

**SCHEME RULES FOR
TYPE 'A' GAS APPLIANCE
AND COMPONENTS CERTIFICATION
IN AUSTRALIA AND NEW ZEALAND**

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SCHEME RULES FOR TYPE 'A' GAS APPLIANCE AND COMPONENTS CERTIFICATION IN AUSTRALIA AND NEW ZEALAND

1.0 INTRODUCTION

All Australian States / Territories have legislation that requires gas appliances to be "approved" before they are offered for sale and use within their jurisdictions. New Zealand is soon to have similar legislation in place requiring approval. "Approved" in this context means that the State/Territory gas safety regulators¹ and New Zealand are satisfied that the relevant gas appliance (or component) has been designed, type tested and manufactured to give a high level of confidence that it can be correctly installed and that it will operate safely.

Other than through the approval of small numbers of individual appliances by the regulators themselves, the regulators currently recognise the Appliance Certification Scheme for Type A Gas Appliances (e.g. domestic appliances) and components, owned and operated by The Australian Gas Association (AGA), SAI Global and IAPMO R&T Oceana as the means for satisfying the "approval" requirement. In other words, certification ("approval") of compliance with gas safety codes by these bodies has been accepted by regulators as sufficient evidence of the safety of a particular type/model of appliance (or component).

These certifying bodies schemes have served the gas industry well for many years but the time has now come for the process of approving gas appliances to be reviewed and formalised, and to put in place a framework that provides for the following:

- (a) Independent regulatory oversight of the entire "approvals" process by Gas Technical Regulators Committee (GTRC) members;
- (b) The promulgation (through legislation or gazettal) by regulators of clear, generic safety and technical requirements that must be satisfied by all gas appliances;
- (c) Manufacturers to arrange the type testing of appliances by any relevant NATA accredited laboratory to demonstrate compliance with requirements;
- (d) Suitable organisations ("Certifying Bodies" or CBs) to offer themselves and to be approved by any member of the GTRC, for the certification of appliances;
- (e) Manufacturers to appoint CB of choice to certify their appliance;
- (f) Manufacturers to submit test reports and appliance samples to their CB, for certification assessment and ongoing manufacturing compliance assessment; and

In summary, this paper proposes to formalise a set of scheme rules for certification of Type 'A' gas appliances/components that satisfies the above criteria.

¹ The Australian State/Territory gas technical and safety regulators and New Zealand are all members of the Gas Technical Regulators' Committee (GTRC).

It is assumed that once the new framework has been adopted, AGA, SAI Global and IAPMO R&T Oceana would apply and become recognised CBs, as would some other future organisations.

2.0 OVERVIEW OF SCHEME

The intention of the new scheme is to appropriately allocate responsibility and accountability so that the Australian and New Zealand process of certifying gas appliances is robust, effective and internationally respected and ultimately recognised by overseas authorities when harmonisation with the EU gas appliance safety standards is achieved.

The various State and Territory Regulatory Authorities and New Zealand through GTRC will be responsible for developing the necessary details of each component of the entire certification scheme and GTRC will assume responsibility for implementing and overseeing the overall ongoing operation of the scheme, to ensure its integrity.

The scheme is based on Certifying Bodies assessing Type A gas appliances and components ("products") for compliance with the Essential Requirements through detailed product inspection and appraisal of test reports, and ensuring ongoing manufacturing compliance via a verification process involving testing of samples of the product from the open market and/or from the factory.

The manufacturer will be responsible for obtaining the initial product certification from a Certifying Body and attaching the approval badge (the design of which has been agreed to by GTRC and which will be a national approval mark as called up by each jurisdiction through legislation) to the product, and for providing specified details of the product to the Certifying Body for recording and publishing on its gas appliance certification website, for industry information purposes. The CBs will be responsible for downloading and maintaining this information on a single central website when this is developed by GTRC.

The following flow chart sets out the process of certifying gas appliances under the scheme (Refer Figure 1).

3.0 ELEMENTS OF THE SCHEME

There are four key stakeholders involved in the scheme:

1. State/Territory Technical Regulators and New Zealand through the Gas Technical Regulators Committee (GTRC) carry out assessment of organisations to become certifying bodies (CBs);
2. Certifying Bodies (CBs);
3. Manufacturers; and
4. Standards Australia.

Each of the above stakeholders has a specific role in relation to the scheme and the details of the roles of the individual stakeholders are as set out in the following sections of this document.

4.0 DEFINITIONS

Certifying Body

A Certifying Body is an independent organisation that GTRC recognises as competent to facilitate, oversee and evaluate type testing results. The evaluation would include quality systems, technical and safety performance and the carrying out of production monitoring and audits under the provisions of the Scheme.

Gas Technical Regulator Committee (GTRC)

The Australian State/Territory gas technical regulators and New Zealand are all members of the Gas Technical Regulators' Committee.

Certificate

Means a Certificate of Conformity issued by the Certifying body to the manufacturer or supplier evidencing that the sample gas product complies with requirements of these Scheme Rules, including relevant standards or codes.

National Certification Mark

A permanent identification marking on a gas product for which a Certificate has been issued to the manufacturer or supplier by the Certifying Body. It must identify the Certifying Body that has issued the certification, the unique Certificate number issued for the product and the scope of certification. The national certification mark will be legislated by all jurisdictions.

Manufacturer

A manufacturer is one who makes part or whole of the gas appliance and includes organisations carrying out the final assembly of the equipment for sale.

Supplier

The first seller (manufacturer or importer) in the Australian or New Zealand supply chain (i.e. those sellers located in Australia and New Zealand that are the first point of sale).

Standards and/or Codes

The Australian/New Zealand and the international standards and/or codes that are deemed to be acceptable to the GTRC for purpose of certifying gas appliances and/or components.

Test Program

A written document prepared by the CB outlining the type test to be performed and/or assessments to be carried out on a sample gas product by an authorised laboratory (NATA accredited).

Type A Gas Appliance

An appliance designed to burn gas as a fuel, and is generally series produced, domestic or commercial packaged products and for which a testing standard or code applicable to Australian and New Zealand conditions and addressing the Essential Requirements is available.

5.0 TECHNICAL ASPECTS OF THE SCHEME

5.1 Safety and Essential Requirements

Gas appliances and components must be designed and constructed to be safe and compliant with the essential requirements.

5.1.1 Safety Requirements: All suppliers must ensure that any appliance or fitting, which they supply, is "safe", when "normally used".

'Safe' means that all risks associated with the appliance have been identified and either eliminated or reduced to as low a level as is reasonably practical to ensure that the gas appliance or fitting will not in any way cause death or personal injury to any person or domestic animals and damage to property.

"Normally used" means that the appliance has been:

- Where applicable correctly installed and regularly serviced in accordance with the manufacturer's instructions; and
- Used within the normal variations of gas quality and pressure; and
- Used in accordance with its intended purpose or in a way this can be reasonably foreseen.

5.1.2 Essential Requirements: All gas appliances and components must be designed and constructed to conform to the essential requirements contained in the Australian Standard, AS 3645: Essential requirements for gas equipment (to be published in early 2010). The Essential Requirements establish a common level of protection by defining general design, construction and performance characteristics.

Methods of satisfying the Essential Requirements: Manufacturers can choose between directly applying the Essential Requirements or applying one of the recognised national standards that address the Essential Requirements.

Gas appliances/components for which a standard does not exist: Where a recognised standard does not exist, gas appliances and components must be designed and constructed to satisfy the relevant Essential Requirements directly.

5.2 Testing by NATA/IANZ Accredited Laboratory

The manufacturer is responsible for appointing a recognised Certifying Body to arrange for type approval. The CB develops test procedures for type approval to satisfy the Essential Requirements of the Scheme. CBs will not be able to conduct their own tests on appliances and/or components, these must be conducted by NATA/IANZ accredited, independent test organisations. However, the CB may guide the manufacturer on the range of tests required or additional requirements that need to be addressed at any stage of the approval process.

5.3 Certification

In order to demonstrate that the Essential Requirements are being satisfied, the process requires the involvement of a Certifying Body in both type examination of new appliances or components and subsequently in production monitoring.

In brief, the Scheme for series manufactured appliances or components, is outlined diagrammatically (Refer Figure 2).

5.4 Type-Examination

Type-Examination is the procedure by which a Certifying Body checks and certifies that an appliance/component, representative of the production envisaged meets the requirements of the Australian Standard AS 3645: Essential Requirement for gas appliances and equipment.

Applications for Type-Examination must be made by the manufacturer or his authorised representative to a single CB. The application must include:

- The name and address of the manufacturer or, if the application is lodged by the authorised representative, his name and address;
- A declaration that the application has not been lodged with any other Certifying Body;
- The Design Documentation; and
- The test report, in accordance with Essential Requirements and Standards, carried out by a NATA/IANZ accredited Laboratory.

The manufacturer must place at the disposal of the CB an appliance/component, representative of the production envisaged ("the type"), and any further samples that may be reasonably required by the CB. The type may additionally cover variants at the discretion of the CB.

The CB will examine the Design Documentation and verify that the type has been manufactured in conformity with it and perform, or have performed, the appropriate examinations and/or tests to check conformity with the Essential Requirements. If the manufacturer has chosen not to apply specified standards, the CB will check that the solutions adopted by the manufacturer meet the Essential Requirements or at the CB discretion to apply the most suitable standard and test program.

Where the CB is satisfied it will issue a Type-Examination Certification to the applicant. The certificate must identify the type it relates to and contain the findings of the examination, indicate any conditions attached to its issue and incorporate the descriptions and drawings necessary for the identification of the appliance/component. The CB will also inform (either via email or central database) all other CBs.

Any CB which refuses to issue, or withdraws, a Type-Examination Certificate must inform the technical regulator in all Australian States/Territories and New Zealand and all CBs via email or central database. The body must give the reasons for its decision and give the applicant the opportunity of making representations within a reasonable time as to why it should not be refused or withdrawn. It will inform all other CBs of its decision, only if they are technical or safety issues.

The applicant must keep the CB that has issued the Type Examination Certificate informed of all modifications to the approved type, which might affect conformity with the Essential Requirements or applicable standard. If necessary, additional approval from the CB must be obtained, in the form of an addition to the original Type Examination Certificate, where such changes affect conformity with the Essential Requirements or the prescribed conditions for use of the appliance.

5.5 Declaration of Conformity to Type (Guarantee of Production Quality)

This is the procedure whereby a manufacturer, who has correctly applied an approved Quality System for the production process, declares that the appliances/components concerned are in conformity with the type described in the Type Examination Certificate and satisfy the Essential Requirements,

The manufacturer must lodge an application for approval of his Quality System with a CB of his choice for the appliances/components in question. The application must include:

- The Quality System documentation
- An undertaking to carry out the obligations arising from the Quality System as approved;
- An undertaking to maintain the approved Quality System to ensure its continuing suitability and effectiveness;
- Documentation relating to the approved type; and
- A copy of the Type-Examination Certificate

All the elements, requirements and provisions adopted by the manufacturer must be documented in a systematic and logical manner in the form of written measures, procedures and instructions. This Quality System documentation must ensure a common understanding of the quality programmes, plans, manuals and records. It must contain, in particular, an adequate description of the following:

- The quality objectives, the organisational structure and the responsibilities of the management and their powers with regard to product quality;
- The manufacturing processes, quality control and quality assurance techniques and systematic actions that will be used;
- The examinations and tests that will be carried out before, during and after manufacture and the frequency with which they will be carried out; and
- The method of monitoring attainment of the required appliance/component quality and the effective operation of the Quality System.

The CB will examine and evaluate the Quality System to determine whether it satisfies the above requirements. It must notify its decision to the manufacturer and inform all other CBs. The notification to the manufacturer must contain the conclusions of the examination, the name and address of the CB and the reasoned assessment decision in respect of the appliances concerned.

The manufacturer must keep the CB that approved the Quality System informed of any updating of the Quality System in relation to changes brought about by, for example, new technology and quality concepts. The CB will examine the modifications and decide whether the modified Quality System complies with the relevant provisions or whether re-appraisal is necessary. It will notify the manufacturer of its decision and include its conclusions of the inspection and the reasoned assessment decision.

A CB that intends to refuse or withdraw approval of a Quality System must give the reasons for its decisions and provide the opportunity for the applicant to make representations as to why it should not be refused or withdrawn. It will inform all other CBs of its decisions.

5.6 Testing and Market Surveillance

Post certification surveillance to ensure gas appliance/component ongoing conformity includes the following:

- Testing and inspection of samples from the market; and
- Testing and inspection of samples from the factory.

The manufacturer must allow the CB access for testing and inspection of samples taken from the factory. This testing should go beyond the desk top and include basic combustion tests to ensure general performance is safe.

5.7 Audit of Appliance Production Quality System

An essential element of the approved Quality System procedure involves audit by the CB that carried out the approval. The purpose of the audit is to ensure that the manufacturer duly fulfils the obligations arising out of the approved Quality System.

The manufacturer must allow the CB access for inspection purposes to the place of manufacture, inspection, testing and storage and must provide it with all necessary information, in particular the following:

- Quality System documentation; and
- Quality records, such as inspection reports and test data, calibration data, reports on qualifications of the staff concerned, etc.

The CB will carry out a check at least once every two years to ensure that the manufacturer is maintaining and applying the approved Quality System and will supply a report of the check back to the manufacturer.

Furthermore, the CB may make unannounced visits to the manufacturer. During these visits, the CB should carry out tests on the appliances or have them carried out. It must supply the manufacturer with an inspection report and, if appropriate, a test report. The manufacturer may supply the CB's report on request.

5.8 Design Documentation

The documentation required by a CB is likely to consist of the following information, in so far as it is required by the CB for assessment:

- a general description of the appliance;

- conceptual designs and manufacturing drawings and diagrams of components, sub-assemblies, circuits, etc.
- descriptions and explanations necessary for the understanding of the above including the operation of the appliances;
- a list of the specified standards, applied in full or in part, and descriptions of the solutions adopted to meet the Essential Requirements where the specified standards have not been applied;
- test reports; and
- manuals for installation and use.

Where appropriate, the Design Documentation must contain the following elements:

- attestations relating to the equipment incorporated in the appliance;
- attestations and certificates relating to the methods of manufacture and/or inspection and/or monitoring of the appliance; and
- any other document making it possible for the CB to improve its assessment.

5.9 Marking of Appliance/Component

If after carrying out relevant examinations and tests the CB is satisfied it will issue a Certificate of Conformity which must be retained by the manufacturer or its authorised representative (Certificate Holder) and affixed to the approved appliance, its identification number which must accompany the GTRC mark. For components where it may be impractical to apply the GTRC mark due to physical restraints etc. the manufacturer or supplier may apply to the CB for a variation to the marking requirement.

5.10 Information on Certified Appliances/Components on Website

Each CB will be responsible for the recording and publishing of certification details on a website. These details are required for effective enforcement by regulators, as well as industry organisations that wish to verify the compliance of appliances/components on the market or already installed.

Each CB is responsible for developing and managing a database of appliance/component certification details and publishing on its website the following information on each certified appliance/component:

- Details on the appliance/component certified;
- Name of manufacturer;
- Certification Number;
- Name of Certifying Body responsible for certification;
- Date of certification; and
- Details of any limitations/conditions.

Note: GTRC is currently considering developing a single central website to publish the above information on appliance/components certification carried out by CBs.

5.11 Suspension and Cancellation of Certificate

CBs may suspend or cancel a certification, or a number of certification held by the Certification Holder.

All members of the GTRC shall be advised in writing (via email) of any suspension and/or cancellation and provided with an explanation for the action taken. Other CBs should also be advised if the reason for suspension is related to technical and safety issues.

6.0 MANUFACTURERS

The manufacturer (or importer) of a Type A gas appliance is responsible for arranging the certification and ongoing verification of the appliance by a CB, in accordance with the scheme.

The manufacturer is required to arrange the type testing and provide the relevant appliances for type testing. Guidance on the scope and range of tests required to demonstrate compliance with the ER may be sought from the CB.

Once the appliance has been issued with the relevant certificate the manufacturer is required to contact the relevant CB to obtain the GTRC badge for attachment to the appliance.

At the time that the manufacturer applies for the badge they will be expected to provide all the necessary details to the CB for entry into the appliance database managed by the relevant CB.

A product recall will be necessary should the manufacturer (Certificate Holder) become aware of any or all of the following:

- The existence of a certified appliance/component not complying with the appropriate standard;
- A certified appliance/component exhibiting critical or major defects; or
- A direction issued by an Australian State/Territory Technical Regulator or New Zealand.

All cost associated with certification and/or recall is required to be met by the manufacturer (or importer).

7.0 STANDARDS AUSTRALIA

Standards Australia would also be responsible for developing and maintaining the Essential Requirements Standard AS 3645 and the Australian/New Zealand gas appliance suite of testing standards addressing the Essential Requirements in liaison with Australian State/Territory Technical Regulators and New Zealand, as well as industry, through the relevant technical committee.

8.0 AUSTRALIAN STATE/TERRITORY TECHNICAL REGULATORS AND NEW ZEALAND

To simplify the accreditation process the accreditation of an organisation as a Certifying Body (CB) will involve assessment by a member of the GTRC in accordance with a common set of guidelines (to be developed by GTRC). Once accredited, all other jurisdictions will recognise the accreditation without imposing further requirements.

Issues that will be addressed in the guidelines will include:

- Technical and financial abilities;
- Independence;
- Conflict of interest; and
- Business rules.

A member of the GTRC may undertake its own audit or engage a third party auditor to conduct the audit (yearly) and reassessment of each recognised CB. The cost of these audits and assessments will be borne by existing CBs.

9.0 CONCLUSION

The Type A gas appliance certification scheme detailed in this paper is seen as a logical model for Australia.

It will make the scheme independent of any sectional interests, more transparent and should lead to a reduction in costs to manufacturers once established. Importantly, the scheme will assist Australia and New Zealand in moving towards harmonisation with EU gas appliance safety standards, consequently opening the door to future Mutual Recognition Agreements with the EU and other countries.

10.0 CONTACT PERSON

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11.0 FIGURES

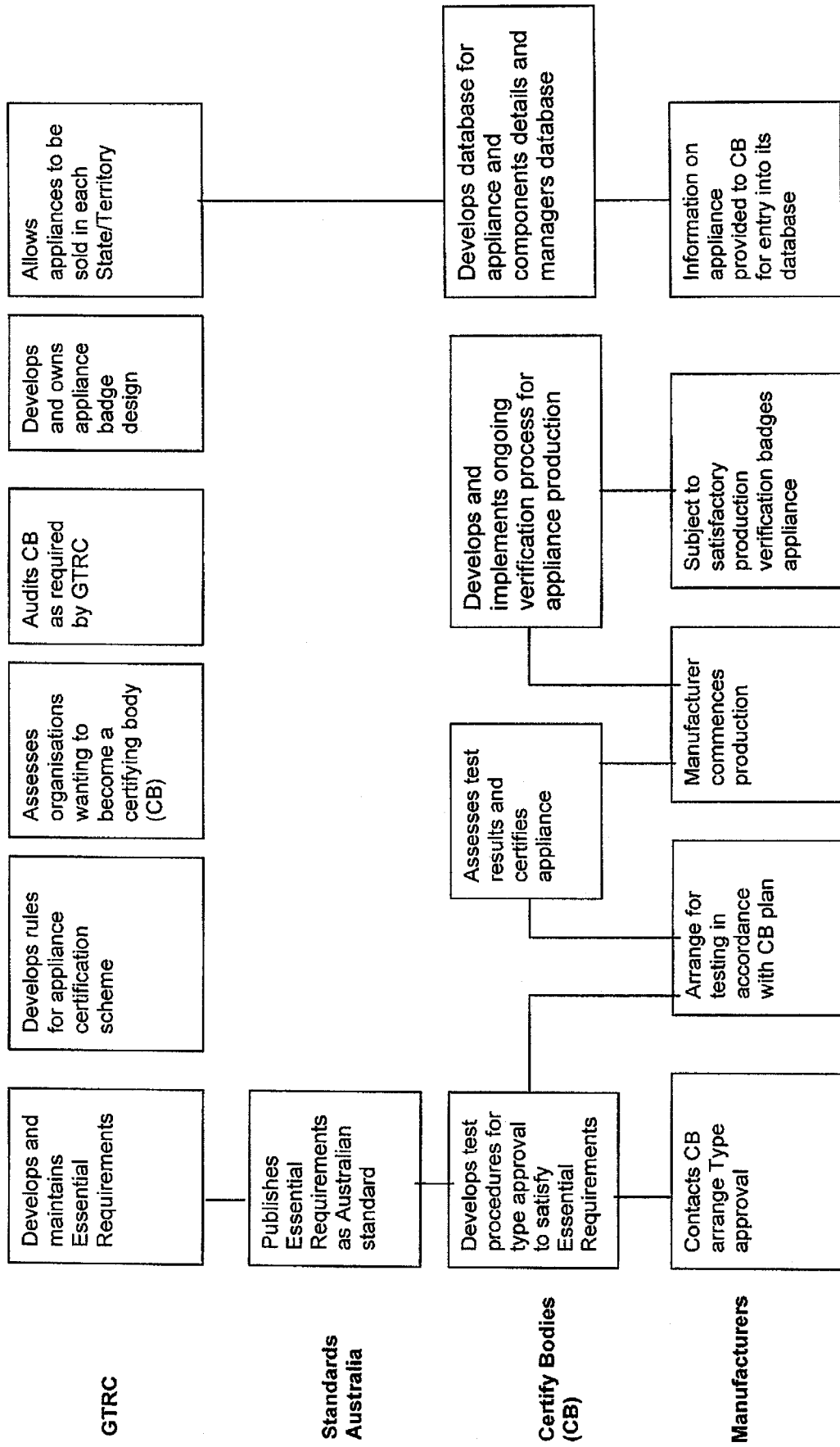


Figure 1: Flow chart of certifying gas appliances and products under the scheme.

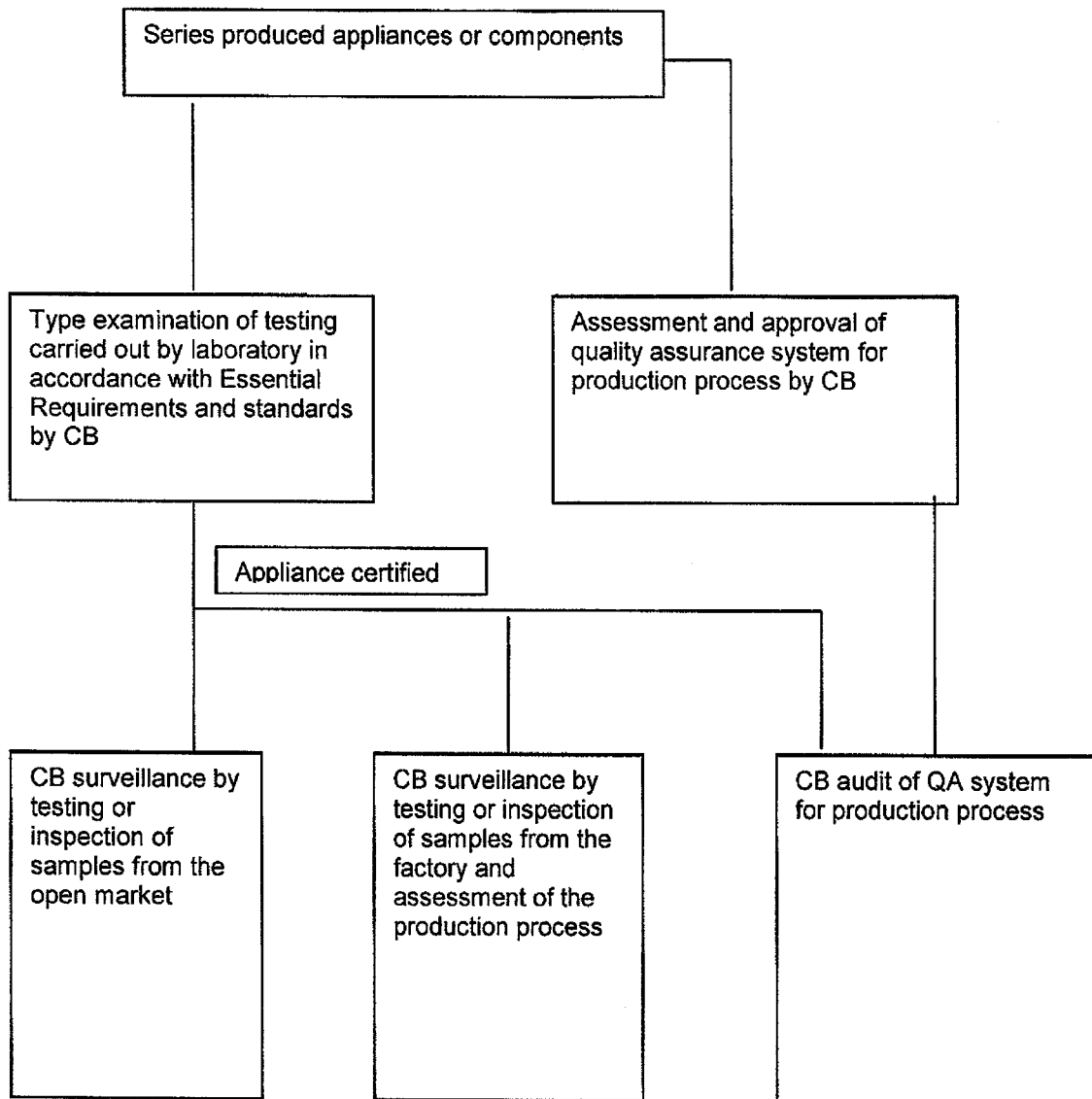


Figure 2: Scheme for series produced appliances or components.