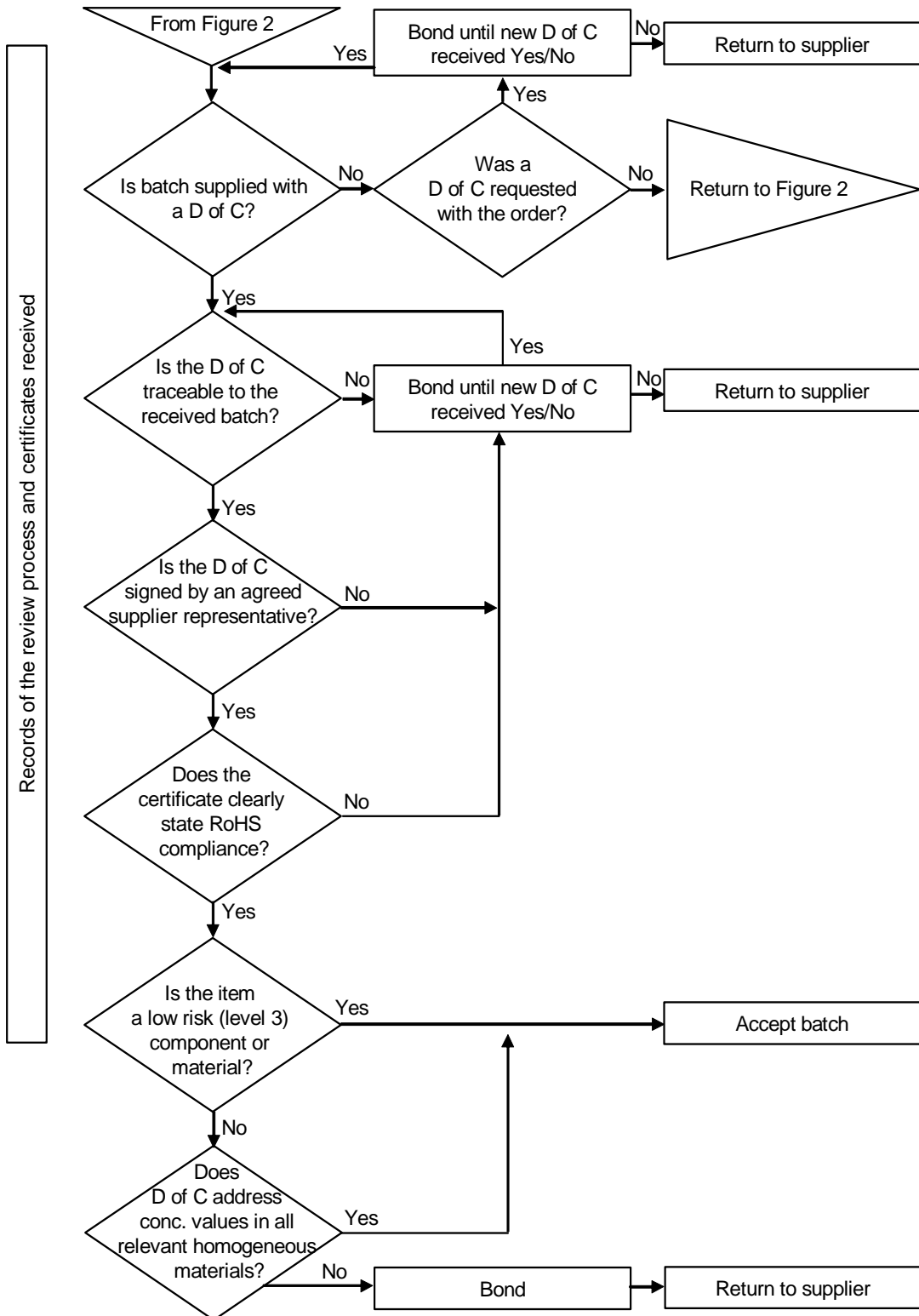
Appendix 1 – Figure 4

Industry List Review Process



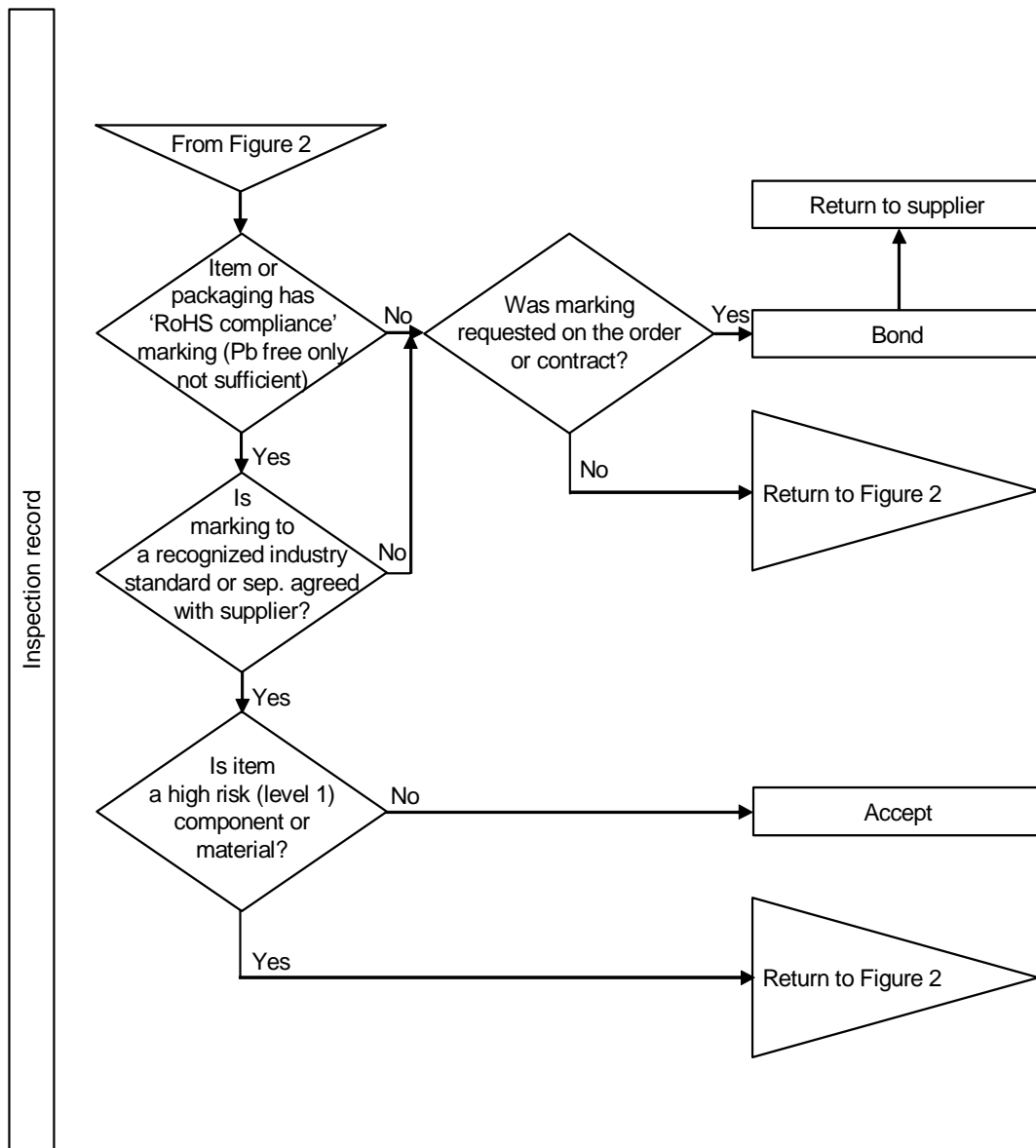
Appendix 1 – Figure 5

Declaration Review Process



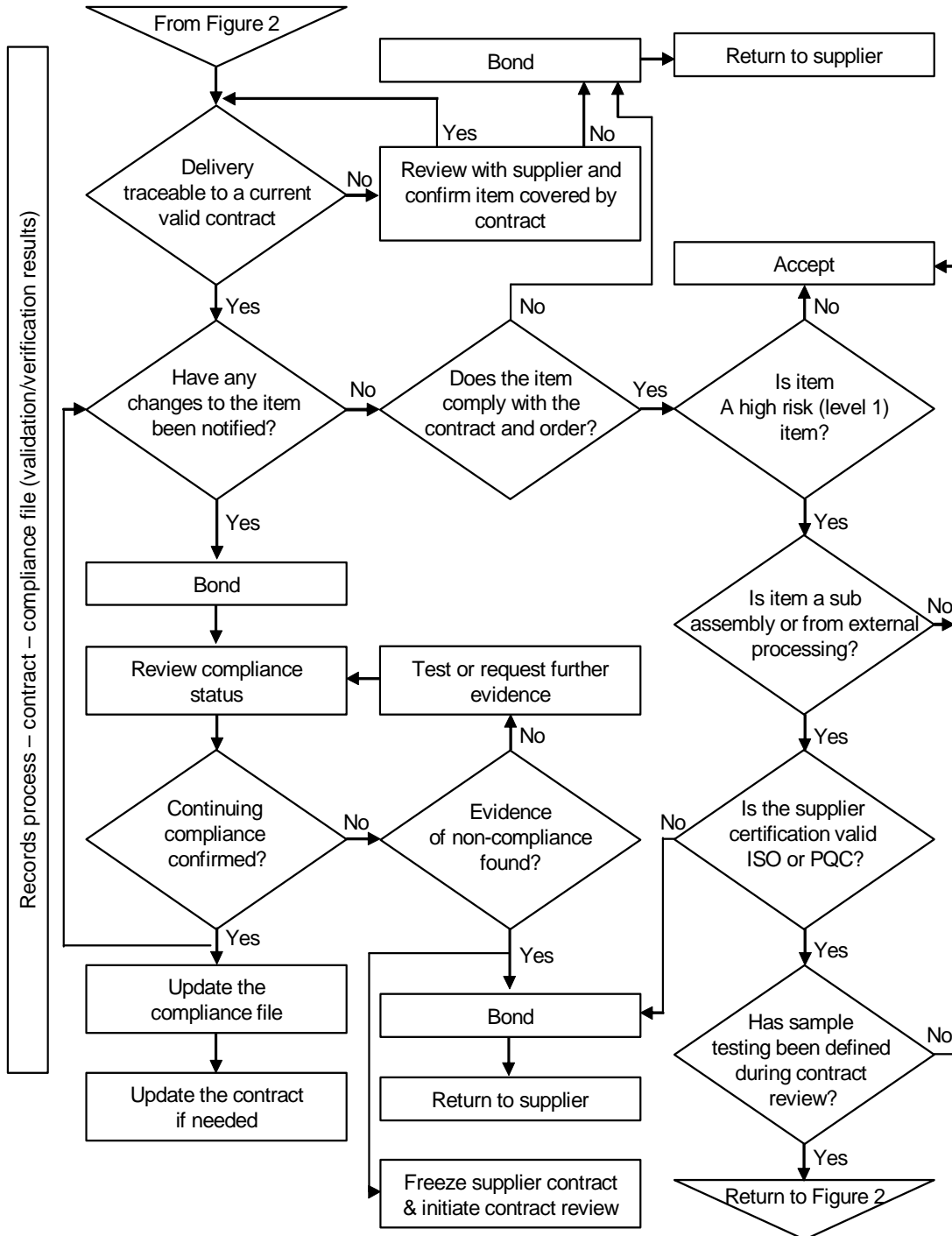
Appendix 1 – Figure 6

Marking Review Process



Appendix 1 – Figure 7

Notification Review Process for Items Supplied under Vendor Contract



Appendix 1 – Figure 8

Sample Test Process

