

General requirements for a system for electronic components of assessed quality —

Part 6: Specification of capability approval procedures

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- BEAMA Ltd.
- British Standards Society
- British Telecommunications plc
- Department of Trade and Industry (Electronics Applications Division)
- Electronic Components Industry Federation
- Electronic Engineering Association
- Institution of Electrical Engineers
- Ministry of Defence
- National Supervising Inspectorate
- Society of British Aerospace Companies Limited
- Telecommunication Engineering and Manufacturing Association (TEMA)

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Foreword

This Part of BS 9000 has been prepared under the direction of the Electronic Components Standards Policy Committee (ECL/-). It forms part of a revision of BS 9000-1:1981 and BS 9005:1985, both of which are now withdrawn. The revision comprises a vital and necessary restructuring of those standards coupled with the incorporation of text from BS 9000-2:1972 and from various circular letters from PD 9004. The restructuring has resulted in BS 9000-1:1981 and BS 9005:1985 being replaced by the following publications.

- *Part 1: Specification of general procedures;*
- *Part 4: Specification of procedures for the approval of an organization;*
- *Part 5: Specification of qualification approval and conformance testing procedures;*
- *Part 6: Specification of capability approval procedures;*
- *Part 7: Specification of lot formation, release procedures and certified test records;*
- *Part 8: Drafting requirements;*
- *Section 8.1: Generic, sectional and blank detail specifications produced under qualification approval;*
- *Section 8.2: Generic and sectional specifications produced under capability approval.*

NOTE A cross-reference between BS 9000-1:1981 and this revision is given in Appendix A, Table 1 of BS 9000-1:1989.

These publications describe, and specify, the BS 9000 system. They are not intended to apply to the United Kingdom implementation of either the CECC¹⁾ or IECQ²⁾ systems.

It has been decided, after considering the implications of the intended completion of the Internal Market by December 1992, that a complete “stand alone” publication describing and specifying the UK implementation of the CECC system is needed. A similar “stand alone” publication for the UK implementation of the IECQ system is also envisaged. BS 9000-2 and BS 9000-3 will be revised to implement these decisions.

This revision of BS 9000-1:1981 gives a more complete description of the requirements for capability approval and for the drafting of specifications. The revision will be applied to all approval exercises and to all generic, sectional and blank detail specifications drafted after the date of its publication. The requirements contained in the revision will also apply to the revision of existing BS 9000 standards.

BS 9000-4 specifies procedures for the approval of organizations. It is intended that the appropriate Part of BS 5750 be invoked in due course as a requirement for approval. It should be noted that BS 9000-4 contains requirements specific to the System³⁾ not covered by BS 5750.

¹⁾ CENELEC Electronic Components Committee (System for Europe).

²⁾ IEC Quality Assessment System for Electronic Components.

³⁾ For definition of “the System”, see 2.1.1 of BS 9000-1:1989.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 18, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of BS 9000 specifies procedures for the approval and maintenance of a manufacturer's capability and for the test and release of electronic components manufactured under capability approval.

It applies to all electronic components to be released under capability approval within the System.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 General

Capability approval is appropriate where specified in generic specifications.

Manufacturers shall have obtained manufacturer's approval (see clause 2 of BS 9000-4:1989) prior to being granted capability approval (but see also the note to 3.1.1).

Before an approved manufacturer is permitted to release and deliver components as conforming to the System, he shall demonstrate that the components satisfy the appropriate specifications.

Generic specifications covering the detailed requirements for each electronic component technology for inclusion in the capability approval system shall be prepared separately in accordance with BS 9000-8.2.

3 Capability approval procedures

3.1 General

3.1.1 Manufacturer's approval. The form of application for manufacturer's approval shall be as given in Appendix A of BS 9000-4:1989.

NOTE Where a manufacturer seeks both manufacturer's approval and capability approval, it is permitted for such applications to be processed simultaneously, each approval being subject to the relevant specific requirements.

3.1.2 Eligibility for capability approval. A manufacturer is eligible for capability approval in accordance with the System if supervision (see 3.2.1) by the approved person(s) of one or more approved manufacturers is applied to the manufacturing process, either in its entirety or commencing at the primary stage of manufacture.

3.1.3 Application for capability approval. A manufacturer seeking capability approval to a published generic specification shall apply in writing to BSI, using the form given in Appendix B and stating in his application the scope of the proposed approval, preferably in the form of a first draft of the capability abstract (see 3.11). The families and/or sub-families of components he intends to manufacture shall be clearly defined and reference made to the generic and/or sectional specification. In the application, he shall also demonstrate that he is in a position to apply all the processes, tests, measurement, etc. from the primary stage onwards, or that certain (stated) processes would be sub contracted. The primary stage shall be that defined in the generic specification for each family or sub-family of components.

NOTE It is permitted that any specialized process identified as such in the generic specification be subcontracted (see 3.2.2).

3.2 Subcontracting

3.2.1 General. Under capability approval, all the manufacturing processes involved in the particular component technology shall be under the direct surveillance of the approved manufacturer's approved person, with sub contracting permitted as specified in 3.2.2 to 3.2.5.

NOTE The generic or sectional specification is permitted to exclude subcontracting of all or specific stages on technical grounds.

The verification of bought-in piece parts and materials shall be under the direct surveillance of the approved manufacturer's approved person.

3.2.2 Specialized processes. It is permitted for any specialized processes of the primary or subsequent stages defined in the generic specification to be carried out by a specialist processor provided that the approved person satisfies the National Supervising Inspectorate that the subcontracted work complies with the relevant specification either:

- a) by on-receipt testing and/or inspection; or
- b) by the approved person being responsible for the necessary surveillance of the work of the subcontractor, together with any necessary on-receipt testing and/or inspection.

3.2.3 Subcontracting to another approved manufacturer. Any processes, including design, are permitted to be carried out in another facility which is approved under the BS 9000 or CECC systems, provided that the manufacturer seeking approval:

- a) obtains the agreement of the National Supervising Inspectorate that the proposed work can be so divided;
- b) verifies that the subcontracted work falls within the other manufacturer's approval;

- c) prepares adequate specifications for the control of the work undertaken by the subcontractor.

3.2.4 Manufacture in more than one CECC member country. In the case of manufacturing stages carried out in more than one country of the CECC system and not in any extension of the approved manufacturer's approval, and when conditions for the capability approval of manufacturers are fulfilled by each manufacturer concerned:

- a) the approved manufacturer who performs the final stage leading to the finished product is permitted to submit a request to BSI for capability approval of the component. The request shall contain details of:

- 1) the division of the different stages between the approved manufacturers concerned;
- 2) the arrangements proposed for the control and certification of quality of part-manufactured components delivered to the manufacturer submitting the request for capability approval;

- b) the UK National Supervising Inspectorate shall inform the National Supervising Inspectorate of the countries in which the various stages are performed of the request referred to in item a), and shall proceed with the capability approval provided that these National Supervising Inspectorates agree to:

- 1) confirm the correctness of the information contained in the request;
- 2) certify that the established procedures have been, and will continue to be, applied to these stages;
- 3) immediately advise the UK National Supervising Inspectorate of any suspension or withdrawal of supervision of the approved manufacturer(s) concerned.

3.2.5 Subcontracting to an unapproved manufacturer (route 2). If an approved manufacturer wishes to sub contract operations corresponding to the primary stage or any subsequent stages to an unapproved manufacturer, he shall:

- a) carry out an appraisal of the competence of the subcontractor to undertake the work;
- b) obtain the agreement of the National Supervising Inspectorate that the proposed work can be subcontracted;
- c) prepare adequate specifications for the control of the subcontracted work;

- d) produce a document which describes the scheme of surveillance covering assessment, testing and any other verification necessary to ensure that the approved manufacturer's approved person exercises adequate control over the quality of the subcontracted work.

Where an approved manufacturer subcontracts operations to an unapproved manufacturer, a report on the scheme of surveillance shall be submitted in writing by the National Supervising Inspectorate to BSI for approval. This scheme of surveillance shall be endorsed, rejected or amended by BSI at intervals of two years.

NOTE This procedure is commonly known as the "route 2" procedure.

3.3 Incorporated components

3.3.1 General. Where an approved component released under the System incorporates components other than piece parts, their use shall comply with 3.3.2 to 3.3.4.

NOTE The distinction between incorporated components and piece parts is that incorporated components have a distinctive electronic function in an electronic circuit, whereas piece parts do not.

3.3.2 The use of BS 9000 or CECC approved components. Wherever possible, incorporated components shall be approved to a BS 9000 or CECC detail specification. Such components shall be procured using the normal BS 9000 or CECC release procedures (see BS 9000-7). Under these conditions no other assessment of the incorporated components is required.

3.3.3 The use of unapproved components. Where incorporated components are not approved to a BS 9000 or CECC detail specification, the approved manufacturer's approved person shall verify their quality prior to their incorporation, and shall:

- a) be satisfied that the quality and performance of an unapproved component is adequate for its purpose;
- b) ensure the existence of a specification for the unapproved component covering all the aspects necessary to ensure its satisfactory performance as part of the final product;
- c) establish a quality programme to verify that the unapproved component continues to be supplied in accordance with item b);
- d) institute sufficient goods inward inspection procedures to ensure continued satisfactory performance of the final product.