

K21025/02

Definitive

2024-02-05

Smoke & heat control systems - S&HCS

assessment scheme for the testing, inspection and
certification of Smoke & heat control systems



kiwa 

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Preface

This international scheme for Testing, Inspection & Certification (TIC) has been accepted by the Board of Experts Fire Safety (BoE FS), in which all relevant parties in the field of Fire Safety are represented. The Board of Experts also supervises the activities and where necessary requires this TIC-scheme to be revised. All references to Board of Experts in this evaluation scheme pertain to the above mentioned Board of Experts. This scheme shall be used in conjunction with the Kiwa Regulations for Certification.

The objectives of this scheme, namely to enhance safety and the prevention of pollution through the uniform application of the relevant international standards relating to Smoke and heat control systems to be placed on risk locations or riskfull logistics, and to ensure the proper application of such systems within the EU. In the first instance, the affixing of the certification mark to the systems by the certified manufacturer or, where relevant, the certified supplier should be the guarantee pursuant to their obligations under this scheme that the systems are compliant and may be placed on the market. Thereafter, certain provisions are necessary for the safe continuation and applicability of the certification mark after it has been affixed and for the effective discharge of the task of national market surveillance authorities. The certified manufacturer or, where relevant, the certified supplier or the system integrator, should be obliged to provide the competent authorities with full and truthful information in relation to the system it has certification marked to ensure that fire protection systems remains safe. The certified manufacturer should be obliged to cooperate with market surveillance authorities, including as regard standards against which it has manufactured and certified systems, and should also exercise due diligence in relation to the fire protection systems it places on the market. In this regard, a manufacturer located outside the EU should appoint an authorized representative in order to ensure cooperation with competent national authorities. Compliance with international testing standards could best be demonstrated by means of conformity assessment procedures such as those laid down in this scheme.

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The use of this evaluation guideline by third parties, for any purpose whatsoever, is only allowed after a written agreement is made with Kiwa to this end.

Validation

This evaluation guideline has been validated by the Director FSS Certification and Inspection of Kiwa on 2024-02-05.

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1 Introduction

1.1 General

This international Testing, Inspection and Certification scheme includes all relevant requirements which are employed by Kiwa when dealing with applications for the issue and maintenance of a certificate for products, processes and services used for Smoke and heat control systems.

The main setup of this scheme is based on the development of design standard within European Standardization Organizations CEN and the National Fire Protection Association in the USA.

Within these standards, other standards are mentioned. The first level of standards is a minimal requirement. If at a second level a standard(s) is applicable shall this be detailed in the audit / inspection matrix per design standard.

If the basic design directs to other design standards or specific certification programs, can these also be used if they fit the framework of the main setup.

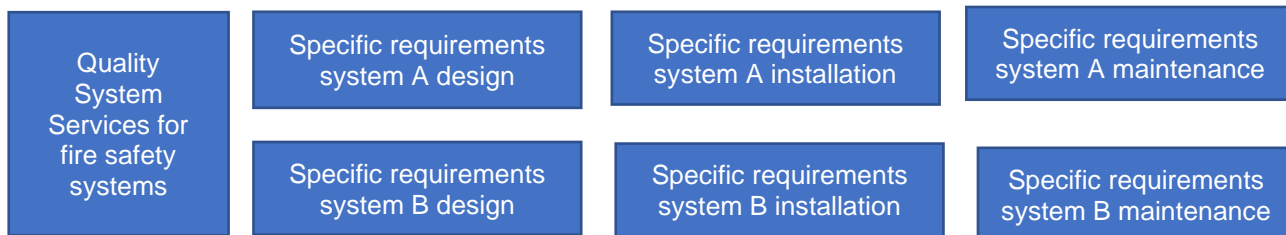
For the performance of its certification work, Kiwa is bound to the requirements as included in EN-ISO/IEC 17065 “Conformity assessment - Requirements for bodies certifying products, processes and services”.

This scheme is drafted according EN-ISO/IEC 17067 “Conformity assessment - Fundamentals of product certification and guidelines for product certification schemes”. This scheme is a type 6 according to this standard.

This scheme shall be used in conjunction with the Kiwa Regulations for Certification and has a module structure for Smoke and heat control systems based on international standards. The module structure makes it possible for manufacturers and suppliers to be certified (scope of certification) for one or more activities (manufacturing, design, installation and/or maintenance) per one or more types of system.

Audit and inspection activities of all modules, are visualized in Annex IV ‘scheme structure’. This scheme structure ensures an seamless connection of assessments between sub-areas.

Note; Systems are for example “A” natural systems and system “B” mechanical systems. Activities are for design, installation and maintenance.



This TIC- scheme replaces the TIC – scheme K21025/01, dated June first, 2014. The quality declarations issued and based on that TIC scheme will lose their validity at least 2 years after validation of this scheme.

The changes in this version of the scheme are mostly textual improvements or clarifications and the new structure of this type of schemes within the scope of fire safety.

1.2 Field of application / scope

The Smoke and heat control systems are intended to be used in buildings and land based (indoor and outdoor) storage locations, process facilities, loading and transshipment areas.

Typical examples are (with / without sprinkler):

- single and multi-storey shopping malls;
- large retail units;
- single and multi-storey industrial buildings and warehouses;
- atria and complex buildings;
- car parks;
- stairways;
- tunnels;
- theatres.

The following specific scopes of systems are possible:

A – Natural smoke & heat control systems;

B – Mechanical smoke & heat control systems.

The activities for which a manufacturer and/or system integrator can obtain a quality declaration per system are:

- Product certification - Manufacturing (at component level);
- Process certification - Design & - Installation;
- Service certification - Maintenance.

1.3 Acceptance of test reports provided by the supplier

If the supplier provides reports from test institutions or laboratories to prove that the products meet the requirements of this evaluation guideline, the supplier shall prove that these reports have been drawn up by an institution that complies with the applicable accreditation standards, namely:

- EN-ISO/IEC 17020 for inspection bodies;
- EN-ISO/IEC 17021-1 for certification bodies certifying systems;
- EN-ISO/IEC 17024 for certification bodies certifying persons;
- EN-ISO/IEC 17025 for laboratories;
- EN-ISO/IEC 17065 for certification bodies certifying products.

Remark:

This requirement is considered to be fulfilled when a certificate of accreditation can be shown, issued either by the Dutch Accreditation Council (Raad voor Accreditatie, or RvA in short) or by one of the institutions with which an agreement of mutual acceptance has been concluded by the RvA (e.g. one of its European counterparts).

The accreditation shall refer to the examinations as required in this certification scheme. When no certificate of accreditation can be shown, Kiwa shall verify whether the accreditation standard is fulfilled.

1.4 Quality declaration by Kiwa

The quality declaration to be issued by Kiwa is described as a:

- **Product Certificate** for the manufacturing of the components in this Smoke and heat control systems provided by Kiwa; see chapters 5 and 6;
- **Process Certificate** for the delivery of installations of these Smoke and heat control systems provided by the supplier; see chapter 4;
- **Services Certificate** for the delivery of maintenance of the Smoke and heat control systems provided by the supplier; see chapter 4.6;
- **System Application Inspection Certificate** for the system onsite fulfilling of the requirements in conjunction with required condition. This inspection certificate is provided by Kiwa, see chapter 7.

An example of these certificates to be issued on the basis of this scheme has been included for information as an annex.

The right to use the Kiwa marking by the certified supplier organisations based on these certification activities is detailed in chapter 8 of this scheme.

1.5 Assessment method type 6

The normal assessment method per installation of this certification scheme is according EN-ISO/IEC 17067 “Conformity assessment - Fundamentals of product certification and guidelines for product certification schemes” type 6.

1.5.1 Assessment method type 1a

If required a type 1a assessment according EN-ISO/IEC 17067 shall be performed. These inspections shall be performed according EN-ISO/IEC 17020 “Conformity assessment - General criteria for the operation of various types of bodies performing inspection”.

In this assessment method the Smoke and heat control system shall meet the requirements and conditions of the design standard(s) of the Smoke and heat control system and the conditions required in the basic design of the system in conjunction with the required conditions for the construction of the building compartment(s) and the organisation applying the Smoke and heat control system. In most occasions shall this be the end-user of the system and building.

This method shall create a complete overview of the usage of the Smoke and heat control systems applied, and if all certification criteria are met this shall result in a **System Application Inspection Certificate (SAIC)**.

In this method, the information is used generated by the supplier of the systems and co-suppliers of the conditions.

This process is detailed in chapter 7 of this scheme.

1.6 Additional listing

Additional listing is possible for the several systems. The additional tests will be listed in the technical approval of the product certificate.

2 Terms and definitions

2.1 Definitions

In this scheme, the following terms and definitions apply:

- **Board of Experts:** the Board of Experts Fire Safety (BoE FS).
- **Certification mark:** a protected trademark of which the authorization of the use is granted by Kiwa, to the supplier whose products / process / services can be considered to comply on delivery with the applicable requirements.
- **Certification Scheme:** the agreements made within the Board of Experts on the subject of certification within this international TIC -scheme.
- **CIO:** Construction, Installation and Organisation.
- The **conditions** about the construction, installation and organisation (CIO) related to the Smoke and heat control system and specified in the design standard are applicable in this scheme.
- **Inspection tests:** tests carried out after the certificate has been granted in order to ascertain whether the certified products / processes and services continue to meet the requirements recorded in this scheme in conjunction with the factory production controls.
- **IQC scheme (IQCS):** a description of the quality controls carried out by the supplier as part of his quality system also named internal quality plan per scope of fire repression system.
- **Initial investigation:** tests in order to ascertain that all the requirements recorded in this scheme guideline are met.
- **Marking:** a marking affixed by the supplier on its products, processes or services based on the requirements in this scheme.
- **Specific Certification Program (SCP):** a specific program detailing the requirements of a specific product and / or system within the scope of the TIC – scheme. The need for this specific certification program (SCP) shall be determined by the market if the standards are not covering a specific application. The SCP shall use as much of the existing requirements of the standards in this scheme.
- **System Application Inspection Certificate (SAIC):** A document in which Kiwa declares that a Smoke and heat control system may, when applicable, be deemed to comply with the system specification recorded in the product and process / or service certificate in conjunction with the conditions needed to fulfil the functions of the Smoke and heat control system. The conditions about the construction, installation and organisation (CIO) related to the Smoke and heat control system and specified in the design standard are applicable in chapter 7 of this scheme.
- **Private Label Certificate:** A certificate that only pertains to products that are also included in the certificate of a supplier that has been certified by Kiwa, the only

difference being that the products and product information of the private label holder bear a brand name that belongs to the private label holder.

- **Product certificate:** a document in which Kiwa declares that a product may, upon delivery, be deemed to comply with the product specification recorded in the product certificate.
- **Product requirements:** requirements made specific by means of measures or figures, focussing on (identifiable) characteristics of products and containing a limiting value to be achieved, which can be calculated or measured in an unequivocal manner.
- **Supplier:** the party responsible for ensuring that the products meet and continue to meet the requirements on which the certification is based.

3 Procedure for granting a product / process / service certificate to the supplier

3.1 Initial investigation

After the application review, the initial investigation shall be started.

The initial investigation to be performed is based on the (product, process and system) requirements as contained in this certification scheme, including the test methods, and comprises the following:

- type testing to determine whether the products comply with the product and/or functional requirements;
- production process assessment (if applicable);
- design process assessment;
- installation process assessment;
- maintenance process assessment;
- assessment of the quality system and the IQC-scheme;
- assessment of the presence and functioning of the remaining procedures.

3.2 Granting the product / process / service certificate

After finishing the initial investigation, the results are presented to the Decision maker deciding on granting the certificate. This person evaluates the results and decides whether the certificate can be granted or if additional data and/or tests are necessary.

3.3 Investigation into the process and/or performance requirements

Kiwa will investigate the products / systems to be certified against the certification requirements as stated in the certification requirements.

The necessary samples will be drawn by or on behalf of Kiwa.

3.4 Production process assessment

When assessing the production process, it is investigated whether the manufacturer is capable of continuously producing products that meet the certification requirements.

The evaluation (Factory Production Control) of the production process takes place during the ongoing work of the manufacturer.

The assessment also includes at least:

- The quality of raw materials, half-finished products and final completed products;
- Internal transport and storage.

3.5 Contract assessment

If the supplier is not the manufacturer of the products to be certified, Kiwa will assess the agreement between the supplier and the producer.

This written agreement, which is available for Kiwa, includes at least:

Accreditation bodies, scheme managers and Kiwa will be given the opportunity to observe the certification activities carried out by Kiwa or on behalf of Kiwa at the manufacturer premises.

Note. Chapter 7 specifies how to achieve a System Application Inspection Certificate from Kiwa.

4 Supplier's process requirements

4.1 General

This chapter contains the requirements that the delivery process shall comply.

4.2 Regulatory requirements

Not applicable.

4.3 Process requirements Services for fire safety systems

The requirements of the delivery process are specified in EN16763 "Services for fire safety systems and security systems".

4.4 Scope A – Smoke and heat control systems - natural

The design requirements of these systems are specified in the standard:

- EN 12101-1; Smoke and heat control systems - Part 1: Specification for smoke barriers;
- EN 12101-2; Smoke and heat control systems - Part 2: Specification for natural smoke and heat exhaust ventilators;
- CEN-TR 12101-5; Smoke and heat control systems - Part 5: Guidelines on functional recommendations and calculation methods for smoke and heat exhaust ventilation systems.

The installation & maintenance requirements of these systems are specified by the manufacturers and are to be upheld together with the national guidelines.

4.5 Scope B – Smoke and heat control systems - mechanic

The design requirements of these systems are specified in the standard

- EN 12101-1; Smoke and heat control systems - Part 1: Specification for smoke barriers;
- EN 12101-3; Smoke and heat control systems - Part 3: Specification for powered smoke and heat exhaust ventilators;
- CEN-TR 12101-5; Smoke and heat control systems - Part 5: Guidelines on functional recommendations and calculation methods for smoke and heat exhaust ventilation systems;
- EN 12101-6; Smoke and heat control systems - Part 6: Specification for pressure differential systems – Kits;
- EN 12101-7; Smoke and heat control systems - Part 7: Smoke control ducts
- EN 12101-8; Smoke and heat control systems - Part 8: Specification for smoke control dampers.

The installation requirements of these systems are specified by the manufacturers and are to be upheld together with the national guidelines.

4.6 Scope Maintenance

The maintenance requirements of these systems are specified by the manufacturers and are to be upheld together with the national guidelines.

See chapter 8 of EN 12101-1; Smoke and heat control systems - Part 1: Specification for smoke barriers.

5 Testing the performance of the systems by Kiwa

5.1 General

This chapter contains the standards with the requirements for testing by Kiwa to determine the performances that the systems have to fulfil. This enabling product certification.

These tests are necessary if there is no integer information available according to these standards by acceptable approval bodies such as test laboratories fulfilling the requirements of ISO17025 “General requirements for the competence of testing and calibration laboratories”.

The accreditation of the testing laboratories shall comply with the agreement of mutual acceptance to be acceptable. The accreditation of the testing laboratories and the reports of these laboratories are verified by Kiwa.

Kiwa shall then execute third party witnessing of these tests according to ISO17065 “Conformity assessment - Requirements for bodies certifying products, processes and services” when no accredited testing labs are available.

Certain testing laboratories are acceptable based on criteria determined by the board of experts Fire Safety. These reports shall be controlled and verified by Kiwa.

5.2 Scope A – Smoke and heat control systems - natural

The requirements for testing of these systems are specified in the standard:

- EN12101-1; Smoke and heat control systems - Part 1: Specification for smoke barriers;
- EN12101-2; Smoke and heat control systems - Part 2: Specification for natural smoke and heat exhaust ventilators;

5.3 Scope B – Smoke and heat control systems - mechanic

The requirements for testing of these systems are specified in the standard:

- EN 12101-1; Smoke and heat control systems - Part 1: Specification for smoke barriers;
- EN 12101-3; Smoke and heat control systems - Part 3: Specification for powered smoke and heat exhaust ventilators;
- EN 12101-6; Smoke and heat control systems - Part 6: Specification for pressure differential systems – Kits;
- EN 12101-7; Smoke and Heat Control Systems; Part 7: Smoke Ducts;
- EN 12101-8; Smoke and Heat Control Systems; Part 8: Smoke control dampers.

6 Factory Production Control Smoke and heat control system Components by Kiwa

6.1 General

This chapter contains the requirements for factory production control (FPC) by Kiwa of the manufacturers of essential components (products) of fire protection systems to determine the quality of these components that the systems shall comply.

This factory production control of the manufacturer of components (products) is necessary if there is no integer information available according to these standards by acceptable approval bodies according ISO17065 "Conformity assessment - Requirements for bodies certifying products, processes and services".

6.2 Assessment (audit / inspection) FPC

The quality system of the supplying manufacturer shall be subjected of an assessment by Kiwa on the basis of the IQC scheme / Quality plan.

The inspection contains at least those aspects mentioned in the Kiwa Regulations for Certification and the requirements of the applicable standards.

The quality system of the supplying manufacturer shall be audited internal by the suppliers at least once a year.

The quality system of the supplying manufacturer shall be audited external by Kiwa at least once a year.

The manufactured components shall be inspected internally by the supplier according to the IQC scheme / Quality plan.

Kiwa shall witness a relevant sample of these inspections at least once per year per scope as is defined in the Kiwa Quality plan of the scheme.

6.3 Additional Quality system requirements

The supplier (manufacturer) shall have an operative quality system according EN16763 "Services for fire safety systems and security systems".

6.4 Storage and handling

The storage and handling of the fire extinguishing agent shall be dry and protected against the weather and the storage temperature and maximum relative humidity shall be as specified by the supplier.

7 Inspection of Smoke and heat control systems by Kiwa

7.1 General

The users of buildings and/or sites have the obligation to fulfil the responsibilities about;

- life safety for staff and visitors (occupancies) (fulfilling requirements within ISO19600),
- loss prevention of investments / goods (fulfilling requirements within ISO19600),
- business continuity processes (fulfilling requirements within ISO22301).

Note:

Societal security - Business continuity management systems - Requirements (ISO22301).

Compliance management systems – Guidelines (ISO 19600).

In these situations, an independent expert judgement based on an inspection is required.

This chapter contains the requirements for inspection by Kiwa to determine the status and the conditions that the systems have to fulfil.

The conditions shall minimal cover the requirements about:

- The construction of the building(s) such as strength by fire and fire resistance of building components;
- Asset and facility management of the building(s) and installation(s);
- The emergency organisation setup and readiness.

NFPA 4 can be used for assessments for integrated assessments.

NFPA 4: Standard for integrated fire protection and life safety system testing.

These inspections of the fire protection systems shall be performed according EN-ISO/IEC 17020 "Conformity assessment - General criteria for the operation of various types of bodies performing inspection".

In this assessment method, the Smoke and heat control system shall meet the requirements and conditions of the design standard(s) of the Smoke and heat control system and the conditions required in the basic design of the system in conjunction with the required conditions for the construction of the building compartment(s) and the organisation applying the Smoke and heat control system.

This method shall create a complete overview of the usage of the Smoke and heat control system in its application and if successful shall result in a System Application Inspection Certificate (SAIC).

In this method, the information generated by the supplier of the systems and co-suppliers of the conditions is used.

7.2 Steps in the process of the initial inspection for the qualification of the Smoke and heat control systems

The first step in the inspection process is the assessment of the basic design of the Smoke and heat control system.

The basic design shall at least contain the following information:

- The applicable design standard as is specified in chapter 4 of this scheme;
- The goal of the Smoke and heat control system such as loss prevention and / or life safety and / or business continuity;

- The functional requirements like the detection rate or minimal flow of the system should provide;
- The specific conditions and limitations of the system in its application;
- The action plan for the internal / external rescue organisations after activation of the Smoke and heat control system.

The second step in the inspection process is the assessment of the detailed design of the Smoke and heat control system.

The detailed design shall at least contain the following information:

- The supplier of the system and the approvals / certificates for the system in conjunction with its goal and functions;
- The calculations and design drawings specifying the layout of the system and its functions based on the basic design.

The third step in the inspection process is the pre-assessment of the basics of the system onsite of the Smoke and heat control system related to the basic- and detailed design.

These inspections can contain several stages of the realisation process by the supplier.

The fourth step in the inspection process is the final-assessment of the delivered Smoke and heat control system onsite related to the basic- and detailed design.

These inspections can contain several stages of the realisation process by the supplier.

This process is a basic outline of the inspection process and can be different per Smoke and heat control system and site.

7.3 Steps in the process of the surveillance inspection for the re-qualification of the Smoke and heat control systems

The Smoke and heat control system shall be inspected to verify if it still meets the requirements of the basic- and detail design.

The first step in the inspection process is the assessment if the scope and demarcation have been changed of the Smoke and heat control system based on the present use.

The second step in the inspection process is the verification if the servicing / maintenance as described in chapter 4 of this scheme if this enables the working of the Smoke and heat control system.

The third step in the inspection process is if the inspection of the conditions enables the functions of the Smoke and heat control system.

The fourth step in the inspection process is if the inspection of the condition of the Smoke and heat control system meets the requirements of the basic- and detailed design.

This process is a basic outline of the inspection process and can be different per Smoke and heat control system and site.

8 Marking

8.1 General

The systems and products shall be marked with a declaration of conformity according to the certification part of this scheme and applicable standards. The declaration shall contain at least following information:

- name or logo of the supplier or manufacturer;
- data or code indicating the date of delivery or maintenance;
- type indication;
- certification marking according to this scheme.

Indications and markings shall at least fulfil the requirements in the relevant product standard.

8.2 Certification mark

After concluding a Kiwa certification agreement, the certified products shall be indelible marked with the certification mark as is detailed in this scheme.



8.2.1 Product / component marking by the manufacturer

Essential components with a system of Kiwa shall be affixed with a marking according to 6.1 of this scheme.

8.2.2 Installation marking by the supplier

Installations fulfilling the requirements shall be marked with an installation declaration of conformity according to this certification scheme and applicable standards.

8.2.3 Maintenance marking by the supplier

Maintenance of installations fulfilling the requirements shall be marked with a maintenance declaration of conformity according to this certification scheme and applicable standards.

8.3 System Application Inspection Certificate from Kiwa

Installations and conditions supporting the functions of the system fulfilling the requirements of this scheme shall be marked with a system declaration of conformity according to this certification scheme and the applicable standards.

These conditions are not in control of the supplier of the system.

To achieve a system declaration of conformity, the full co-operation of the user of the system and premises and his/her contractors is needed for this inspection. This party should request for this inspection direct or indirect.

This is operated according to chapter 1.5.1 and 7 of this scheme.

9 Requirements in respect of the quality system of the supplier / manufacturer

This chapter contains the requirements which have to be met by the supplier's quality system.

9.1 Manager of the quality system of the system / product

Within the supplier's organizational structure, an employee who will be in charge of managing the supplier's quality system must have been appointed.

The manager of the quality system is responsible:

- to have the latest version of the organisation's organogram communicated with Kiwa;
- to manage the internal audit of the quality system at least once a year;
- to manage the internal inspections of the design, installation and maintenance of the Smoke and heat control systems according to the internal quality control scheme (IQC scheme).

9.2 Internal quality control / quality plan

The supplier shall have an internal quality control scheme (IQC scheme) which is applied by him. The standard for this quality plan is the EN16763 "Services for fire safety systems and security systems.

The following must be demonstrably recorded in this IQC scheme:

- which aspects are checked by the supplier;
- according to what methods such inspections are carried out;
- how often these inspections are carried out;
- in what way the inspection results are recorded and kept.

This IQC scheme should at least be an equivalent derivative of the model IQC scheme as shown in the Annex.

Note; Requirements for subcontracting are described in paragraph 3.3 of EN16763.

9.3 Control of test and measuring equipment

The supplier shall verify the availability of necessary test and measuring equipment for demonstrating product conformity with the requirements in this evaluation guideline.

When required the equipment shall be kept calibrated (e.g recalibration at interval).

The status of actual calibration of all equipment shall be demonstrated by traceability through an unique ID.

The supplier must keep records of the calibration results.

The supplier shall review the validity of measuring data when it is established at calibration that the equipment is not suitable anymore.

9.4 Procedures and working instructions

The supplier shall be able to submit the following:

- procedures for:
 - dealing with products showing deviations;
 - corrective actions to be taken if non-conformities are found;
 - dealing with complaints about products and/or services delivered;

- the working instructions and inspection forms used for design, installation and maintenance.

9.5 Requirements of staff for Smoke and heat control systems

Staff acting in critical stages of the process need to be qualified according the model in chapter 3.4 of EN16763 “Services for fire safety systems and security systems”.

In this scheme following roles are defined:

“A” defined for the manager responsible of the total delivery process of these system and the stages verification and handover;

“B” defined for the staff responsible of the planning, design and commissioning process of these systems.

“C” defined for the staff responsible of the installation and maintenance process of these systems.

9.5.1 Requirements exams / diplomas Smoke and heat control systems

In its quality plan Kiwa shall specify per scope per role what exams or diplomas meet these requirements.

Kiwa shall make use of the requirements per diploma per scope on this site:

www.certoplan.nl

9.5.2 Requirements concerning verification staff manufacturer Smoke and heat control systems components

Function	Education	Experience
Production manager	Higher professional qualification in one of the following disciplines: <ul style="list-style-type: none"> • Technical 	1 year
Laboratory manager	Higher professional qualification in one of the following disciplines: <ul style="list-style-type: none"> • Technical or comparable 	1 year

The education and experience of relevant personnel shall be verifiably documented.

9.6 Planning audit and sample inspections Smoke and heat control systems

The supplier of the Smoke and heat control system shall arrange that Kiwa can perform its yearly audit and the necessary inspections on site. The supplier shall use the registration tools of Kiwa.

10 Summary of tests and inspections by Kiwa

This chapter contains a summary of the following tests and inspections to be carried out in the event of certification:

- **initial investigation:** tests in order to ascertain that all the requirements recorded in the scheme are met;
- **inspection test:** tests carried out after the certificate has been granted in order to ascertain whether the certified products continue to meet the requirements recorded in the scheme;
- **inspections and audits of the quality system of the supplier:** monitoring compliance of the IQC scheme and procedures.

10.1 Test, inspection and audit matrix

Description of requirement	Article no. scheme	Tests, inspections and audits within the scope of:	
		Pre-certification	Inspection by Kiwa after granting of certificate a,b)
Process requirements			
Per applicable scope for the fire protection system	4	x	x
Testing performance of the systems			
If needed per applicable scope Installation and application manual (DIOM)	5	x	x
Factory production control components			
If needed per applicable scope Installation and application manual (DIOM = Design, Installation, Operation and Maintenance) Batch testing	6	x	x
Quality system and Certification mark			
Quality system Certification marking	8 9	x	X

a) In case the product or production process changes, it must be determined whether the performance requirements are still met.

b) All product characteristics that can be determined within the visiting time (maximum 1 day) are determined by the inspector or by the supplier in the presence of the inspector. In case this is not possible, an agreement will be made between the certification body and the supplier about how the inspection will take place. The frequency of inspection visits is defined in chapter 6.2 of this scheme.

10.2 Inspection of the quality system of the supplier

The quality system of the supplying manufacturer will be checked by Kiwa on the basis of the IQC scheme / Quality plan.

The inspection contains at least those aspects mentioned in the Kiwa Regulations for Certification and the requirements of the applicable standards.

10.2.1 Auditing the quality system of the supplier

The quality system of the supplier shall be audited internally by the suppliers at least once a year.

The quality system of the supplier shall be audited externally by Kiwa at least once a year with a minimum audit time of 1 day.

10.2.2 Inspecting the output of the process of the supplier

The installations / systems shall be inspected internally by the supplier according to the IQC scheme / Quality plan.

Kiwa shall inspect relevant samples of installations / systems in the maintenance process at least once a year as is defined in the Kiwa Quality plan of the scheme and scope. The basic design of the installation / system can stipulate that an installation / system shall be inspected every year.

Otherwise, a random inspection frequency is applicable according to the matrix in this chapter.

Per sample inspection is no complete overview applicable of the maintenance process.

The inspection plan in control of the Kiwa Quality plan shall stipulated what needs to be inspected per year per supplier and what needs to be inspected per installation / system.

Kiwa shall inspect relevant samples of installations / systems in the delivery process at least once a year as is defined in the Kiwa Quality plan of the scheme and scope. The basic design of the installation / system can stipulate that an installation / system shall be inspected including design by Kiwa.

Otherwise, a random inspection frequency is applicable according to the matrix in this chapter.

Per sample inspection is no complete overview applicable of the installation process.

The inspection plan in control of the Kiwa Quality plan shall stipulated what needs to be inspected per year per supplier and what needs to be inspected per installation / system.

Matrix frequency samples inspection

	System	Installation stage	Maintenance stage
A	Natural	1:5 first year 1 : 10	1:15 first year 1 : 30
B	Mechanic	1:5 first year 1: 10	1:15 first year 1 : 30

Note; during a sample inspection, certain activities are to be assessed such as the detection systems in conjunction with the function of the system itself.

10.3 Design modifications components

Design modifications to the certified product shall always be notified to Kiwa before being introduced in the production process. Kiwa shall assess to what extent the design modifications will require new type tests of the product. The modified product may only be supplied with the Kiwa mark after written approval by Kiwa of the re- designed or new product.

11 Agreements on the implementation of certification by Kiwa

11.1 General

Beside the requirements included in these evaluation guidelines, the general rules for certification as included in the Kiwa Regulations for Certification also apply.

These rules are in particular:

- the general rules for conducting the pre-certification tests, in particular:
 - the way suppliers are to be informed about how an application is being handled;
 - how the tests are conducted;
 - the decision to be taken as a result of the pre-certification tests.
- the general rules for conducting inspections and the aspects to be audited,
- the measures to be taken by Kiwa in case of Non-Conformities,
- the measures taken by Kiwa in case of improper use of Certificates, Certification Marks, Pictograms and Logos,
- terms for termination of the certificate,
- the possibility to lodge an appeal against decisions of measures taken by Kiwa.

11.2 Certification staff

The staff involved in the certification may be sub-divided into:

- Site assessor (**SAS**): in charge of carrying out external inspections at the supplier's site(s);
- Decision maker (**DM**): in charge of taking decisions in connection with the pre-certification tests carried out, continuing the certification in connection with the inspections carried out and taking decisions on the need to take corrective actions.

11.2.1 Qualification requirements

The qualification requirements consist of:

- qualification requirements for personnel of a certification body which satisfies the requirements EN ISO / IEC 17065, performing certification activities
- qualification requirements for personnel of a certification body performing certification activities set by the Board of Experts for the subject matter of this evaluation guideline

Education and experience of the concerning certification personnel shall be recorded demonstrably.

Basic requirements	Evaluation criteria
Knowledge of company processes Requirements for conducting professional audits on products, processes, services, installations, design and management systems.	According the policies of Kiwa.
Competence for execution of site assessments. Adequate communication skills (e.g. reports, presentation skills and interviewing technique).	According the policies of Kiwa.
Execution of initial examination	According the policies of Kiwa.
Conducting review	According the policies of Kiwa.

Technical competences	Evaluation Criteria
Education	General: Education technical area: <ul style="list-style-type: none"> • Engineering in the context of this scheme.
Testing skills	General: <ul style="list-style-type: none"> • 1 inspection according this scheme including measuring techniques and performing tests conducted together with a qualified SAS. • 1 inspection according this scheme including measuring techniques and performing tests conducted self-reliant witnessed by PM.
Experience - specific	SAS <ul style="list-style-type: none"> • 2 inspection visits together with a qualified SAS • 1 inspection visits conducted self-reliant witnessed by PM.
Skills in performing witnessing	PM Internal training witness testing

Legend:

- Decision maker (**DM**)
- Product manager (**PM**)
- Site assessor (**SAS**)

11.2.2 Qualification

The qualification of the Certification staff shall be demonstrated by means of assessing the education and experience to the above mentioned requirements. In case staff is to be qualified on the basis of deflecting criteria, written records shall be kept.

The authority to qualify staff rests with the:

- **PM**: qualification of **SAS**;
- management of the certification body: qualification of **DM**.

11.3 Report initial investigation

The certification body records the results of the initial investigation in a report.

This report shall comply with the following requirements:

- completeness: the report provides a verdict about all requirements included in the evaluation guideline;
- traceability: the findings on which the verdicts have been based shall be recorded and traceable;
- basis for decision: the **DM** shall be able to base his decision on the findings included in the report.

11.4 Decision for granting the certificate

The decision for granting the certificate shall be made by a qualified Decision maker which has not been involved in the pre-certification tests. The decision shall be recorded in a traceable manner.

11.5 Layout of quality declaration

The product certificate shall be in accordance with the model included in the Annex.

11.6 Nature of third party audits

The certification body shall carry out surveillance audits on site at the supplier at regular intervals to check whether the supplier complies with his obligations. The Board of Experts decides on the frequency of audits.

The audit program on site shall cover at least:

- the product requirements;
- the production process;
- the suppliers IQC scheme and the results obtained from inspections carried out by the supplier;
- the correct way of marking certified products;
- compliance with required procedures;
- handling complaints about products delivered.

For suppliers with a private label certificate the frequency of audits amounts to one audit per two years. The audits are conducted at the site of private label holder and focus on the aspects inserted in the IQC scheme and the results of the control performed by the private label holder. The IQC scheme of the private label holder shall refer to at least:

- the correct way of marking certified products;
- compliance with required procedures for receiving and final inspection;
- the storage of products and goods;
- handling complaints.

The results of each audit shall be recorded by Kiwa in a traceable manner in a report.

11.7 Non conformities

When the certification requirements are not met, measures are taken by Kiwa in accordance with the sanctions policy as written in the Kiwa Regulation for Certification.

The Sanctions Policy is available through the “News and Publications” page on the Kiwa website.

11.8 Report to the Board of Experts

De certification body shall report annually about the performed certification activities.

In this report the following aspects are included:

- mutations in number of issued certificates (granted/withdrawn);
- number of executed audits in relation to the required minimum;
- results of the inspections;
- required measures for established Non-Conformities;
- received complaints about certified products.

11.9 Interpretation of requirements

The Board of Experts may record the interpretation of requirements of this certification scheme in one separate interpretation document in annex III of this scheme.

11.10 Specific rules set by the Board of Experts

By the Board of Experts the following specific rules have been defined. These rules shall be followed by the certification body.

12 Titles of standards

12.1 Public law rules

Not applicable

12.2 Standards / normative documents

Number	Title	Version*
EN ISO/IEC 17020	Conformity assessment - General criteria for the operation of various types of bodies performing inspection.	
EN ISO/IEC 17021	Conformity assessment - Requirements for bodies providing audit and certification of management systems.	
EN ISO/IEC 17024	Conformity assessment - General requirements for bodies operating certification of persons.	
EN ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories.	
EN ISO/IEC 17065	Conformity assessment - Requirements for bodies certifying products, processes and services.	
EN 12101-1 draft	Smoke and heat control systems - Part 1: Specification for smoke barriers	2018
EN12101-2	Smoke and heat control systems - Part 2: Specification for natural smoke and heat exhaust ventilators	2017
EN 12101-3	Smoke and heat control systems - Part 3: Specification for powered smoke and heat exhaust ventilators	2015
CEN-TR 12101-5	Smoke and heat control systems - Part 5: Guidelines on functional recommendations and calculation methods for smoke and heat exhaust ventilation systems.	2005
EN 12101-6 draft	Smoke and heat control systems - Part 6: Specification for pressure differential systems – Kits;	2020
EN 12101-7	Smoke and Heat Control Systems; Part 7: Smoke Ducts	2011
EN 12101-8	Smoke and Heat Control Systems; Part 8: Smoke control dampers	
EN 16763	Services for fire safety systems and security systems	2017
ISO22301	Societal security - Business continuity management systems - Requirements (ISO22301:2012).	2012
ISO19600	Compliance management systems – Guidelines	2014
NFPA 4	Standard for integrated fire protection and life safety system testing	2021
NFPA 92	Standard for Smoke Control Systems	2021

*) When no date of issue has been indicated, the latest version of the document is applicable for new systems. Kiwa shall inform the certificate holders about changes in version. For design, installation and maintenance is the version of standard applicable set in the basic design.

I Annex - Model certificates (examples)



CERTIFICATE

Product Certificate Kxxx



Issued 2022-03-01xx

Replaces n/a

Page 1 of 5

Product xxxx name

STATEMENT BY KIWA

With this product certificate, issued in accordance with the Kiwa Regulations for Certification, Kiwa declares that legitimate confidence exists that the products supplied by

Company manufacturer product xxxx

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with the international Kiwa TIC - scheme BRL-K21025 "Smoke & heat control systems" dated [2022-03-01].

Kiwa

Publication of this certificate is allowed.

Advice: consult www.kiwa.nl in order to ensure that this certificate is still valid.

Kiwa Nederland B.V.
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info@kiwa.com
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Company
Company
Address
City, Country
Email
Tel. +
www

Factory
Company
Address
City, Country
Email
Tel. +
www

Certification process consists of initial and regular assessment of:

- quality system
- product



CERTIFICATE

Process certificate Kxxx

Issued 2022-03-01

Replaces

Page 1 of 2



Smoke & heat control systems

STATEMENT BY KIWA

With the issue of this Process certificate based on certification scheme K21025/02 – Smoke & heat control systems dated 2022-03-01, in accordance with the Kiwa Regulations for Certification, Kiwa declares that legitimate confidence exists that the Process supplied by

Client

continuously complies with the process requirements for scope(s):

- 1. Natural smoke & heat control systems
- 2. Mechanical smoke & heat control systems

as mentioned in the certification scheme and further on this certificate.

Kiwa

This certificate consists of 2 pages.

Publication of this certificate is allowed.

Advice: consult www.kiwa.nl or www.kiwaits.nl in order to ensure that this certificate is still valid.

You can request more information about the scope and the applicable certification scheme from the certified company.

Smoke & heat control systems

Provider

client

Tel.

Kiwa Nederland B.V.
Sir Winston Churchilllaan 273
Postbus 70
2286 AB Rijswijk
Tel. +31 88 998 51 00
www.kiwa.nl

Executed by:
Kiwa NCP
NL_info.ncp.fsa@kiwa.com
www.kiwaits.nl



Service Certificate Kxxx

Issued 2022-03-01

Replaces

Page 1 of 2

CERTIFICATE

Smoke & heat control systems

STATEMENT BY KIWA

With the issue of this service certificate based on certification scheme K21042/02 – Smoke & heat control systems dated 2022-03-01, in accordance with the Kiwa Regulations for Certification, Kiwa declares that legitimate confidence exists that the services supplied by

client xxx

continuously complies with the process requirements for scope(s):

- 1. Natural smoke & heat control systems
- 2. Mechanical smoke & heat control systems

as mentioned in the certification scheme and further on this certificate.

Kiwa

This certificate consists of 2 pages.

Publication of this certificate is allowed.

Advice: consult www.kiwa.nl or www.kiwaifs.nl in order to ensure that this certificate is still valid.

You can request more information about the scope and the applicable certification scheme from the certified company.

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Smoke & heat control systems

Provider

client

Tel.



System Application Inspection Certificate XXX

Issued 20xx-xx-xx

Replaces

Page 1 of 2

CERTIFICATE

Smoke & heat control systems

STATEMENT BY KIWA

With the issue of this System Application Inspection Certificate based on TIC scheme K21025/02 – Smoke & heat control systems dated 2024-02-05, in accordance with the Kiwa Regulations for Certification, Kiwa declares that the Smoke & heat control system complies with the standard(s) and basic engineering.

Project xxx

Applicable scope(s):

- 1. Natural smoke & heat control systems
- 2. Mechanical smoke & heat control systems

Applicable objective(s):

- 1. Life Safety
- 2. Loss Prevention
- 3. Business Continuity

as mentioned in the certification scheme and further on this certificate and inspection report below.

Kiwa

*This certificate consists of 2 pages.
Publication of this certificate is allowed.*

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Executed by:
 Kiwa NCP
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Smoke & heat control systems	Report	Basic Engineering document
Project		
Address	Nr.	Nr.
	Data	Data
Tel.		

II Annex - Model IQC-scheme (example)

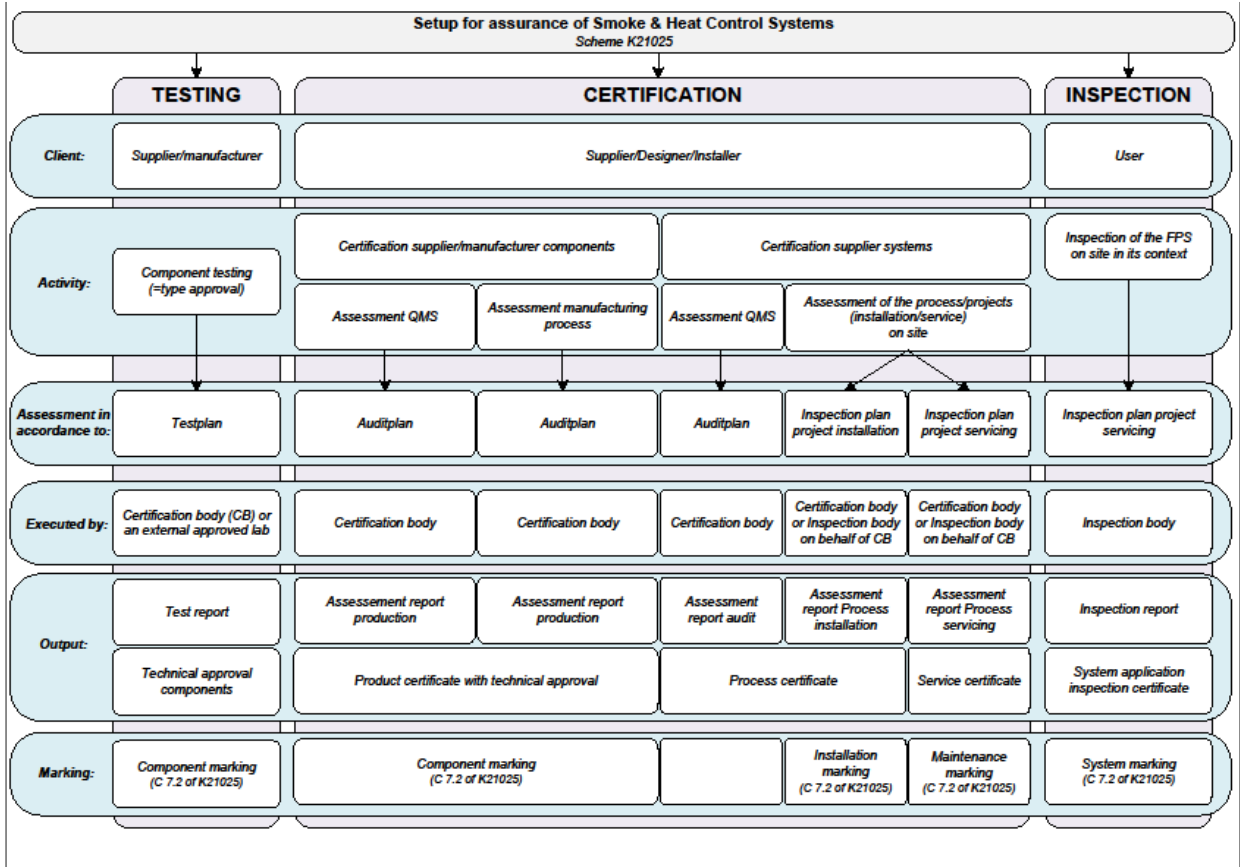
Inspection subjects	Inspection aspects	Inspection method	Inspection frequency	Inspection registration
Raw materials or materials supplied: - recipe sheets - incoming goods inspection raw materials				
Production process, production equipment, plant: - procedures - working instructions - equipment - release of product				
Finished-products				
Measuring and testing equipment - measuring equipment - calibration				
Logistics - internal transport - storage - preservation - packaging - identification				

III Annex - Interpretation of requirements

International situation

If applicable can preliminary international standard documents be used.

IV Annex - structure scheme



V Annex - structure documents scheme

