

**K21047/01**

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# Wireless Silent Alarm Systems

for the certificate for Wireless Silent Alarm and evacuation  
Systems with locating function of the alarm devices



**Trust  
Quality  
Progress**

# Preface

This European Certification Scheme has been accepted by the Kiwa Board of Experts Fire Safety, wherein all the relevant parties in the field of Fire Safety are represented. These Boards of Experts also supervises the certification activities and where necessary require the Certification Scheme to be revised. All references to Board of Experts in this Certification Scheme pertain to the above mentioned Boards of Experts. This Certification Scheme will be used by Kiwa in conjunction with the Kiwa-Regulations for Certification, in which the general rules in case of certification are registered.

The purpose of this Certification Scheme is to make clear in which way a declaration of conformity regarding performance-, reliability- and security requirements of the rated Wireless Silent Alarm System (WSAS) shall be developed. The alarm system consists of components and network(s) under control of an wireless silent alarm system supplier. This based on the European standards in this scope.

To achieve the certification of an wireless silent alarm system should the assessment comprehend following:

- The adoption of the demarcation and the specifications of the WSAS;
- The requirements of the product quality of relevant components;
- The requirements of the network architecture;
- The field inspection of the performance- & other requirements of the WSAS;
- The requirements of the security controls of the WSAS;
- The evaluation of the statistical data which is generated by the hardware and software of the WSAS;
- The requirements of the Monitoring Centre who collects the data and processes this according to the specifications of the WSAS;
- The requirements of the corrective actions by the WSAS on failing communication by the system.

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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 Certification and Inspection of Kiwa FSS on march 20<sup>th</sup>, 2019.

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# 1 Introduction

## 1.1 General

This European 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, (systems), processes and services used for wireless silent alarm systems.

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 certification 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.

## 1.2 Field of application / scope

Below is the demarcation set of the wireless silent alarm system.

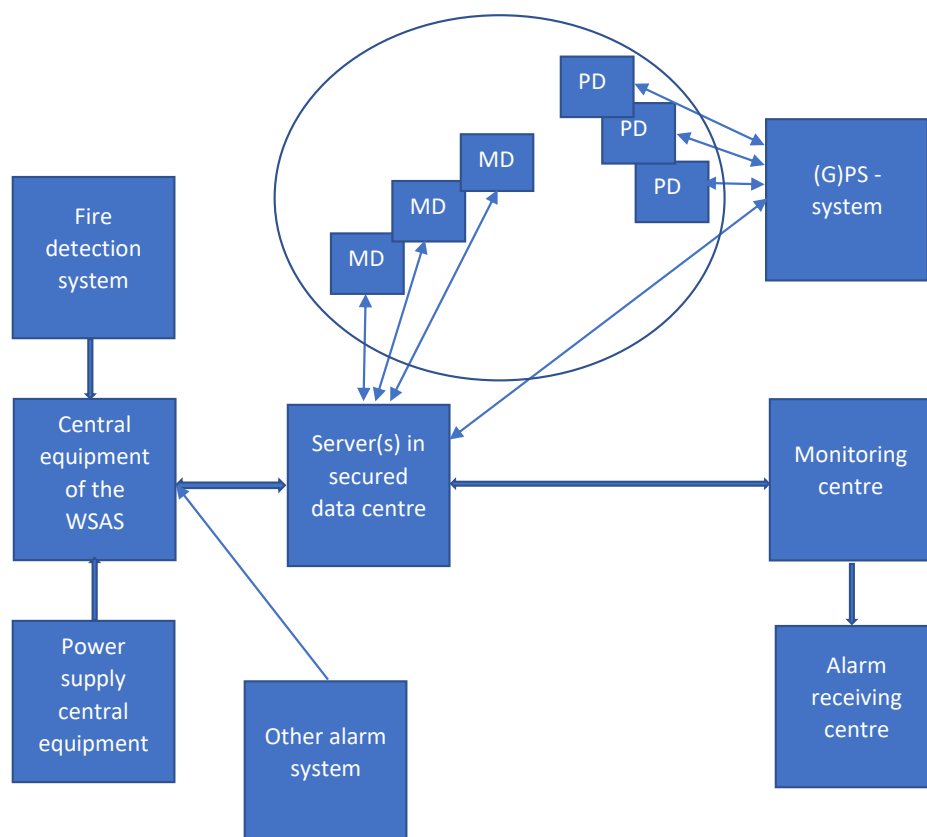


Figure 1 – infrastructure of the WSAS

*Legend*

*MD = Mobile device*

*PD = Position device (in mobile device)*

The following elements in the demarcation are within scope:

- The supervised alarm communication between the fire detection system and the central equipment of the wireless silent alarm system (WSAS);
- The central equipment of the WSAS;
- The supervised connection to the power supply for the WSAS;
- The supervised alarm communication between the central equipment of the WSAS and the server in the secured data centre.
- The supervised alarm communication between the server in the secured data centre and the mobile devices (MD) of the users on site and the application performing its functions on the mobile devices;
- The positioning function of the WSAS of the users of the emergency organisation on site.

Additionally is the supervised communication between the server in the secured data centre and the monitoring centre and alarm receiving centre be in scope for at least the reporting of faults of the system.

The product is intended to be used in building and / or on sites to relay the information of the fire detection system in a building and / or on a site to the emergency organisation of the building and/or site.

The goal of the product is to inform and alarm the emergency organisation in the building and/or site in a timely and secured way of the status of the fire detection system or other alarm systems and the number of emergency staff on location to be able to start the emergency and/or evacuation process. The reliability and availability of the system is essential.

The functions of the WSAS are:

- Supervised alarm communication of the fire detection system and the mobile devices of the emergency organisation on location;
- Informing the user of the WSAS about faults in the system;
- Reporting about the availability of the system;
- Reporting about the availability of the connected number of staff within the designated area of the emergency organisation.

### **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:

- NEN-EN-ISO/IEC 17020 for inspection bodies;
- NEN-EN-ISO/IEC 17021-1 for certification bodies certifying systems;
- NEN-EN-ISO/IEC 17024 for certification bodies certifying persons;
- NEN-EN-ISO/IEC 17025 for laboratories;
- NEN-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 Board of Accreditation (RvA) or by one of the institutions with which an agreement of mutual acceptance has been concluded by the RvA. The accreditation shall refer to the examinations as required in this evaluation guideline. When no certificate of accreditation can be shown, Kiwa shall verify whether the accreditation standard is fulfilled.

### **1.4 Quality declaration**

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

- product certificate for the manufacturing of the components/systems;
- process certificate for the delivery of installations of these systems;

- services certificate for the delivery of maintenance of these systems.

A model of these certificate to be issued on the basis of this scheme has been included for information as an annex.

## **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 shall be performed.

This assessment 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 shall the system met the requirements and conditions of the standard(s).

This method shall create a complete overview of the system and if successful shall result in a system certificate.

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

## 2 Terms and definitions

### 2.1 Definitions general

In this evaluation guideline, the following terms and definitions apply:

- **Board of Experts:** the Board of Experts Fire Safety.
- **Certification mark:** a protected trademark of which the authorization of the use is granted by Kiwa, to the supplier whose products can be considered to comply on delivery with the applicable requirements and possibly with quality information on the application of the product is added by a specially designed label which is based on the result, as stated in the report issued by Kiwa on the inspection of the prototype
- **Certification scheme:** the agreements made within the Board of Experts on the subject of certification.
- **Conditions:** for the function of a WSAS are certain conditions needed. These conditions can be for example a fire detection system or a good performing user group.
- **Inspection tests:** 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 certification scheme.
- **Quality plan:** a description of the quality inspections carried out by the supplier as part of his quality system.
- **Initial assessment:** tests in order to ascertain that all the requirements recorded in the certification scheme are met.
- **Other alarm system:** system that can create an alarm as start for the evacuation process as an example a system according to EN50131.
- **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, on 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 that is responsible for ensuring that the products meet and continue to meet the requirements on which the certification is based.



## 2.2 Definitions technique and abbreviations

- **BIOD:** Bring your own device
- **Compatibility for component type 1 according to EN54-13; 3.1.2:** ability of a component type 1 to operate with other type 1 components of the FDAS:
  - within the limits specified for each component given in the documentation;
  - within the specified limits given by the relevant parts of EN 54, or given by the applicant; if no EN 54 part applies;
  - within specified configurations of systems.
- **Connectability for component type 2 according to EN54-13; 3.1.5:** ability of component type 2 to operate without jeopardizing the performance of the fire detection and fire alarm system.
- **FDAS;** Fire Detection and Fire Alarm System.

## **3 Procedure for granting a product certificate**

### **3.1 Initial investigation**

The initial investigation to be performed are 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 on the presence and functioning of the remaining procedures.

### **3.2 Granting the product 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 to be certified products / systems 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 of the production process takes place during the ongoing work at the producer.

The assessment also includes at least:

- The quality of raw materials, half-finished products and end 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 producer.

## 4 Product requirements WSAS

### 4.1 General

This chapter contains the requirements that products have to fulfil.

The requirements for timely alarming, supervision of the communication and the availability of the system are arranged in the product and system requirements.

### 4.2 Product requirements

The devices arranging the supervised alarm communication has to comply with the requirements in EN50136-3; Alarm systems - Alarm transmission systems and equipment - Part 3: Requirements for Receiving Centre Transceiver (RCT);

- Fire Detection System <> Central Equipment of the WSAS;
- Central Equipment WSAS <> Server secured data centre;
- Server secured data centre <> Mobile devices users emergency organisation.

*These requirements are about the software of the devices.*

The connection between central equipment of the WSAS and the fire detection system and also the central equipment of the WSAS and power supply has to comply with the requirements in EN54-13; Fire detection and fire alarm systems - Part 13:

Compatibility assessment of system components;

- Fire Detection System <> Central Equipment of the WSAS (type 1);
- Central Equipment WSAS <> Power Supply of the central equipment of the WSAS (type 1).

The Central Equipment of the WSAS has to comply with the requirements in EN54-13 Fire detection and fire alarm systems - Part 13: Compatibility assessment of system components type 1.

The power supply of the central equipment of the WSAS has to comply with requirements in EN54-4; Fire detection and fire alarm systems - Part 4: Power supply equipment.

For other alarm systems shall the configuration with the WSAS be in according with the EN50131.

The requirements for the software application on the mobile devices and the WSAS are specified in 4.18.

### 4.3 System requirements

The supervised alarm communication between the central equipment of the WSAS and the server in the secured data centre has to comply with the requirements in EN50136-1 / IEC 60839-5-1; Alarm and electronic security systems – Part 5-1: Alarm transmission systems – General requirements; based on certification scheme K21030 for the scope critical communication.

The level of the secure alarm communication is Dual Path 4.

The supervised alarm communication between the central equipment of the WSAS and the server in the secured data centre has to comply with the requirements in EN50136-1 / IEC 60839-5-1; Alarm and electronic security systems – Part 5-1: Alarm transmission systems – General requirements;

The level of the secure alarm communication is Dual Path 2 or Single Path 3.

The reporting is accessible for the user of the system and inspection bodies.

*Remark: The possibly radio communication bands are 2G, 3G, 4G, 5G and WIFI. SMS can be used as communication layer.*

SMS is only used as a backup when data communication is not available. The capacity of the used network shall be such that it has sufficient capacity in a normal and in an incident situation to interact with all the users.

The positioning function (GPS) of the WSAS per mobile device user has to have following specifics:

- In the building and / or site are devices (such as WIFI transmitters) needed to facilitate the communication of the system of the users of the emergency team.
- Accuracy positioning on a surface level: this has to be specified by the supplier, it needs to have a minimal accuracy of 100 meter and be determined using at least two methods of location positioning. In case of inaccurate WIFI and GPS positioning there needs to be a manual input for users. The positioning function has a relation with alarm zone in the basic design of the WSAS.
- A designing and verification function tool for the determination of the number of local devices for the position function per building / floor and the verification of the function when installed. The basic criteria for this tool are accuracy positioning, adequate speed of communication and adequate availability of communication.

#### **4.3.1 Loggings of the system**

According to EN50136-1 / IEC 60839-5-1 are loggings made of the functions of all the devices within the system. The system shall have a capacity of at least 3 month to store this data.

### **4.4 Functional requirements wireless alarm system**

In this chapter are the additionally functions describes that are not arranged in the product and system requirements.

#### **4.4.1 Control panel**

The wireless silent alarm system must have an operating possibility which, in case of fire or other emergency silent alarm groups can be called manually.

#### **4.4.2 Central equipment – system requirements**

All transmission paths of wireless silent alarm systems are-intended for use by wireless silent alarm systems. Secondary applications transmission pathways for wireless fixed alarm systems must not have a negative influence on the primary purpose of the transmission paths for wireless silent alarm.

The equipment shall be a stand-alone application for alarm handling. The software application changes may only be made by trained and authorized personnel for this equipment.

The equipment shall handle a fire / evacuation alarm with the highest priority.

#### **4.4.3 Building / site communication devices supporting the WSAS**

The local communication devices supporting the WSAS shall provide sufficient coverage for the evacuation area; In case of failure in communication, the reception of messages in an area may not become below the level of availability of the WSAS per week and year and being monitored for proper functioning and shall be controlled and indicated by the software tool of the WSAS.

The instruction of the WSAS shall specify that the local communication devices for supporting of the WSAS shall:

- be suitable for the location where it is set up;
- comply with telecommunication legislation that applies to it.

The specification for the supporting network are following:

- GPS location of smartphone must be accurate to at least 100 meter;
- WIFI internet connection speed must be at least 40 Mbps, and must have a signal strength of at least -67 dBm;
- 4G signal strength should be at least -58 dBm;
- GPRS signal strength should be at least -50 dBm.

#### **4.5 Mobile receiving devices supporting the WSAS**

The business continuity strategy of the WSAS is such that regular mobile devices can be used supporting the functioning of the WSAS.

By enforcing this strategy on a locations creates the possibility that all staff present on the designated location can use their regular mobile device (company using the WSAS) obtaining a high percentage of users.

For obtaining a proper Confidentiality, Integrity and Availability level are BIOD solutions in this WSAS infrastructure not permitted.

This high percentage of users creates the ability to have a more direct action of the emergency organisation based on the emergency plan for the location and a higher business continuity for the WSAS.

If needed within the infrastructure of the building and/or site can dedicated WSAS devices be used. This has to stipulated within the basic engineering WSAS - plan of the building / site.

The mobile devices has to set in the following preconditions by the software tool of the WSAS on the device:

- the audible alarm signal on the receiving mobile device must be at least 65 dB (A) at 1 m and must be clearly distinguishable from other call signals. Is the sound pressure level of the ambient noise 59 dB (A) or more, the receiving mobile device must also be clearly felt vibrate signal.
- the acoustic signal in the event of an alarm may not interrupt the voice communication;
- the acoustic signal from the receiving device must remain active during a silent alarm call until it goes on the receiving mobile device is manually attached or up to a maximum of 60 seconds if it is not manual confirmed;
- a receiving mobile device must give a text message that at least the room / location that should be evacuated (for example the alarm zone or area);
- the language of the text message must be aligned with the emergency & evacuation organization and shall be recorded in the basic engineering plan of the WSAS for the building / site;
- the text messages relating to an evacuation alarm must have the highest priority, recognizable as such and clearly distinguishable from other messages;
- the receiving mobile devices give an acoustic and visual warning when the battery capacity is too low. This warning is made when the battery capacity reaches 10% of its maximal capacity. The warning does not have to be reported to the central equipment of the WSAS;
- the receiving mobile devices cannot be switched off without an acoustic and / or optical warning;
- the receiving mobile device gives "information about availability with in the defined zone", no later than 15 minutes when out of range with the WSAS if this is a control setting in the basic engineering plan based of the emergency (evacuation) plan;

- the selection of the mobile device is such that the energy supply must be sufficient for at least 12 hours of operation. The supplier shall specify this in its instruction for the software tool.

The settings one mobile devices shall be following settings and be monitored by the WSAS:

- The Mobile Device Operating system shall be a maximum installation of 2 years old.
- The Push notifications shall be turned on, and on priority when possible.
- The Location services shall be turned on, and on high accuracy when possible.

The settings one mobile devices shall be following settings:

- Any battery savers, task killers and virus scanners need to be turned off.
- VPN shall be turned off.
- WIFI and Mobile data shall be turned on.

Remark; if these settings are not met by the users shall this result in a low availability of users in a designated area. This shall be reported by the WSAS.

#### **4.6 Application**

This part contains the requirements that the application on the smart mobile device shall have to fulfil.

#### **4.7 Use and access levels of the application**

The application is attended to be used on general mobile smart devices.

The application shall connect direct by radio communication to the WSAS.

The application requires for this an logical access level 2 on the mobile smart device according to EN50131-1. The application shall enforce a new code after first installation.

The panel of the WSAS application shall connect to a hosted web platform.

The application requires for this an logical access level 3 according to EN50131-1.

#### **4.8 Connections of the application**

The application shall have a secure confidentiality connection to the alarm panel of the WSAS and met meet the key management requirement of TLS1.2.

Key management shall be arranged according ISO/IEC 11770-1/2/3

The integrity of this connection shall be arranged on cryptographic algorithms according to ISO/IEC 18033. The hash functions according to this shall also be applied for non-repudiation.

The cryptographic algorithms shall met the updated list of SSL labs or better.

The panel of the WSAS shall have a secure connection to a hosted web platform according to IEC 60839-5-1 (EN50136-1).

#### **4.9 Acknowledgment un/setting**

The setting made by means of the application shall be acknowledged by the panel of the WSAS and the hosted web platform.

The setting made by means of the hosted web platform shall be acknowledged by the panel of the WSAS and the application of the smart mobile device.

By this is the live situation reflected by the application.

The process shall be fail safe; that means that if during normal use the connection fails, the process is stopped and that the not completed changed settings shall fall back to the last completed settings.

#### **4.10 Uptime – availability – business continuity**

The availability of the hosted web platform shall meet the requirements DP4 according to IEC 60839-5-1 (EN50136-1).

The hosted web platform shall be hosted from a secure data centre complying with prEN50518 or better.

#### **4.11 Authenticity**

The definitions and processes of ISO/IEC 29115 shall be applied.

LoA3 shall be defined in the process of getting first access (onboarding) as an account to the application to the host and the central panel.

The process by the installer / supplier shall obtain minimal 2 factor authentication.

The application shall restrict a limited time within 2 factor authentication process.

The procedure getting access to the application on the mobile device shall be the same as to the central panel.

The procedure giving more users entrance to the application is the same as for the central panel.

It is allowed to use biometrics according to latest standards according the standardisation group ISO/IEC JTC 1 SC 37 on Biometrics.

#### **4.12 Accountability**

The hosted web platform and the application shall apply logging.

The minimal time of storing the logging for the hosted web platform and the application is 3 months.

#### **4.13 Session time**

A maximum session time shall be applied preventing un-authorized use for critical function(s) within the application such as the opening the application function for (settings) the panel.

Protection against hostile access (brute force) to the application within the secure functions shall be in the testing stage of the application by penetration testing.

#### **4.14 Instructions by the application towards the user**

The application shall warn and instruct the user to use the application in a secure manner.

#### **4.15 Secure development process for the code**

This part contains the requirements that the secure development process for the code shall have to fulfil.

#### **4.16 Process requirements**

The process shall be arranged according to

#### **4.17 Process requirement stages**

The secure development process shall contain at least the following stages:

1. Planning with project management;
2. Analyses of the epics, user stories, use cases;
3. Design with architecture & user experience;
4. Building the code by the developers;
5. Testing of the code; testing is continuous process for control and verification of the functions and the threads / weakness of the security;
6. Deploying of the code in a hosted solution;
7. Review of the process for improvement of the next development.

#### **4.18 Testing**

The security testing of the code is based on minimal requirements in “The Ten Most Critical Web Application Security Risks” according to the latest OWASP rules, laid down at; [www.owasp.org/](http://www.owasp.org/)

The code shall be tested according the latest applicable version of these rules.  
The testing shall be performed in the end-to-end situation in a laboratory situation.

The testing shall be performed by an expert whit a validated qualification by Kiwa.  
The qualification shall be based on the:

- Level of general knowledge and experience of code testing (5 years);
- Level of specific knowledge and experience of the code (3 years);
- Level of general knowledge and experience of the product in its application in the specific market sector (1 year);
- Level of specific knowledge and experience of the latest OWASP rules based of the applicable specific “Vulnerability Subcategories” (2 years).



# 5 Requirements process

## 5.1 General

This chapter contains the requirements that the delivery process have to fulfil.

## 5.2 Regulatory requirements

Not applicable.

## 5.3 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”.

### 5.3.1 *Planning (basic engineering) and detailed engineering WSAS plan*

The basic engineering plan for the WSAS outlines the engineering for the WSAS on location. The software application of the WSAS shall be able to arrange following preconditions:

- Alarm zones; The evacuation area shall be divided into one or more alarm zones. Depending on the size of the object, there may be several silent alarm groups each be responsible for the evacuation of one or more alarm zones;
- Number of receiving mobile devices; Minimal number of receiving mobile devices that belong to the silent alarm group within in a predefined alarm zone;
- Alarm conditions; The conditions to trigger an alarm;
- These alarm zones and minimal number of silent alarm groups shall be recorded in the basic engineering plan for the system for the location and to able to be implemented in the software application of the WSAS.
- The possibilities of negative interference on the WSAS gas to addressed in basic engineering plan.
- Reporting malfunctions.
- Language text on the control panel.
- Language text on the mobile devices.

Note; The basic engineering plan WSAS should be developed in conjunction with emergency (evacuation) plan of the building and / or site. If the emergency plan is updated can this consequences for the basic engineering plan of the WSAS. The user of the WSAS is responsible for informing concerning parties and taking proper action if needed.

### 5.3.2 *Commisioniong and verification*

The WSAS shall have a reporting function providing responsible staff with information about the functioning and availability of the system components during commissioning and verification.

This report shall be the basis of the verification report needed for the handover and needed for the declaration of conformity about the installation of the WSAS.

This report and the declaration of conformity about the installation of the WSAS shall be the basis of the declaration of conformity about the system.

### 5.3.3 *Handover and maintenance*

The user(s) of the WSAS shall be trained by the supplier of the WSAS in the correct handling of the system

After the handover of the system shall the WSAS have a reporting function providing responsible staff with information about the functioning, capacity and availability of the system components during its use and its maintenance.

This report shall be the basis of the maintenance report needed for the declaration of conformity about the maintenance.

This report and the declaration of conformity about the maintenance of the WSAS shall be the basis of the declaration of conformity about the system.

## **5.4 Other requirements**

### **5.4.1 Instructions**

The supplier shall design and deliver together with its WSAS an installation, user and maintenance instruction. These instruction together with the software application shall arrange the access levels to the system according EN54-2.

### **5.4.2 Training**

The supplier shall design and deliver training to the staff that has the task for the setting of the configurations of the WSAS.

### **5.4.3 GDPR - General Data Protection Regulation**

The user registration to the WSAS and the position function of the system shall meet the requirements of the General Data Protection Regulation (GDPR).

The requirements in this scheme attempt to fulfil these requirements in technical way.

A contract for parties exchanging personal data is needed

### **5.4.4 Monitoring and Alarm Receiving Centre**

The applicable acting monitoring and alarm receiving centre has to fulfill the requirements of EN50518; 2013 or prEN50518; 2018.

Secure locations used to receive and send information (data center) shall fulfill the requirements of EN50518; 2019.

# 6 Testing the performance of the systems

## 6.1 General

This chapter contains the requirements for testing by Kiwa to determine the performances that the systems have to fulfil.

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 ISO17025 "General requirements for the competence of testing and calibration laboratories" or ISO17065 "Conformity assessment - Requirements for bodies certifying products, processes and services".

## 6.2 Specific

The products shall be tested according to the requirements in chapter 4 of this scheme.

# 7 Factory production control components

## 7.1 General

This chapter contains the requirements for factory production control (FPC) by Kiwa of the manufacturers of essential components (products) of Fixed firefighting systems to determine the quality of these components that the systems have to fulfil.

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".

## 7.2 Audit / inspection FPC

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.

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 internal by the supplier according to the IQC scheme / Quality plan.

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

# 8 Marking

## 8.1 General

The systems and products shall be marked with a declaration of conformity according to this certification scheme and applicable standards. The declaration shall contain at least the 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 indelibly marked with the certification mark as is detailed in this scheme.

### 8.2.1 Product / component marking

Essential components with a FPC of Kiwa shall be affixed with a marking according to 7.1 of this scheme.

### 8.2.2 Installation marking

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

### 8.2.3 System marking

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

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

To achieve a system declaration of conformity is the full co-operation of the user of the system needed and its contractors.

This is operated according to chapter 1.5.1 of this scheme.

### 8.2.4 Maintenance marking

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

## 9 Requirements in respect of the quality system

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

### 9.1 Manager of the quality system

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

### 9.2 Internal quality control / quality plan

The supplier shall have an internal quality control scheme / plan which is applied by him.

The following must be demonstrably recorded in this QC scheme / plan:

- 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 QC scheme / plan as shown in the Annex.

### 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 each 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.

### 9.5 Qualification requirements of staff

Staff acting in critical stages of the process needs to be qualified according the model in EN16763 "Services for fire safety systems and security systems".

In this scheme is role:

"A" defined for the manager responsible of the total delivery process of the fire repression system and the stages verification and handover;

"B" defined for the staff responsible of the planning, design and commissioning process of the fire repression system.

“C” defined for the staff responsible of the installation and maintenance process of the fire repression system.

#### **9.5.1 *Requirments exams / diplomas***

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

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

[https://www.certoplan.nl/Eindtermen\\_procedures\\_reglementen/](https://www.certoplan.nl/Eindtermen_procedures_reglementen/)

#### **9.6 Planning audit and inspections**

The supplier of the fire repression 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

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 evaluation guideline 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 evaluation guideline;
- **inspection of the quality system of the supplier:** monitoring compliance of the IQC scheme and procedures.

## 10.1 Test matrix

Description of requirement	Article no. scheme	Tests within the scope of:	
		Pre-certification	Inspection by Kiwa after granting of certificate a,b)
Process requirements WSAS			
Per applicable scope	5	x	x
Product requirements WSAS			
If needed per applicable scope	4	x	x
Testing the performance of the WSAS			
If needed per applicable scope	6	x	x
Factory production control components			
If needed per applicable scope	7	x	x
Quality system and Certification mark			
	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 11.6 of this evaluation guideline.

## 10.2 Inspection of the quality system of the supplier

The quality system of the supplier will be checked by Kiwa on the basis of the IQC scheme.

The inspection contains at least those aspects mentioned in the Kiwa Regulations for Certification.



# 11 Agreements on the implementation of certification

## 11.1 General

Beside the requirements included in these evaluation guidelines, the general rules for certification as included in the Kiwa Regulations for Product 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 test 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:

- Certification assessor (**CAS**): in charge of carrying out the pre-certification tests and assessing the inspectors' reports;
- Site assessor (**SAS**): in charge of carrying out external inspections at the supplier's works;
- 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.	<i>Relevant experience: in the field</i> <b>SAS, CAS</b> : 1 year <b>DM</b> : 5 years inclusive 1 year with respect to certification Relevant technical knowledge and experience on the level of: <b>SAS</b> : High school <b>CAS, DM</b> : Bachelor

Basic requirements	Evaluation criteria
Competence for execution of site assessments. Adequate communication skills (e.g. reports, presentation skills and interviewing technique).	<b>SAS:</b> Kiwa Audit training or similar and 4 site assessments including 1 autonomic under review.
Execution of initial examination	<b>CAS:</b> 3 initial audits under review.
Conducting review	<b>CAS:</b> conducting 3 reviews

Technical competences	Evaluation Criteria
Education	<b>General:</b> Education in one of the following technical areas: <ul style="list-style-type: none"> <li>• Engineering.</li> </ul>
Testing skills	<b>General:</b> <ul style="list-style-type: none"> <li>• 1 week laboratory training (general and scheme specific) including measuring techniques and performing tests under supervision ;</li> <li>• Conducting tests (per scheme).</li> </ul>
Experience - specific	<b>CAS</b> <ul style="list-style-type: none"> <li>• 3 complete applications (excluding the initial assessment of the production site) under the direction of the <b>PM</b></li> <li>• 1 complete application self-reliant (to be evaluated by <b>PM</b>)</li> <li>• 3 initial assessments of the production site under the direction of the <b>PM</b></li> <li>• 1 initial assessment of the production site self-reliant (witnessed by <b>PM</b>)</li> </ul> <b>SAS</b> <ul style="list-style-type: none"> <li>• 5 inspection visits together with a qualified <b>SAS</b></li> <li>• 3 inspection visits conducted self-reliant (witnessed by <b>PM</b>)</li> </ul>
Skills in performing witnessing	<b>PM</b> Internal training witness testing

Legenda:

- Certification assessor (**CAS**)
- 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 **CAS** and **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 and frequency 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.

At the time this certification scheme entered into force, the frequency of audits amounts of 1 audit on site per year for suppliers.

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 ["Kiwa Regulation for Certification"](#).

### **11.8 Report to the Board of Experts**

The 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 evaluation guideline in one separate interpretation document.

### **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*
ISO/IEC 17020	Conformity assessment - General criteria for the operation of various types of bodies performing inspection	
ISO/IEC 17021	Conformity assessment - Requirements for bodies providing audit and certification of management systems	
ISO/IEC 17024	Conformity assessment - General requirements for bodies operating certification of persons	
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories	
ISO/IEC 17065	Conformity assessment - Requirements for bodies certifying products, processes and services	
EN 54-13	Fire detection and fire alarm systems - Part 13: Compatibility and connectability assessment of system components	2017
EN 54-4	Fire detection and fire alarm systems - Part 4: Power supply equipment	1999/A2:2006
IEC 60839-5-1	Alarm and electronic security systems – Part 5-1: Alarm transmission systems – General requirements	2014
EN 50136-1	Alarm systems - Alarm transmission systems and equipment - Part 1: General requirements for alarm transmission systems	2012
EN 50136-3	Alarm systems - Alarm transmission systems and equipment - Part 3: Requirements for Receiving Centre Transceiver (RCT)	2013
EN50518	Monitoring & Alarm Receiving Centre; parts 1, 2 & 3.	2013
prEN50518	Monitoring & Alarm Receiving Centre	2018
EN50131-1	Alarm systems - Intrusion and hold-up systems - Part 1: System requirements	2006

\*) When no date of issue has been indicated, the latest version of the document is applicable.

## I Model certificate (example)

	<b>Product certificate</b> <b>KXXXXXXX/0X</b>	
	Issued	
	Replaces	
	Page	1 of 1
<b>CERTIFICATE</b>	<b>Name product</b>	
	<b>STATEMENT BY KIWA</b> With this product certificate, issued in accordance with the Kiwa Regulations for Certification, Kiwa declares that legitimate confidence exists that the products supplied by	
	<b>Name customer</b> 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 Kiwa evaluation guideline BRL-xxxx "xxxxxxxxxxxxxxxxxxxxxxxxxxxx" <b>dated [dd-mm-yyyy]</b> inclusive amendment sheet dated dd-mm-yyyy.	
	 Luc Leroy Kiwa	
	<i>Publication of this certificate is allowed. Advice: consult <a href="http://www.kiwa.nl">www.kiwa.nl</a> in order to ensure that this certificate is still valid.</i>	
<b>Kiwa Nederland B.V.</b> Sir Winston Churchilllaan 273 P.O.Box 70 2280 AB RUSWIJK The Netherlands Tel. +31 88 998 44 00 Fax +31 88 998 44 20 <a href="mailto:info@kiwa.nl">info@kiwa.nl</a> <a href="http://www.kiwa.nl">www.kiwa.nl</a>	<b>Company</b> Name customer Address customer  <b>Phone number</b> <b>Fax number</b> <b>www.</b> <b>Email</b>	<div><b>Certification process</b> consists of initial and regular assessment of:<ul style="list-style-type: none"><li>• quality system</li><li>• product</li></ul></div>
	140410	

## II Model IQC-scheme manufacturer (example)

Inspection subjects	Inspection aspects	Inspection method	Inspection frequency	Inspection registration
Base materials or materials supplied: - recipe sheets  - incoming goods inspection base 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				