Appendix 1.1

Directory of quality signs: scope and structure

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1 Introduction

1.1 Background to ELIOS 2

Following some of the conclusions of the ELIOS 1 project, the Commission launched a new pilot project entitled: '*Facilitating access to insurance by self-employed builders and small building firms so as to stimulate innovation and the promotion of eco-technologies in the European Unio*n'.

The objectives of this pilot project are:

a) To provide objective and reliable information on the opportunities and threats of quality/conformity marks and building pathology that could support risk appraisal by (re) insurance.

b) To identify possibilities for a greater convergence or mutual recognition of construction insurance regimes in the EU-27 with the view of the Internal Market and the cover of building sustainability performances

As expressed in the call for tenders n° 116/PP/ENT/ASS/11/611, the Commission wishes:

a) to analyse the impact of quality/conformity marks on construction markets and the (re)insurance sector and develop an EU directory on quality marks;

b) to develop an EU-wide knowledge base on quality indicators in construction and building pathology that could support (re)insurance in risk appraisal;

c) to propose concrete actions to the deployment of insurance schemes that could support cross border services and the cover of building sustainability performances;

d) to assist the Commission in the setting up and the functioning of a forum composed by representatives from the construction and the (re)insurance sectors,

The ELIOS 2 project is organised in four work packages aiming to address these points as indicated in Table 1. WP5 concerns the project management.

Table 1 : work packages titles

WP1- Directory on quality / conformity marks
WP2- Indicators and monitoring of quality and pathology
WP3- Insurance schemes
WP4- Dissemination of data

1.2 Background to WP1

Chapter 2 of this report explains why we proposed to shift from the wording "construction quality/conformity marks" to "construction quality signs". This shift was proposed and agreed after the first ELIOS 2 forum.

The main objective of WP1 is to analyse the impact of quality signs on construction markets and the (re)insurance sector and develop an EU directory on quality marks. This work package includes three tasks listed in Table 2 and plans to produce eight deliverables listed in Table 3.

Table 2 : tasks of WP1.

WP1 Tasks	PARTICIPANTS
Task 1.1 Inventory of quality signs (labels, certificates, technical assessments, etc) in all EU-27 countries used in construction markets for construction products, processes, construction works, technical equipments, construction systems, professional qualification or services leading to the quality of buildings	BBRI, CSTB, PRC, TZUS
Task 1.2 The contextual framework of quality signs	BBRI, CSTB, PRC, TZUS
Task 1.3 Internet platform - Development of an EU directory on quality signs	BBRI, CSTB, PRC, TZUS

Table 3: list of WP1 deliverables

WP1 deliverables	PARTICIPANTS
D 1.0 review of literature/information sources on quality/conformity marks and building pathology ((Salagnac J-L et al. 2012)	BBRI, CSTB, PRC, TZUS,APAVE, Hannover-Ré, NHBC, Sbi
D 1.1 inventory of quality signs in EU-27 construction markets for products, processes, works, technical equipment, professional qualifications	BBRI, CSTB, PRC, TZUS
D 1.2 Critical analysis on the relevance of the information provided by quality marks	BBRI, CSTB, PRC, TZUS
D 1.3 Appraisal of modalities to follow to access to quality marks	BBRI, CSTB, PRC, TZUS
D 1.4 Assessment of the impact of the quality marks on the competitiveness of construction businesses	BBRI, CSTB, PRC,
D 1.5 Assessment of the use of quality marks by the insurance sector	BBRI, CSTB, PRC
D 1.6 Specification of characteristics of an internet platform for diffusion of the directory	BBRI, CSTB
D 1.7 Development of a EU directory on quality/conformity marks accessible on Internet	CSTB, Alten

1.3 Objective and content of the report

The present report is the deliverable D1.1. It presents the structure of the directory from which the specifications of the web-based directory will be elaborated.

By experience, the domain we address is complex. A main reason for this complexity is the great variety of situations that will be illustrated with examples given in this report.

We ambition to grasp a main part of this complexity but we also remain aware that we cannot address all peculiar situations. The proposed structure is a compromise between exhaustive and low level information. The balance aims to create favourable conditions to analyse specific questions raised in the call for tender, namely:

- *a critical analysis of the rationale and of the relevance of the information provided by the quality signs to the operators of the construction value chain and to investors, including the compatibility and complementary issues with the CE marking;*
- *an appraisal of the conditions and of modalities to be followed by construction operators in order to access to the quality signs, including those related to the mutual recognition of the marks by Member States;*
- *an assessment of the possible impact of the quality signs on the competitiveness of construction businesses and the functioning of the Internal Market;*
- *evidence and assessment of the extent to which the quality signs are used in practice by the insurance sector, including in the context of cross-border services. The assessment will consider possible constraints on the Internal Market resulting from common practice in insurance.*

By convention, **bold underlined words** are defined in the glossary (see appendix A).

2 Quality signs: need, definition, scope

2.1 Why are quality signs needed?

On a daily basis, everyone needs and uses information to choose goods, select commercial offers or assess the adequacy of products for a specific purpose. Though the ELIOS 2 project focuses on the construction sector, it must be emphasised that the issues we address also concern other sectors of activity (food, manufactured products, services, etc).

This information may be objective or subjective, oral or written, and may come in the form of a printed or electronic document which may or may not be associated with a logo. The importance of oral transmission of information in the construction activity must be emphasised (site activity, informal exchanges, tradition) but cannot be recorded in a directory. Good experiences or counter performances participate in the flow of information used during a construction project.

This information is meant to signal to users elements associated to the concerned **subject**. It may concern the reputation (of a distributor, of a product, of a contractor/stakeholder, etc). It may confirm the robustness of an item in certain circumstances. It may also warn the user about the field of use of this item.

This list is far from being exhaustive but long enough to illustrate the variety of situations where information is crucial to make adequate choices in situations that are always constrained (budget, available time ...).

What the society and the construction markets in particular are looking for is confidence. Creating and maintaining confidence between many stakeholders involved in a construction operation is a main challenge.

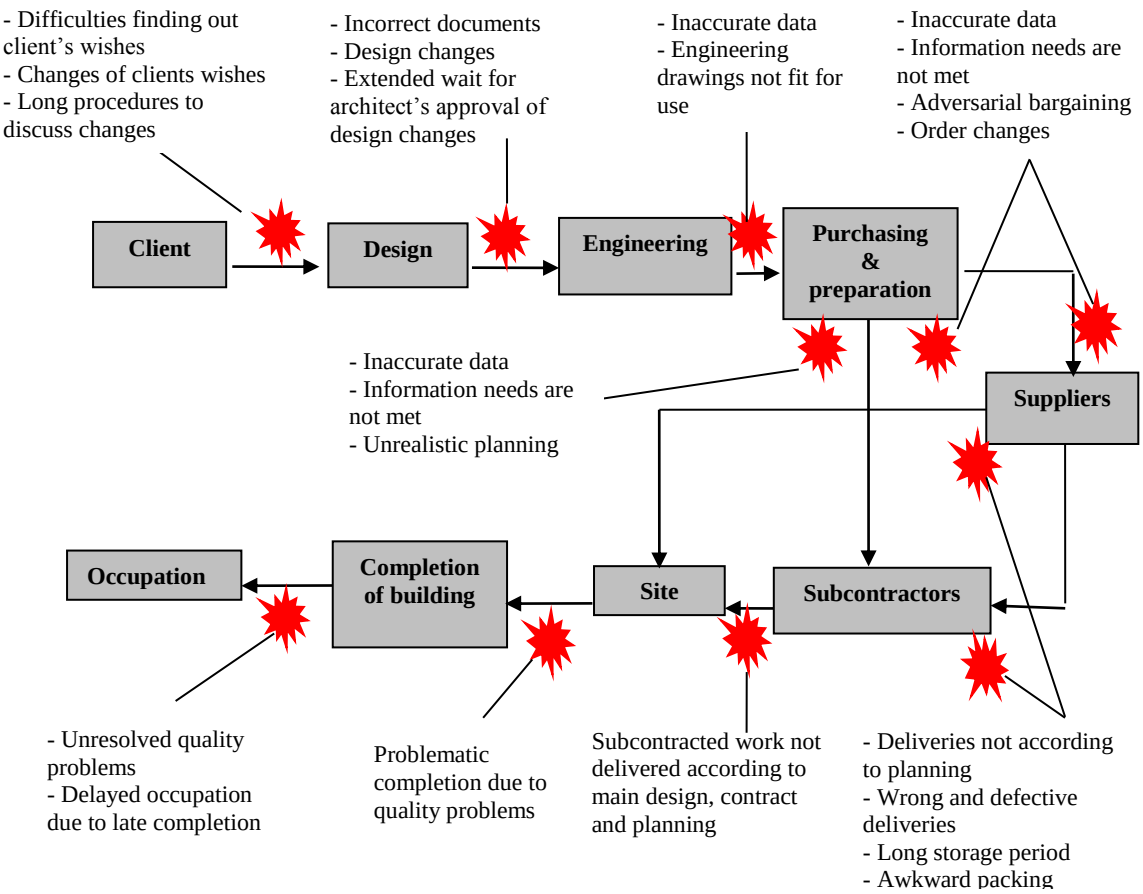
In their seminal article, (Gann D.M. Salter A.J. 2000, p. 959) view construction *"as a process rather than an industry. (…) It includes designing, maintaining and adapting the built environment, involving many organisations from a range of industrial sectors, temporarily working together on project-specific tasks."* In this project-based activity one of the key issues is the management of activities with complex interfaces. Most problems in construction originate at the interfaces of different functions Figure 1.

Indeed, most stakeholders of the supply chain never worked together before a given construction operation and will never work again together for other construction projects. This context objectively creates conditions for many kinds of disruptions in the exchange of information. Therefore, all actors involved in such a project need reliable information in order to hire the right competences, select the most suitable products/systems or understand the conditions that are necessary to properly install/incorporate and use/maintain these products/systems.

Once the building is completed and transferred to the occupant, reliable information on the expected performances and their constancy over time (e.g. external/internal noise protection level, safety, energy consumptions) is also essential.

These situations illustrate the problems of markets with asymmetric information. In economy the market is the meeting point of supply and demand. According to the classical theory suppliers and buyers are informed about all characteristics. But it appears that goods / services are not identical and homogeneous and that participants are not equally informed. Consequently markets are characterised by asymmetries of information between suppliers and buyers. At least one party has relevant information whereas the other(s) do not. This situation favours opportunistic behaviours and impede the functioning of markets by leading to adverse selection (Akerlof G 1970). A. Michael Spence, considered that there was a possible solution to the aforementioned problems. He argued that the person holding the information can signal to the other party the "quality" of the good/service he/she is selling. "*It should be noted that the information carried by the signal can be productive itself. This will occur if there is a decision that is made better or with greater efficiency, with better information"* (Spence A. M. 2001) (p.431).

Figure 1 : generic problems in the construction process
adapted from (Ruben Vrijhoef et al. 2001)



In order to circumvent the asymmetry information problem they have to face, operators of the construction value chain may also need to send signals to the market. **Certificates**, **CE marking**, **labels**, **qualification**, **technical approvals**, etc, are such signals that we propose to name "**quality signs**".

On the demand side, clients, insurers and investors need adequate information in order to evaluate the risk that they bear in procuring and financing complex projects. This situation can be associated to the "*screening theory*" (Stiglitz J. E. 2001).[1] This refers to the strategy used by the uninformed party to extract private information from another. For example license (meant as a permission to practice) can be considered as a screening process to identify the applicants who have attained the required degree of competency. As a consequence, it is a way to regulate a profession.

[1] In 2001, G. A. Akerlof, A. M. Spence and J. E. Stiglitz received jointly the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel *"for their analyses of markets with asymmetric information"*.

Thus it appears that procedures aiming to produce such quality signs are examples of means to reduce information asymmetry. They help identifying the stakeholders of the construction supply chain who have better experiences and records, and the quality of products / systems / competences / works / technical equipment.

The example of the market for Renewable Energy Systems (RES) illustrates how the reduction of information asymmetries (concerning operators of the construction value chain and products, qualification schemes) can improve the quality of installations and reinforce the confidence of the consumers/users (QualiCert 2011). According to this Qualicert Manual, the impact of qualification is expected to be twofold:

1. "*To enable the development of installation standards and best practices, while increasing the craftsmanship of professionals, and improving the general quality of RES installations;*
2. *To increase consumer confidence in RES products and give them easy access to a network of qualified installers*" (p.9).

2.2 Definition of quality signs

This introduction to the need for stakeholders to send signals to other parties illustrates the great variety of signals that are brought to the market in order to create confidence and to limit information asymmetry. We propose to use the expression quality sign as a generic term reflecting this variety of cases.

Quality sign is defined as *"any kind of sign on the basis of which (construction) stakeholders rely on or give credit to when decisions or choices have to be made."*

Any quality sign is a way for the construction operators to signal to other parties some **characteristics** of a **construction product**, a **construction system**, a **construction work** or the competence of a person or a company they are selling.

For example suppliers may indicate to the market that their products, equipment, materials are conform to the **requirements** of the clients. Similarly contractors may demonstrate a certain level of knowledge, competence and skills within the relevant field of practice. For these operators of the construction value chain it is also a way to differentiate themselves from their competitors. A quality sign carries information concerning a specific subject (products, systems, competences or works). This information is said to reflect properties of the subject which are of interest for the user of the quality sign (e.g. qualification, **performance** levels, field of use, design rules, etc).

The interest of using the expression "quality sign" is twofold:

1. it allows focusing on the content, the scope and the limits of the information rather than on the name attached to the outcome of the procedure,
2. it highlights CE marking as being a particular sign of interest for constructors with its own identity as defined in the Construction Products Regulation (CPR).

2.3 Scope of a quality sign

A set of characteristics is attached to any subject. For instance:

- Product : a window is characterised by its dimensions, fixed frame and wing frame materials, glazing thickness, space between multiple glazing, air/gaz/low pressure space filling, emissivity of glazing, thermal performance, air-tightness performance, water-tightness performance, colour of frames, etc.;
- Competence : an electrician may be knowledgeable to work on low/medium/high tension networks;
- Work: a building can be more or less energy efficient.

The list of characteristics is virtually infinite as some features of a subject are the result of the aggregation of other features (e.g., the acoustic performance of a window results from the number and thickness of glazing, nature of joints between frame and glazing, the way the glazing is fixed to the frame, the frame materials, the way the window frame is fixed to the wall (list not exhaustive)).

In order to be able to deal with such a huge amount of information, to avoid repeating long and tedious lists of characteristics and to facilitate exchanges between stakeholders, professionals have for long decided to select some of these characteristics as **inherent characteristics**. **Other characteristics** of subjects are not less important and can even be distinctive (e.g. the aspect of a brick/rendering, the colour of floor covering, the number of floors of a building).

Inherent characteristics of products are generally defined in **standards** or codes of practice.
Inherent characteristics of required professional competences can be defined in a training frame of reference.

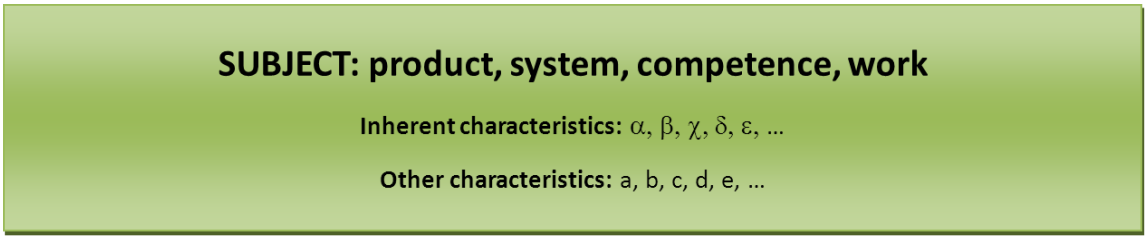
The set of characteristics that fully describes a subject is then the union of two subsets:

1. subset of inherent characteristics
2. subset of other characteristics.

This statement is essential to describe and identify differences between **certification** procedures (see chapter 5 Variety of situations).

For the rest of the report we designate inherent characteristics with Greek letters (α, β, γ, δ , ε, ...) and other characteristics with Latin letters (a, b, c, d, e, ...). Figure 2 summarises this convention.

Figure 2 : characteristics of a subject



3 How are quality signs generated?

3.1 Background

As previously stated, a quality sign sends a signal to the market that aims to give confidence to the concerned stakeholders. It is then essential for the users of such quality signs to know how they are generated in order to appreciate the credibility of this information. Clear and non-ambiguous information allow users to better know if a construction product, a construction system, a person or a company can meet specific construction project requirements. In a similar way, information on the realised construction work are of the utmost interest for the client.

The expected added value of a quality sign is then twofold:

1. it has to carry relevant information for the user,
2. it must be a credible information support, so that information is trustable in order to assess risks associated to specific contexts.

In addition to the identification of the quality sign (name, logo, type of subject, ...) it is for instance important to know (numbers 1 and 2 refer to list above):

- which characteristics of the subject are covered, (1)
- are these characteristics analysed and presented so as to answer users demand (e.g. the subject is "green", the subject is "fit for use", the subject is competent, …) (1)
- who is “behind” the quality sign : the legislator, a private stakeholder, private/public, related to the supplier or independent, ... (2)
- who elaborates and maintains the specifications (i.e. specified requirements) against which the conformity of a subject is examined: a producer, a college representing involved stakeholders, private/public, related to the supplier or independent, ... (2)
- who establishes the conformity of the subject to specifications : the producer, a third party, an independent third party, ... (2)
- if relevant, how, where and by whom subject samples are selected, (2)
- by which means is conformity to specifications checked (audit, inspections, tests in internal or external labs, …) (2)
- how frequently the conformity to specifications is checked: never, every x months, ... (2)

Answers to these questions reflect the organisation of the sign delivery **scheme**.

When an applicant wishes to be granted the right to use a quality sign which concerns his domain, the situation **prior to application** is one of the three following:

1. published specifications are available that concern the subject so that the characteristics of the subject can be checked against the content of these specifications;
2. published specifications are not available but can be defined (i.e. published) for a series of the concerned subject;
3. published specifications are not available and cannot be defined for a series (e.g. the subject of interest is innovative and is a new-comer on the market). In this case, an ad hoc expertise is called to elaborate specified requirements that are used to perform a technical approval assessment.

According to the situation prior to application, two procedures leading to quality signs in construction have to be considered:

- technical approval: which answer the need to bring construction stakeholders relevant and reliable information, usually on innovative, customised or complex technical systems and products,
- certification: which brings factual and reliable information on subjects for which reference specifications are available and against which characteristics of the subjects can be checked.

The former mainly concerns construction systems; the latter may concern any subject (as soon as relevant specifications are available).

There is no overlap between these two concepts and they may be complementary. They both provide information construction stakeholders are looking for.

3.2 Certification

According to NF EN ISO/CEI 17000 (ISO 2005a), certification is defined as a *"(third-party) attestation related to products, processes, systems or persons*". Attestation being an "*issue of a statement, based on a decision following review, that fulfilment of specified requirements has been demonstrated*".

A general principle to elaborate and deliver quality signs following a certification procedure is to compare some subject characteristics to specifications. The existence of such specifications is a prerequisite for certification. Specifications can refer to inherent characteristics or to other characteristics. This general principle is illustrated on Figure 3.

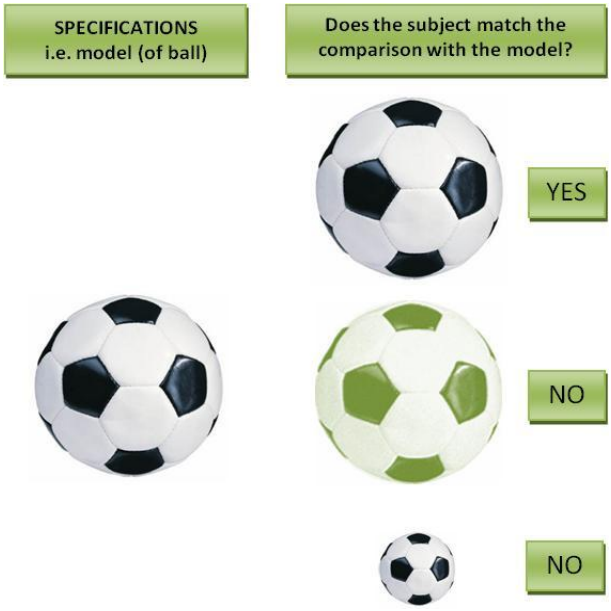
When defining the specifications related to a particular subject, the **owner** of the certification scheme selects characteristics according to the organisation of the certification scheme. Of course, these specifications depend on the subject as illustrated by the following examples:

- the features of a construction product are compared to inherent characteristics defined in standards or to other characteristics defined in other documents,
- the characteristics of a construction system (filed of use, design, implementation, exploitation, maintenance) are compared to demands that reflect legal or client-specific requirements which may concern safety, energy or other matters,
- the knowledge/competences/capacity of a person or company are compared to specifications reflecting knowledge/competences/capacity required to practice a specific activity,
- the as-built characteristics of a buildings are compared to specifications that reflect legal or expectation of clients which may concern safety, energy performance energy or other matters.

It is important to understand that certification concerns two linked aspects:

1. what is specific to the subject (e.g. the way a product is manufactured from raw material to packaging, the way persons are trained for a particular activity (prerequisite, content of the course, examination)),
2. the quality management procedures that are (almost) independent of the subject concerned (EN ISO 9001) due to their generic aspect.

Figure 3 : Comparison/conformity principle



3.3 Technical approval

Construction projects do require products and competences for which quality signs resulting from a certification procedure are of the utmost importance for the market.

When prerequisites for certification are not met, i.e. when there are no available specifications against which conformity can be assessed, the delivery of a quality sign has to follow other procedures.

Situations for which a certification scheme cannot be used are not anecdotal. The construction sector constantly incorporates innovations for which published specifications cannot exist due to the novelty of the subject. This is for instance the case for eco-technologies.

The absence of published specifications does not prevent concerned construction stakeholders to deliver quality signs. There exist a lot of such procedures which are recognised by the market, including insurers, as valid quality signs providing reliable information on technical subjects.

A non-exhaustive list of such technical approval procedure includes:

- ATG in Belgium,
- Avis Technique, Appréciation Technique d'expérimentation, rapport de contrôle technique, Pass-innovation in France,
- Agrément certificate in UK
- Evaluation reports issued by the International Code Council Evaluation service (US),
- Evaluation certificates in Japan.

Such procedures leading to the elaboration of quality signs when a certification procedure cannot be directly implemented are named "technical approval".

The European Union of Agrément. (UEAtc) defines Technical Approval: *"The Approval, regardless of the members that issue it, is the result of a favourable technical assessment of the fitness for purpose of materials, products, equipment or processes, such assessment being made taking into consideration safety, health, the use and sustainability of the works and any other matter related to works in which they are to be used. The Approval states the scope of application, conditions and possibly limitations."*

The name of some of the above mentioned technical approval procedures indicates that there are links between technical approval and certification. A subject concerned by a technical approval procedure (e.g. a construction system) can include products or competences for which the certification of some inherent characteristics (e.g. conformity of products to performances, qualification of persons or company) is needed. This association of technical approval and certification is decided by the owner of the scheme on a case-to-case basis.

Moreover, it should be noted that technical approvals generally include design, execution, maintenance and repair guidance. This is necessary because technical approvals cover, almost by definition, subjects that are not standardized, thus for which no codes of practice (e.g. DTU, NIT, …) do exist. In other words, the subject needs to become "traditional", meaning that their installation, incorporation, execution are state of the art and documented, prior to the subject to be standardized.

Quality signs resulting from technical approval procedures associated or not to certification procedures have to be referenced in the ELIOS 2 directory.

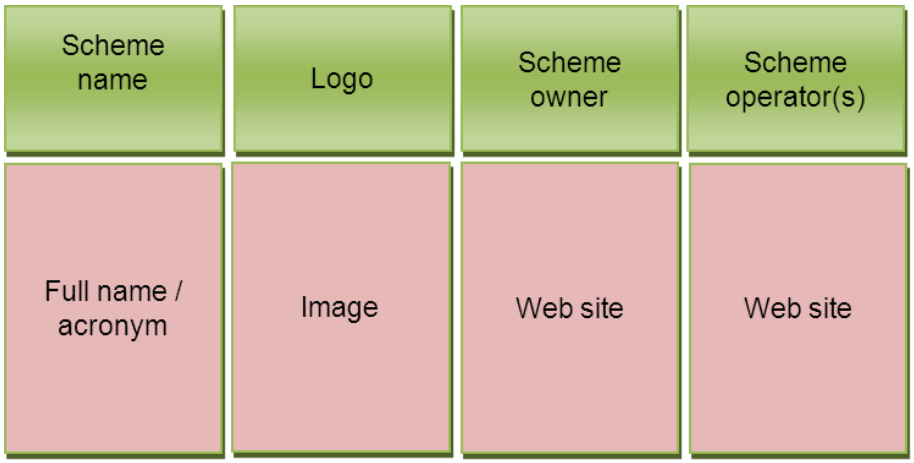
4 Structure of the directory

The structure of the directory is designed so as to reflect both the previously mentioned variety of cases and the way each quality sign is generated. This chapter describes the elements of this structure. For each item, we indicate the form of the information (ticking of predefined text, free text area, web site, image) the user will find in the directory.

4.1 Identification of a construction quality sign

Construction quality signs can be known by their name, by an acronym or a logo. The identification also includes the reference of the owner of the certification scheme and the references of the **operator(s) of the scheme** (Figure 4). This information is given for any kind of quality sign.

Figure 4 : identification of a quality sign



4.2 Scope of a quality sign

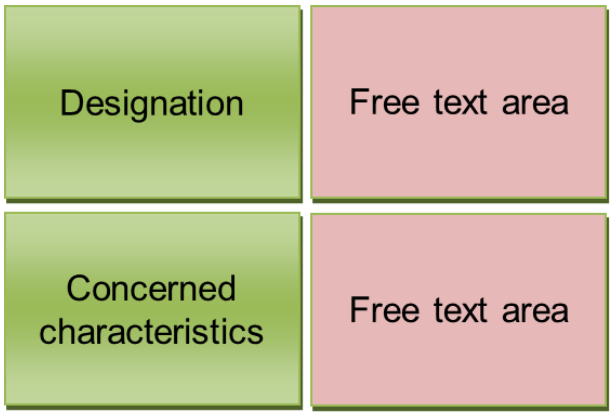
The **scope** of a quality sign includes the type of subject (construction product, construction work, construction system, competence) as well as the description of the characteristics that are taken into consideration (examples in Table 4).

This information is given in a free text area of the directory (Figure 5). It is provided both for certification and technical approval.

Table 4: examples of scopes of quality signs

subject	Designation	Concerned characteristics (examples)
Product	Window with aluminium profile and thermal break	Thermal characteristics Wind resistance
System	Integration of PV panels in a roof	Design rules Required qualifications Characteristics of panels
Work	Environmental performance of buildings	Environmental performance indicators
Competence	Repair of concrete works	Competence of operators Characteristics of repair products

Figure 5 : Scope of a quality sign for the concerned subject (construction product, construction system, construction work, competence (person/company))



"Embedded" certifications or links between technical approval and certification sometimes lead to complex schemes presented in detail in chapter 5. For instance:

- the certification of a competence may explicitly require the use of certified products,
- a technical approval may refer to the use of a certified product or the intervention of a qualified person or company.

4.3 Organisation of the scheme: the case of certification

Several elements are required to describe a certification scheme. They answer the following questions:

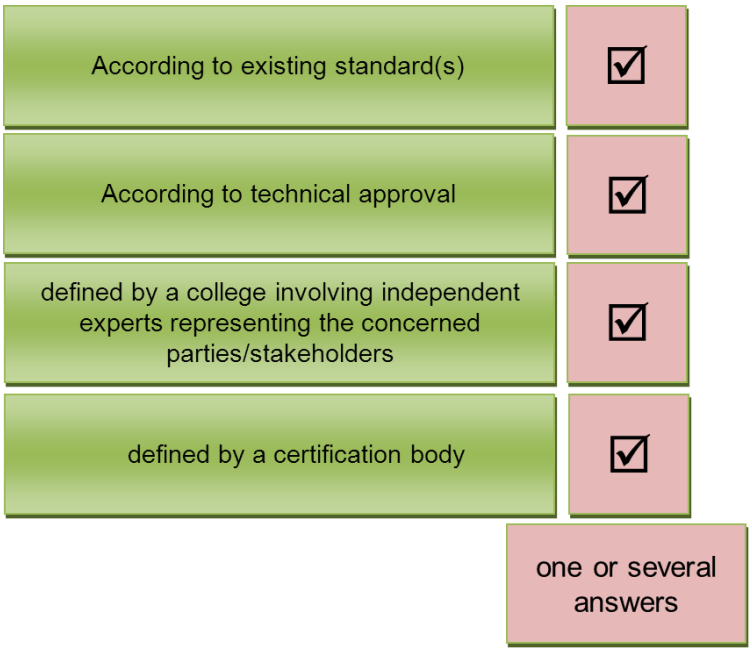
- who establishes and maintains specifications?
- who carries out the comparison against specification?
- is the initial testing (for products) or examination (for competences) followed by further testing/examination?
- is the quality management procedure audited/controlled initially and later on?

4.3.1 ELEMENT 1: origin of specifications

The development, review and maintenance of the specifications against which the quality sign for a given subject is delivered are essential aspects of the procedure.

The following situations are characteristic for and distinctive between certification schemes. Specifications can be developed, reviewed and maintained according to one of the following situations (Figure 6):

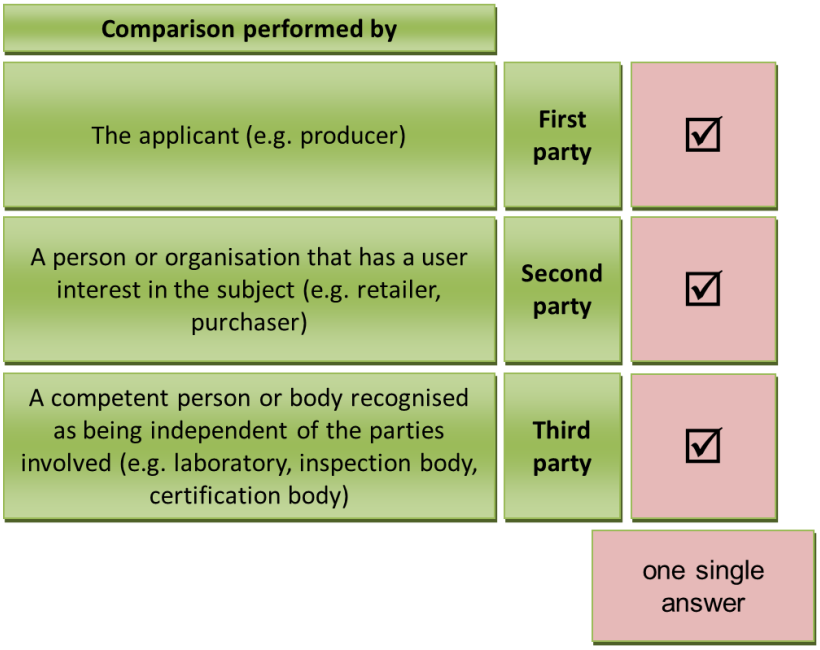
Figure 6 : origins of specifications for certification scheme



4.3.2 ELEMENT 2: person/organisation in charge of the comparison

Three main situations are identified depending on who makes the comparison between the content of the specifications and the examined subject (Figure 7).

Figure 7 : who is in charge of the comparison?



4.3.3 ELEMENT 3: initial comparison and follow up surveillance

The comparison of the characteristics of the subject with specifications is always done once initially/at the beginning (e.g. initial type testing) and, depending on the certification procedure, follow up surveillance during the manufacturing or delivering process may be included in the scheme.

Surveillance is a way to control the constancy of the characteristics covered by concerned specifications. Surveillance is generally full or partial repetition of the initial comparison. Its frequency is part of the procedure.

Initial comparisons and surveillance are usually performed under the responsibility of a body (operator) authorised by the owner of a scheme.

A distinction has to be made depending on whether tests of sample products have to be performed of not.

4.3.3.1 Testing of samples required

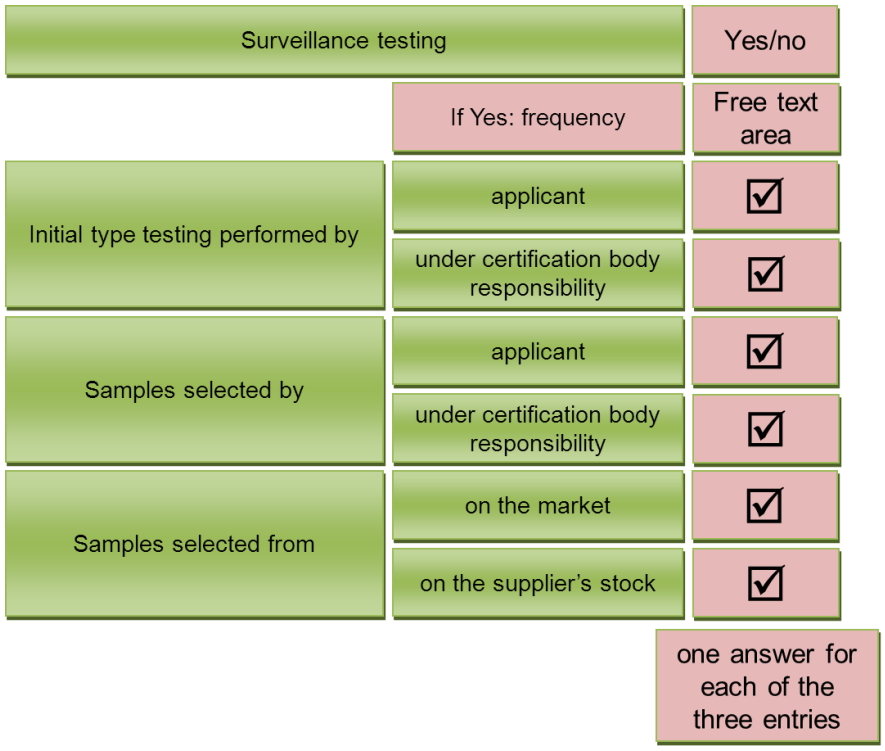
Products characteristics certification requires initial testing (Figure 8) that are generally followed by surveillance testing (Figure 9).

Figure 8 : initial comparison: sample testing

Initial type testing performed	by the applicant	☑
	under certification body responsibility	☑
Samples selected	by the applicant	☑
	under certification body responsibility	☑
Samples selected from	the market	☑
	the supplier's stock	☑

one answer for each of the three entries

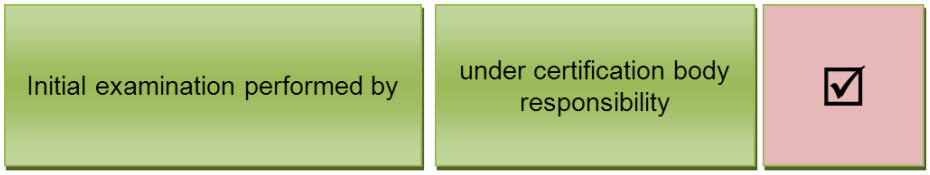
Figure 9 : follow up surveillance comparison : sample testing



4.3.3.2 Testing of samples not required

The concept of sample testing is not adapted to all subjects. Examination is for instance more appropriate for the certification of person or company competences. This is also the case for certification of building characteristics (Figure 10).

Figure 10 : initial comparison: examination



4.3.4 ELEMENT 4: initial and surveillance audit/control

Products or buildings are the outcome of manufacturing/delivery/construction processes. As the way such a process is run is essential for the "quality" of the final product/building, it is then legitimate to introduce audit of or control on the running process and the implemented quality management system.

When relevant, this audit/control is performed under responsibility of the certification body (Figure **11**). Surveillance audit/control can follow the initial audit/control. Their frequency is defined in the organisation of the scheme (Figure 12).

Figure 11 : initial audit

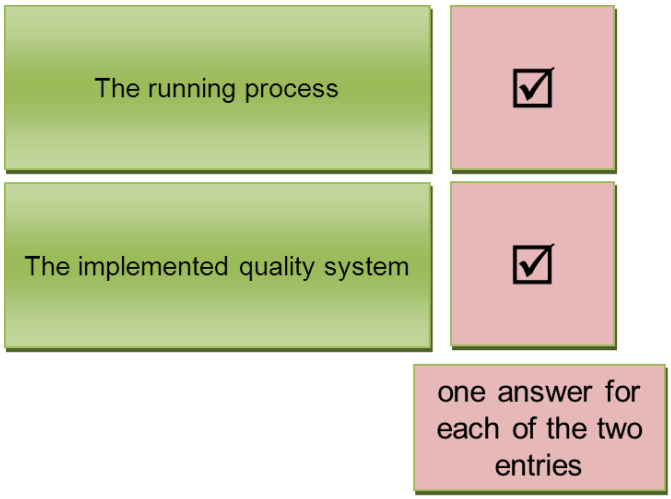
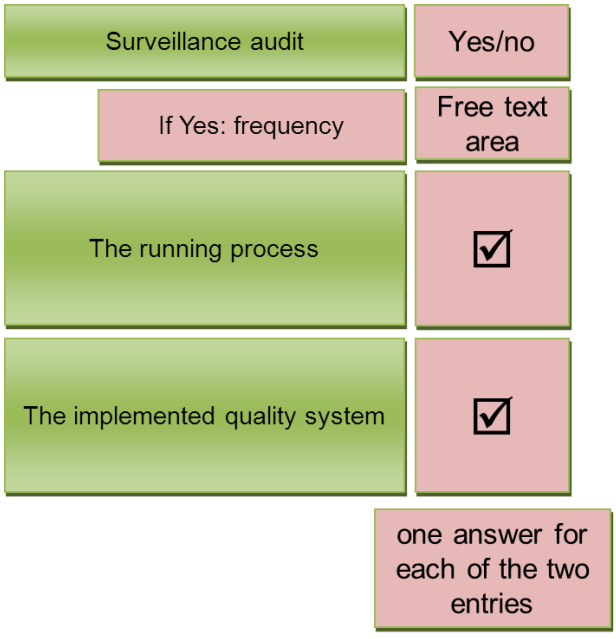


Figure 12 : surveillance audit

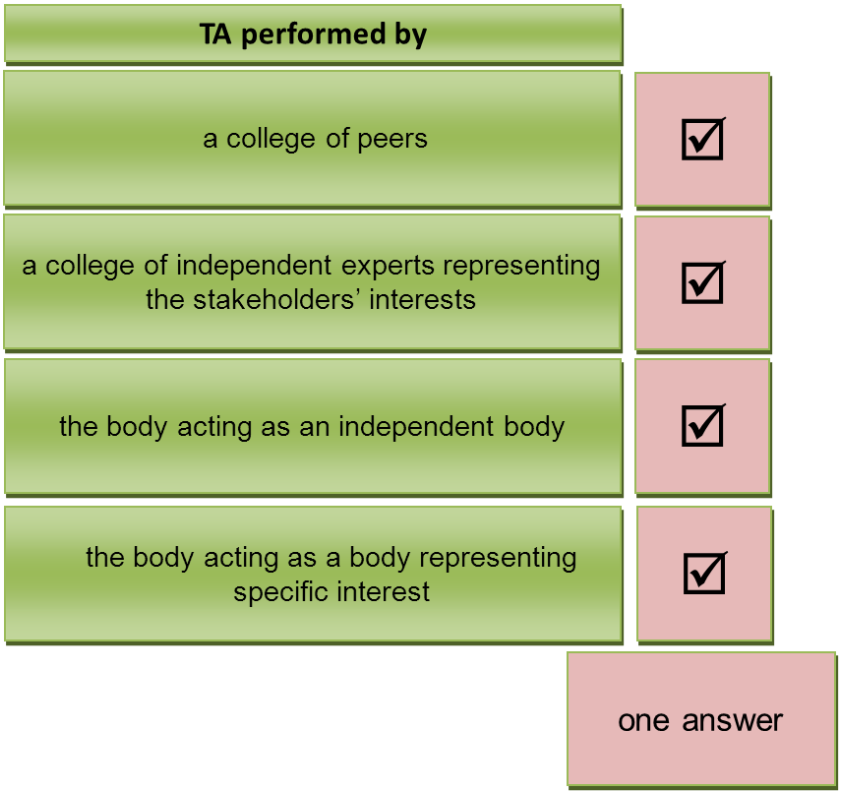


4.4 Organisation of the scheme: the case of technical approval

According to the definition given in 3.3, the technical approval scheme is more customised than standardised. The technical approval is awarded after the construction system has successfully passed a comprehensive assessment that may involve laboratory testing, on-site evaluations and inspections of production. The quality management system of the manufacturer will also be audited.

What is important to mention is by whom the procedure is carried out. The quality sign results from the assessment performed in one of the listed situations (Figure 13). The assessment framework is made available by the body in charge of the procedure.

Figure 13 : Organisation scheme of technical approval

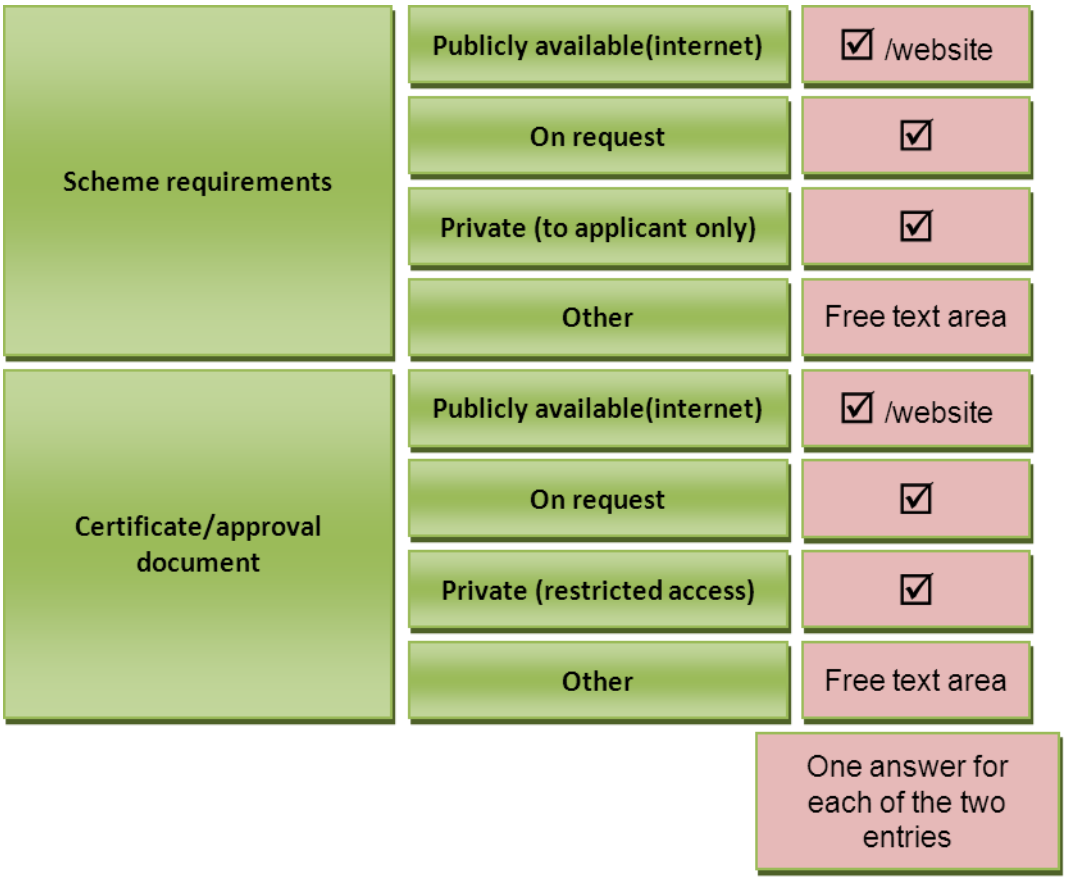


4.5 Publication/dissemination

For both certification and technical approval, one of the motivations for a construction stakeholder to apply for a quality sign is to highlight the differences between the subject he promotes and other "similar" subjects his competitors propose on the market. It is then legitimate to publish and promote quality signs as well as the specifications or scheme requirements (Figure 14). The need for publication can also be introduced by law.

In some cases, the specification or scheme requirements that are behind the quality signs are not transparent. They may for instance remain more or less confidential for specific reasons (Figure 14) (e.g. the applicant needs a quality sign for internal quality procedures) .

Figure 14 : Publication/dissemination



4.6 Other key information (OKI)

Additional key elements may be useful for the user of the quality sign such as one of the information listed in Figure 15. This information aim to provide indications on the use (the "value") of the quality sign. When available, quantitative information related to the number of delivered/withdrawn/new quality signs produced by the scheme over a given period (e.g. 2011) is also interesting.

In case the quality sign is used by insurers, specific precise information will be recorded.

Figure 15 : other key information

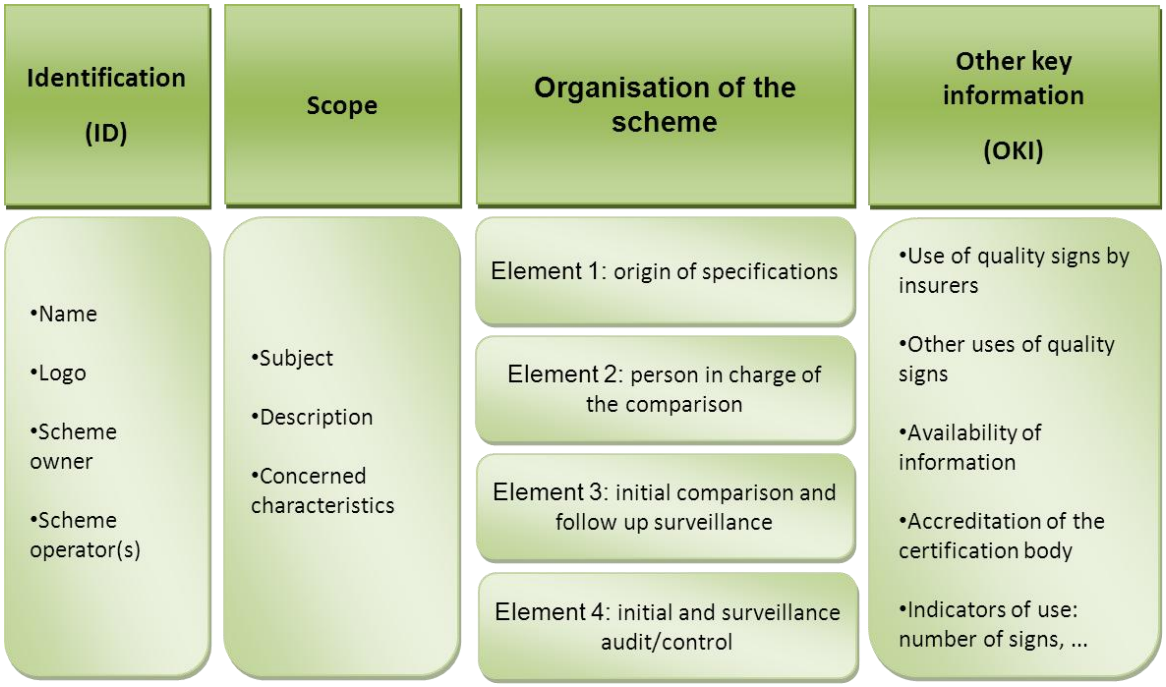
Use of the scheme by insurers	Yes/no	If yes: free text area
Other uses	Yes/no	If yes: free text area
Accreditation of the assessment body, evaluating agency, inspection bodies … against (reference)	Yes/no	If yes: free text area
Indicators: ▪ **Number of valid quality signs** ▪ **Number of certificates** ▪ **Number of quality signs delivered in 2011**	Free text area	

4.7 Overview of the structure of the directory

The description of both certification and technical approval schemes makes it clear that these two different schemes share nevertheless common features.

Figure 16 is a global picture of the structure of the directory. Of course, the detailed description of the section "organisation of the scheme" depends on the scheme. Some elements may not be relevant due to the subject as presented in the next chapter.

Figure 16 : general structure of the directory



5 Variety of situations

This section illustrates the main cases that the directory has to reflect in order to further address the questions raised by the Commission. The variety of situation is illustrated with some examples.

These examples do not pretend to cover all situations but they nevertheless correspond to current situations of signs produced by different bodies and used by different construction stakeholders. The use of these signs by insurers will be further addressed in close relation with WP3.

5.1 Examples

The following examples introduce more general consideration presented in section 5.2 and following.

5.1.1 Product certification: NF certification of sanitary tapware (France)

This certification concerns a construction product. The right to use this specific quality sign (i.e. NF – Sanitary Tapware Mark) is granted based on conformity to standards and to all the reference documents defined in the relevant application document (AFNOR 2012).

According to section 0, specifications then refer to two categories of characteristics:

1. inherent characteristics: defined in reference to thirteen standards listed in the application document (AFNOR 2012);
2. other characteristics: depending on specific features of the tap (e.g. electronic opening and closing tapware) and defined in technical documents as “Complementary technical specifications“.

The application document and the relevant technical document also define the certification scheme organisation.

5.1.2 Qualification: OPQIBI qualification (France)

This certification concerns issues qualification certificates to engineering services companies in the construction, environment, energy and industrial process sectors.

An OPQIBI qualification certifies the competences and professionalism of an engineering structure to deliver a given service. Qualification criteria are defined in a qualification reference system on the basis of the NF X50-091 standard: legal, administrative and juridical criteria - financial criteria - technical criteria.

5.1.3 Building performance certification : SBToolCZ (Check Republic)

SBToolCZ Czech certification is a tool for the expression level of quality buildings in accordance with the principles of sustainable construction.
The structure of the evaluated criteria SBToolCZ methodology is divided in accordance with the principles of sustainable construction into three basic groups:

1) Environmental criteria
2) Social criteria, technical quality
3) Administration and Management

These areas are complemented by a fourth group of evaluation - the criteria for the location of the building which, although assessed and the results are presented, but does not enter into the final certificate of quality buildings.

The outcome of the evaluation processes in the system SBToolCZ the certificate of quality buildings and detailed report documenting the self-evaluation of the building. The quality of the building is presented as a graphic symbol, which is part of the certificate of quality buildings.

5.1.4 Qualification: BCCA- Process certificate for concrete repair (Belgium)

The scheme involves certification of installers' processes for concrete repair. Only contractors, considered competent to analyse the works, to select appropriate products and systems and to install the system according to a specified process in a systematic manner, benefit from holding the BCCA certificate.

The certification assumes appraisal of the products and systems used, of the installer's competence and of the concrete repair process itself.

5.1.5 Technical approval: ATG (Belgium)

The Technical approval ATG is one of the technical approval schemes mentionned in 3.3. It is delivered by the „Union belge pour l'Agrément technique de la construction“ (UBAtc). It provides technical advice including a description of the construction system as well as related technical information and recommendations. It concerns a precisely described construction system from a single manufacturer for a given application. All characteristics that have an influence on the fitness for the intended use (regulated, or not) are concerned.

The ATG are issued for systems for which there are no standard references. It is therefore mainly innovative systems. The ATG is most often accompanied by a certification. This means that UBAtc mandates a certification body that regularly checks the conformity of production with the published approval (running process, tests, ...).

5.1.6 Technical approval associated to product certification (Belgium, France)

UBAtc (Belgian approval body) approves thermal insulation products for use in specific building elements (cavity walls, inclined and flat roofs, floors, etc.). All characteristics that are relevant for that intended use, the preparation of the works, the installation, the interaction with other products or systems are assessed and, where relevant, maintenance and repair are covered.

The approval requires certification of the products, based on initial type testing using samples taken by third parties, and regular surveillance inspection, sampling and testing. The information derived from the third party processes should be taken into account by manufacturer, if (not all characteristics covered by UBAtc approvals are relevant for regulatory provisions) and where (not all products are subject to regulatory provisions) relevant to determine declared performances in the framework of regulatory provisions.

Though the construction system concerned by the Technical approval is generally innovative, it may incorporate elements some characteristics of which are described in standards. In such a case, the technical approval may be associated to certification concerning these standardised characteristics.

This is for instance the case of the French Avis technique. Some such technical approval is associated with CSTBat certification targeting precise characteristics.

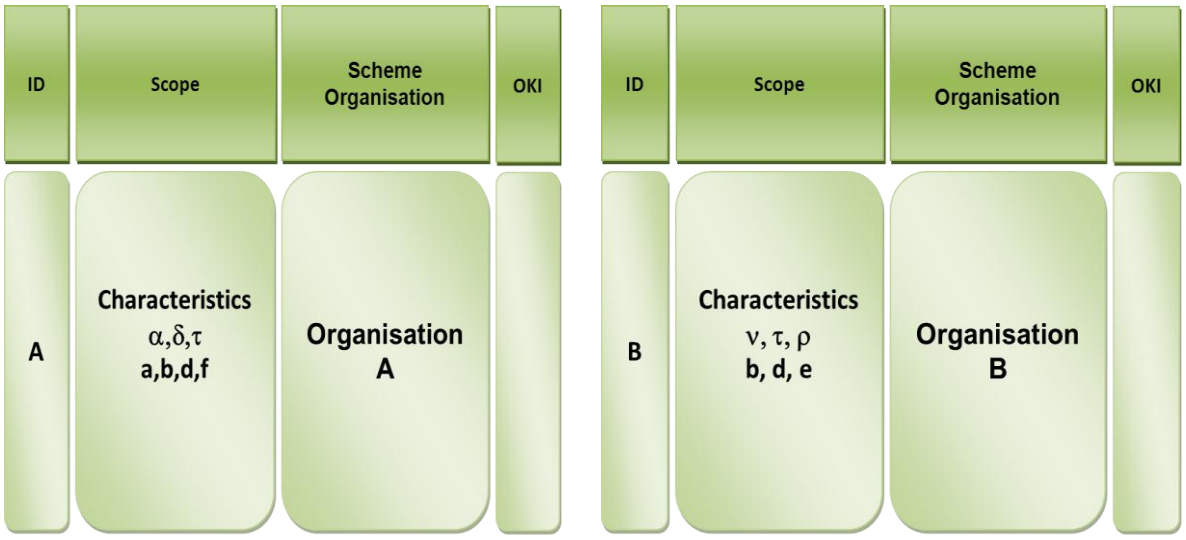
5.2 Certification of a single subject

A single subject is a standalone subject the inherent characteristics of which do not refer to any other subject. For instance:

- Products such as cement, bricks, tiles, etc.;
- Qualification for a precise task (e.g. HVAC designer, structure designer, electrician for low voltage networks);

The specifications against which a single subject is certified refer to a set of characteristics that can be inherent characteristics and other characteristics. These characteristics, as well as the organisation scheme depend on the certification scheme. When they concern similar subjects, certification A and certification B may not cover exactly the same set of characteristics (Figure 17).

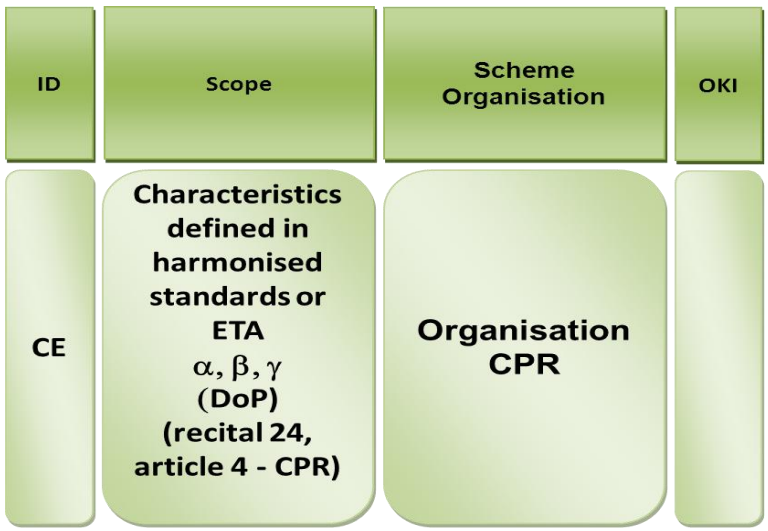
Figure 17 : certification of a single subject according to two different certification schemes



CE marking can be described using the proposed representation of the certification process. The main difference with the example of Figure 17 is that the characteristics referenced in the specifications are only standardised characteristics (Figure 18).

This possibility to describe the CE marking elaboration process using the proposed scheme confirms the generic nature of this description. This will allow to adequately addressing the question of the compatibility and complementary issues of a quality mark with the CE marking for a given product.

Figure 18 : CE marking

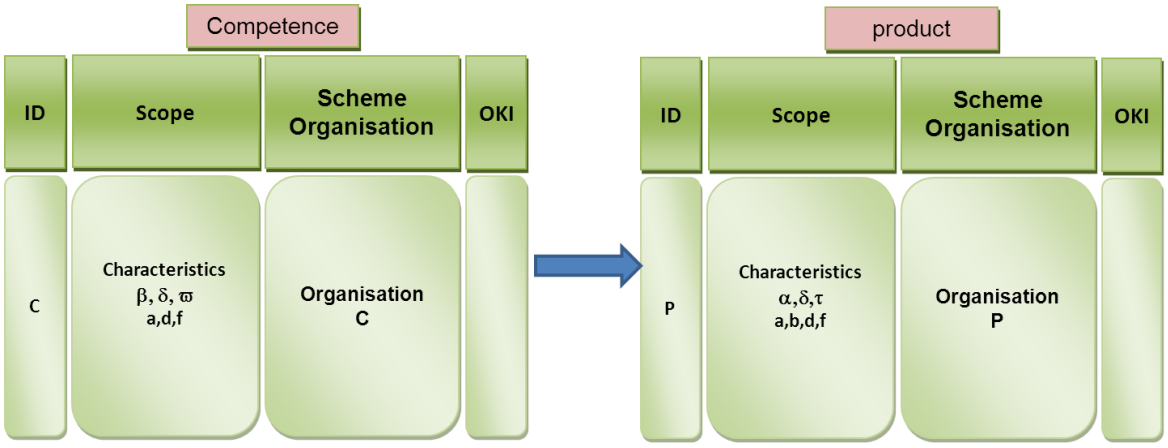


5.3 Certification of a multiple subject

A multiple subject is composed of a main subject which refers to other subjects as in the example of the (BCCA- Process certificate for concrete repair (chapter 5.1.4).

The certification procedure of the main subject is based on inherent and other characteristics. It also explicitly refers to certifications of “embedded” single subjects (Figure 19)

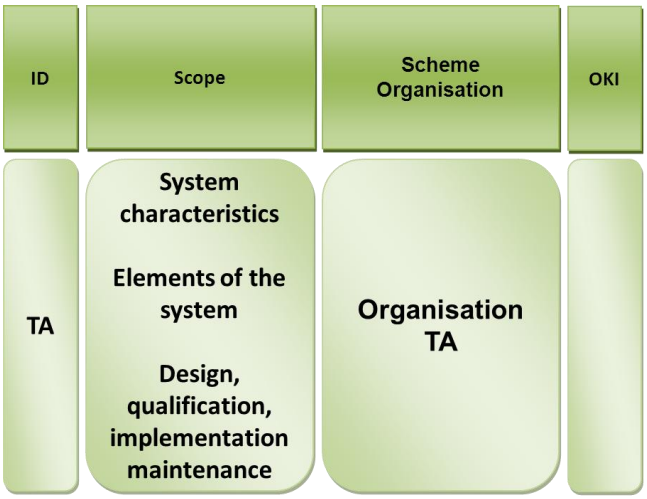
Figure 19 : certification of a multiple subject



5.4 Technical approval

Technical approval mainly concerns construction systems. This quality sign is delivered in the absence of reference inherent characteristics defined by standards. The outcome of a technical approval is mainly a set of recommendations based on expertise. It informs the user of the conditions under which expected performances of the system can be met (Figure 20).

Figure 20 : technical approval

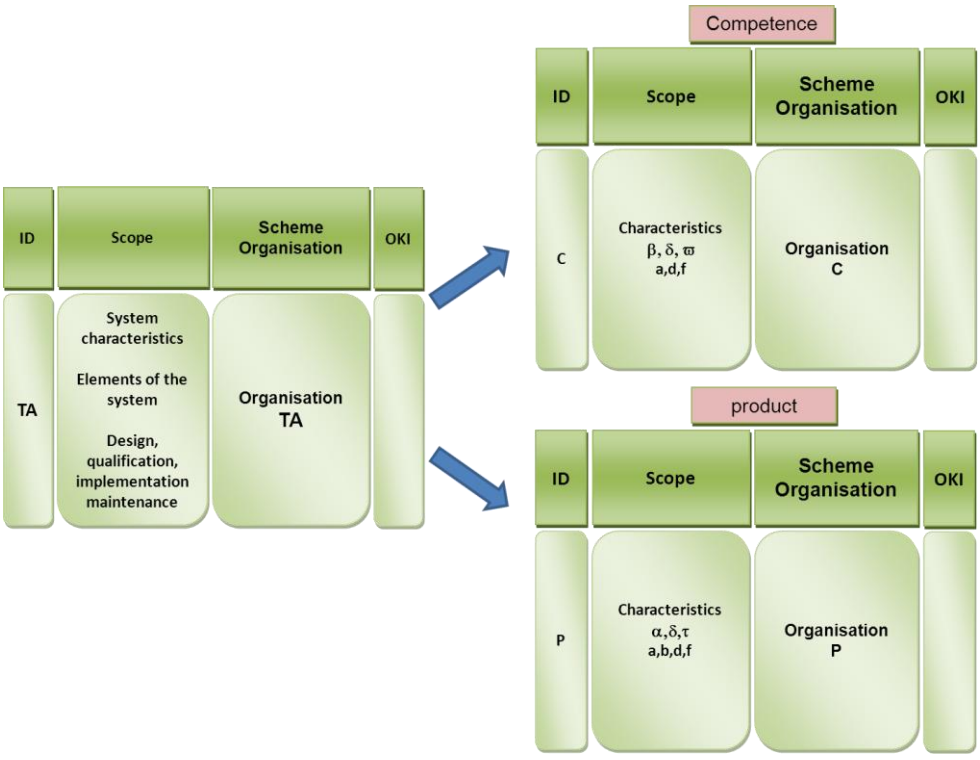


5.5 Technical approval linked to certification(s)

The scope of a technical approval is by definition wider than the scope of the certification of a single subject. It generally covers most of the steps from design to maintenance. It cannot be replaced by the certification of a multiple subject as for most (if not all) of these steps, certification cannot be delivered.

Nevertheless, some of the elements of the system can be certified (e.g. a product, a competence). In this case, the technical approval refers to these certifications (Figure 21).

Figure 21 : Technical approval linked to certification(s) (example with certification on product and competence)



6 Excel file directory version

A draft directory was elaborated using excel tables. It illustrates the various cases presented in previous chapters (see appendix 1).

The four tables correspond to four schemes:

- technical approval
- products certification
- works certification
- competences certification (qualification)

They give a preview of the content of the directory and highlight the need to improve the readability of these complex and entangled information.

The filling in of these tables leads to some important conclusions for the rest of the project:

- the level of detail is enough to compare quality signs concerning similar subjects; i.e. it can be easily seen if quality signs are close or different when the description elements of the scheme are compared,
- the proposed structure also highlights the need to go “deep enough” in description detail. The easy-to-collect information (identification of quality sign) is far from being enough to discriminate between quality signs.
- the requested information is rather easy to provide for a person in charge of a given quality sign procedure,
- the time needed for such a skilled person is manageable (15-20 minutes),
- it is very difficult for a person who is not familiar with a quality sign to provide these information. Even if the information is available on internet or in printed documents, it is not reasonable to try to fill in tables in this case. It can be done occasionally but not as a main information input process,
- vocabulary issues will certainly be raised (e.g. skill/competence, system/process). This is why a glossary of term has to be easily available for people who will fill in the questionnaire online.
- in addition to this glossary (based on the glossary in appendix 1), examples will be made available in order to create favourable conditions for a satisfactory for the collection of quality signs.

7 Next steps and perspectives

Up to now, data collection has mainly been made by WP1 partners to design and test the proposed directory structure.

We reported on advantages and limitations of this structure. We hope that using European English will be an advantage to successfully disseminate the online questionnaire. Nevertheless it is clear that a successful collection of data can only rely on the involvement of persons who are daily in charge of these quality signs schemes. Appendix 2 contains a provisional list of contacts in the EU-27 countries. These contacts will be mainly activated through WP1 partners who are members of the corresponding European networks.

Next steps are:

- write specifications of the web-based directory according to the structure presented in this report,
- design of a web questionnaire allowing quality signs providers to describe the quality sign schemes they are in charge of;
- design of a user interface to access collected data;
- list contact names of quality signs providers to whom the questionnaire will be addressed,
- disseminate the questionnaire,
- report regularly on the collection process on the Elios2 website,
- promote the quality sign data base via the web site and through partners activity.

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Appendix A: glossary of terms

CE marking (DG Enterprise and Industry 2012)(DG Enterprise and Industry 2013)

The CE marking is required for many products. It states that the product is assessed before being placed on the market and meets EU safety, health and environmental protection requirements.

The CE marking (for construction products) follows the (Declaration of Performance) DoP and means that the manufacturer has strictly followed all the applicable procedures for drawing up his DoP and, consequently, the DoP is accurate and reliable.

Certificate (adapted from (QUALICERT 2011)

An official document, issued by an awarding body, which recognizes the achievements, compliance, knowledge, know-how, skills, performances and/or competences following an assessment and validation against a specification (Related terms: label, diploma, title)

Certification (ISO 2005a)

(Third-party) attestation related to products, processes, systems or persons. Attestation (being an) issue of a statement, based on a decision following review, that fulfilment of specified requirements has been demonstrated.

Characteristic (ISO 2005b)

Distinguishing feature

Essential characteristic (EU 2011)

“Essential characteristics” means those characteristics of the construction product which relate to the basic requirements for construction works;”

Inherent characteristic (adapted from (ISO 2005b)**)**

Inherent means existing in something, especially as a permanent characteristic.
Inherent characteristics are generally defined in standards.

Other characteristic (adapted from (ISO 2005b)**)**

A characteristic assigned to a product, process or system (e.g. the price of a product, the owner of a product) which is not an inherent characteristic of that product, process or system.

Construction product ((European Parliament and Council 2011) CPR article 2)

'construction product' means any product or kit which is produced and placed on the market for incorporation in a permanent manner in construction works or parts thereof and the performance of which has an effect on the performance of the construction works with respect to the basic requirements for construction works;

Construction system (ELIOS 2 project)

Combination of products; materials, competences that are necessary to design and build construction works.

Construction work ((European Parliament and Council 2011)CPR article 2)

'construction works' means buildings and civil engineering works;

Labels

See "certificate"

Operator of the scheme (ELIOS 2 project)

Person or organization in charge of the management and implementation of the actions that are necessary to deliver of a quality sign concerning a particular subject.

Owner of the scheme (adapted from (ISO 2012))

person or organization that has registered and is responsible for developing and maintaining a specific scheme

Performance ((European Parliament and Council 2011)CPR article 2)

'performance of a construction product' means the performance related to the relevant essential characteristics, expressed by level or class, or in a description; performance

Qualification (CEN 2010)

a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards

NOTE: In page 5 of this document, authors mention that*: "This document has been prepared focusing on a person's qualification. Nevertheless, there may be some requests to extend the concept of qualification to an organisation. This document does not consider such cases, but it is assumed that its approach can apply to organisations, too."*

We will therefore adopt a similar definition for organisation's (i.e. companies, enterprises) qualification.

Quality signs (ELIOS 2 project)

Quality sign is defined as “any kind of sign on the basis of which (construction) stakeholders rely on or give credit to when decisions or choices have to be made.”

Scheme (ELIOS 2 project)

Generic name to designate the set of actions and information that are necessary to generate a quality sign.
-Certification scheme
-Technical approval scheme

(specified) Requirements (ISO 2005a)

Need or expectation that is stated.
NOTE: specified requirements may be stated in normative documents such as regulations, standards and technical specifications.

Scope (ELIOS 2 project)

Range or characteristics of the subject covered by the certification scheme or the technical approval scheme.

Standard (ISO 2004)

Document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context.

Subject (ELIOS 2 project)

Generic term used to name what is considered by a certification or a technical approval procedure. Within ELIOS 2, targeted subjects are: construction product, construction system, construction work, competences of persons or companies.

Technical Approval (statutes of UEAtc: Article 14)

The Approval, regardless of the members that issue it, is the result of a favourable technical assessment of the fitness for purpose of materials, products, equipment or processes, such assessment being made taking into consideration safety, health, the use and sustainability of the works and any other matter related to works in which they are to be used. The Approval states the scope of application, conditions and possibly limitations.

Appendix B: contacts sources in EU-27 countries

(selection of sources recorded in D1.0 report (Salagnac J-L et al. 2012))

Acronym	Name	EU-27 country among members	web site
CEBC	Consortium of European Building Control	AT, BE, __, CY, CZ, __, DK, EE, __, ES, FI, FR, __, IE, IT, LT, __, __, __, NL, PL, __, RO, SE, SI, SK, __	http://www.cebc.eu/
CEPMC	Council of European Producers of Materials for Construction	AT, BE, __, __, __, DE, DK, EE, __, ES, FI, FR, __, IE, IT, __, __, __, __, NL, PL, __, RO, SE, SI, __, UK	http://www.cepmc.org/en/
EFCA	European Federation of Engineering Consultancy Associations	AT, BE, BG, __, CZ, DE, DK, __, EL, ES, FI, FR, HU, IE, IT, __, LU, __, __, NL, PL, PT, RO, SE, SI, __, __	http://www.efcanet.org/
EOTA	European Organisation for Technical Approvals	AT, BE, __, CY, CZ, DE, DK, __, EL, ES, FI, FR, HU, IE, IT, __, LU, LV, __, NL, PL, PT, __, SE, __, SK, UK	http://www.eota.be/pages/home/
EUROCER-BUILDING	Association of product certification bodies in Europe active in the construction sector	AT, BE, __, __, __, __, __, __, __, ES, __, FR, __, __, IT, LT, __, __, __, NL, PL, PT, RO, __, __, __, __	http://www.eurocer-building.com/
GNB-CPD	Group of Notified Bodies for the Construction Products Directive	AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, UK	http://www.gnb-cpd.eu/
UEAtc	European Union of Agrément	__, BE, __, __, CZ, DE, DK, __, __, ES, FI, FR, HU, IE, IT, __, __, __, __, NL, PL, PT, RO, SE, __, __, UK	http://www.ueatc.com/
World GBC	World Green Building Council (European members)	AT, __, BG, __, CZ, DE, DK, __, EL, ES, FI, FR, HU, IE, IT, LT, __, __, __, NL, PL, __, RO, SE, __, __, UK	http://www.worldgbc.org
SB-ALLIANCE	Sustainable Building Alliance	__, __, , __, __, __, __, __, __, __, __, FI, FR, __, __, IT, __, __, __, __, __, __, __, __, __, __, __, __, UK	http://sballiance.org/

also non EU-27 members

Appendix C:
Directory excel tables

- technical approval
- product certification
- works certification
- competence certification

TECHNICAL APPROVAL SCHEME

	Identification				Scope		Organization of the technical approval scheme					Access to information, activity indicators				
							TA performed by	Type of evaluation	Period of validity	Links with associated certifications	Accreditation	Availability of information		use of the scheme		Indicators of activity
country	Scheme (or document) name	Logo	Scheme owner	Scheme operators	concerned systems	concerned characteristics	a colllege of peers a college of independent experts representing the stakeholders interests the body acting as an independent body the body acting as a body representing specific interest	A: first party B: second party C: third party	Frequency	subject certification name	Accreditation of the certification body	Scheme requirements A: publicly available (Internet) B: on request C: private (to applicant only) D: other	TA document A: publicly available (Internet) B: on request C: private (to applicant only) D: other	Use of quality signs by insurers	Other uses	indicators related to the number of quality signs total, (delivered, withdrawn) in year n
FR	Appréciation Technique d'Expérimenta-tion (Atex)	no	CSTB www.cstb.fr	technical control company	implemented innovative construction systems	-Security -Feasibility -Risk of failure		C			COFRAC	A	C			81 in 2011 81 in 2012
FR	Avis Technique	no	CSTB www.cstb.fr	CSTB www.cstb.fr	innovative construction systems	- fulfilment of current regulatory requirements - suitability for the described use (field of use) - durability in use		C	may be renewed at the end of the period of validity	may be associated to CSTBat product certification	COFRAC	A	A		Bureaux de contrôle	183 new demands in 2011 215 new demands in 2012
PL	Aprobaty Techniczne ITB		ITB www.itb.pl		- products for concrete, metal and ceramic and building connectors and fasteners, - construction of the light casing and filling, - windows, doors, gates and related products, - security of the embankment and waterproofing, - products for thermal and acoustic insulation, - products for fire protection, - products for finishing works - products in the field of sanitary engineering				may be renewed at the end of the 5 year period of validity							
BE	L'agrément technique ATG		UBAtc www.ubatc.be		multiple applications	- fulfilment of current regulatory requirements - suitability for the described use (field of use) - required conditions		C	generally valid for three years may be renewed	conformity to ATG content certification body mandated by UBAtc		B	A			

PRODUCTS CERTIFICATION SCHEME

	Identification				Scope		Organization of the certification scheme																	Access to information, activity indicators				
country	Scheme (or document) name	Logo	Scheme owner	Scheme operators	concerned products	concerned characteristics	specifications: developement , review and maintenance	Type of evaluation	Initial type testing			Surveillance testing				Initial audit of or control on, performed by an independent body under certification body responsibility:		Surveillance audit of or control on, performed by an independent body under certification body responsibility			Period of validity	Links with associated certifications	Accreditation	Availability of information		use of the scheme		Indicators of activity
							A: according to existing standard(s) B: according to technical approval C: defined by a college involving independent experts representing the concerned parties/stakeholders having interest in referring to (using) the certification D: defined by the certification body (both are possible, when no standard describes one of the product family concerned)	A: first party B: second party C: third party	Testing performed by	Samples selected by	Samples selected in	Frequency	Testing performed by	Samples selected by	Samples selected in	The running process	The implemented quality system	Frequency	The running process	The implemented quality system	number of years	Associated certifications	Accreditation of the certification body	Scheme requirements A: publicly available (Internet) B: on request C: private (to applicant only) D: other	Certificate A: publicly available (Internet) B: on request C: private (to applicant only) D: other	Use of quality signs by insurers	Other uses	indicators related to the number of quality signs total, (delivered, withdrawn) in year n
FR	Certification ACERMI		ACERMI www.acermi.com	CSTB www.cstb.fr LNE www.lne.fr	Thermal insulation products for building and industry	Thermal resistance Thermal conductivity Emissivity Reaction to fire Dimensional characteristics (depending on the standard) Settlement (when applicable) Mechanical characteristic (depending on the standard) Hygroscopic characteristics (depending on the standard) Acoustic characteristic (depending on the standard)	A	C	under certification body responsibility	under certification body responsibility	on the supplier's stock	1 in 6 months	under certification body responsibility	under certification body responsibility	on the supplier's stock	✓	✓		✓	✓			COFRAC	A	A			
FR	CSTBat		CSTB www.cstb.fr	CSTB www.cstb.fr CERTITA www.certita.org	**MULTIPLE PRODUCTS** sanitation products special concrete blocs inlot/oulet water pipes thermal insulation composite panels products for cooling/heating ceilings steel structural products ...	Adapted to products according to general certification rules: http://www.cstb.fr/fileadmin/documents/evaluation/Certification%20produits/EG_CSTBat_2010_10_15.pdf	B,C	C	depends on application													COFRAC	A	A		COFRAC	
FR	CSTBat		CSTB www.cstb.fr	CSTB www.cstb.fr CERTITA www.certita.org	plasterboard thermal/acoustic insulation composite panels	- adhesion of the insulation material on the plaster board - conformity with Avis Technique (vapour permeance, thermal resistance, mechanical resistance, NF certified plaster board, ...)	B,C	C	by the certification body	by the certification body	on supplier's stock	2 in 12 moths	certification body	certification body	on supplier's stock	✓	✓	2 in 12 moths	✓	✓			COFRAC	A	A		COFRAC	11
CZ	Suitable for building in CZ	logo	Association of testing laboratories for Construction		1285 characters text	Adapted to products	A, D	C	by the certification body	applicant or under certification body responsibility	on supplier's stock	1 in 12 months	certification body responsibility	applicant or under certification body responsibility	on supplier's stock	✓	✓		✓	✓				A	B		EN 45011 certification bodies in the Association must be accredited	
PI	SERVICE CERTIFICATION		ITB www.itb.pl	http://www.itb.pl/old/ang/certyfikaty/zcunowe.htm		Assembling of: '- light curtain walls - light partition walls - suspended ceiling - raised floors. Execution of: '- buildings thermal insulation - anticorrosion works	A	C	by the certification body	applicant or under certification body responsibility	on supplier's stock	1 in 12 months	certification body	under certification body responsibility	on supplier's stock	✓	✓		✓	✓			· PN–EN 45011:2000 – General requirements for bodies managing product certification systems.	A	B			
PI	"EKO-ITB" mark		ITB www.itb.pl		EKO–ITB environmental mark,	Assembling of: - light curtain walls - light partition walls - suspended ceiling - raised floors - fire–emergency gates Execution of: - buildings thermal insulation - anticorrosion works	A, D	C	by the certification body	applicant or under certification body responsibility	on supplier's stock	1 in 12 months	certification body responsibility	applicant or under certification body responsibility	on supplier's stock	✓	✓		✓	✓			EN 45011 certification bodies in the Association must be accredited	A	B			

WORKS CERTIFICATION SCHEME

	Identification				Scope		Organization of the certification scheme										Access to information, activity indicators				
							Specifications: developement , review and maintenance	**Type of evaluation**	**Initial performance assessment**	**Initial audit** of or control on, performed by an independent body under certification body responsibility:		**Surveillance audit** of or control on, performed by an independent body under certification body responsibility			**Period of validity**	**Links with associated certifications**	**Accreditation**	**Availability of information**		**use of the scheme**		**Indicators of activity**
country	**Scheme (or document) name**	**Logo**	**Scheme owner**	**Scheme operators**	**concerned works** A: residential B: non residential C: new D: existing	**concerned characteristics**	A: according to existing standard(s) B: according to technical approval C: defined by a college involving independent experts representing the concerned parties/stakeholders having interest in referring to (using) the certification D: defined by the certification body (both are possible, when no standard describes one of the product family concerned)	A: first party B: second party C: third party	performed by	The running process	The implemented quality system	Frequency	The running process	The implemented quality system	number of years	Associated certifications	Accredation of the certification body	Scheme requirements A: publicly available (Internet) B: on request C: private (to applicant only) D: other	Certificate A: publicly available (Internet) B: on request C: private (to applicant only) D: other	Use of quality signs by insurers	Other uses	indicators related to the number of quality signs total, (delivered, withdrawn) in year n
CZ	SB Tool Buildings performance cetification	yes	TZUS www.tzus.cz		A, B	Target 1: The building's relationship with its immediate environment Target 2: Adaptability of the building and integrated choices of construction products, systems and processes Target 3: Low environmental impact worksite Target 4: Energy management Target 5: Water management Target 6: Operational waste management Target 7: Maintenance and durability of environmental performances Target 8: Hygrothermal comfort Target 9: Acoustic comfort Target 10: Visual comfort Target 11: Olfactory comfort Target 12: Health quality of spaces Target 13: Health quality of air Target 14: Health quality of water	A, D	C	under certification body responsibility	✓	✓								A	B			
BE	Valideo		BBCA www.bbca.be			79 characters text	D	C									C	B			
FR	HQE certification		CERTIVEA www.certivea.fr		B/ C-D	14 environmental targets http://www.certivea.com/assets/download/certification_HQE/en/9da1a-PEB_INTERNATIONAL_V1-EN-finalisee2.pdf	C	C	auditor under certification body responsibility	✓	✓						EN 45010	A	A	- 10% rebate on premiums in the French context - see "Offres partenaires" on www.certivea.fr	- possibility to benefit from a 30% increase of the authorized floor surface - banks (favored conditions for loans)	

COMPETENCE CERTIFICATION SCHEME

	Identification				Scope		Organisation of the certification scheme							Access to information, activity indicators				
							specifications: developement , review and maintenance	**Type of evaluation**	**Initial type examination**	**Surveillance type examination**		**period of validity**	**Links with associated certifications**	**Accreditation**	**Availability of information**		**use of the scheme**		**Indicators of activity**
country	**Scheme (or document) name**	**Logo**	**Scheme owner**	**Scheme operators**	**Concerned activity**	**concerned qualifications**	A: according to existing standard(s) B: according to technical approval C: defined by a college involving independent experts representing the concerned parties/stakeholders having interest in referring to (using) the certification D: defined by the certification body (both are possible, when no standard describes one of the product family concerned)	A: first party B: second party C: third party	Testing or examination performed by	Frequency	Testing or examination performed by	number of years	Associated certifications	Accredation of the certification body	Scheme requirements A: publicly available (Internet) B: on request C: private (to applicant only) D: other	Certificate A: publicly available (Internet) B: on request C: private (to applicant only) D: other	Use of quality signs by insurers	Other uses	indicators related to the number of quality signs total, (delivered, withdrawn) in year n
BE	ATG-Certificate for installers of in-situ insulation		BBCA www.bbca.be		The scheme involves certification of in-situ thermal insulation systems in which certified raw materials or components are used. Only contractors, considered competent to do so, may execute the in-situ thermal insulation systems, benefitting from certified performances.	All product properties and system characteristcs relevant for the intended use	B	C	under certification body responsibility								no		
FR	QUALIBAT		QUALIBAT www.qualibat.com		**MULTIPLE ACTIVITIES** 51 different building trades	-administrative and juridical demands -technical demand -financial demand	D (comité professionnel)	C	certification body	every year	certification body			COFRAC	A	A	no		
FR	OPQIBI		www.opqibi.com		Engineering services companies in the construction, environment, energy and industrial process sectors.	OPQIBI issues qualification certificates to engenieering services companies in the construction, environment, energy and industrial process sectors.	A (NF X50-091 standard) C D	C	certification body	every year	certification body			Accreditation by the COFRAC based on the NF X50-091 standard	A	A	premium rebate by some insurance companies	The OPQIBI's mission is officially recognised by the Public Authorities through protocols with the Ministry of Ecology, Energy, Sustainable Development and Town and Country Planning and with the Ministry of Economy, Industry and Employment, which are represented in the body's various decision-making instances.	-1280 certificates issued -11000 qualifications issued - in 2011: 146 new applications 121 new certificates 46 disqualifications
CZ	ETICS installers		TZUS www.tzus.cz		External Thermal Insulation Composite Systems (ETICS).	System certification is designed to be guaranteed that certificate holders will carry out work impropriety during the whole performance process	A,D	C	under certification body responsibility	1 in 6 months	auditor				B	B	no		
BE	BCCA- Process certificate for concrete repair		BBCA www.bbca.be	BBCA www.bbca.be	Repair of concrete works	The scheme involves certification of installers' processes for concrete repair. Only contractors, considered competent to analyze the works, to select appropriate products and system and to install the system according to a specified process, benefit from holding the BCCA certificate.	A, D	C	under certification body responsibility						B	A	no		
NL	'NVKL Label Koude-techniek' (qualification of refrigeration equipment installers)		NVKL www.nvkl.nl	NVKL, certification bodies	Qualification of organisations (refrigeration equipment installers)	- Requirements for the registration of the organisation - General requirements for the qualification system of the organisation - Requirements for personnel - Requirements for equipment and measuring devices - Requirement s for products and services	C, D	C	certification body	2 years	certification body			no accreditation	A	B	no	No 'NVKL Erkenning', www.nvkl.nl/NVKLerkenning/Flyer%20NVKL-erkenning.pdf	
NL	Certificaat voor zonne-energiesystemen (qualification of solar photovoltaic and solar thermal installers)	no logo	ISSO www.isso.nl	Cito Bda Dwa	Qualification of individual persons (installers of solar systems)	- Training - Examination - Competences	C, D	?	?	?	?	?		no accreditation	A	C	no	no	