*Author*
François Rémi Carrié (ICEE)

## TERMS AND DEFINITIONS
v. 2015.03.20

## Objective of this document

The main objective of this document is to provide a common understanding of key expressions related to the assessment of the compliance and accessibility of Energy Performance Certificates (EPC) input data as well as quality of the works, as determined and used in the context of QUALICHeCK.

## Disclaimer and note

The QUALICHeCK consortium does not warrant that the information in this publication can be used for other purposes than understanding the QUALICHeCK project outputs and deliverables. The information contained within this publication is provided on an "as is" basis and the user of this information assumes the entire risk of any use made of this information. The QUALICHeCK consortium expressly disclaims any liability or responsibility arising from use of this document, or any consequences thereof. Any responsibility arising from the use of this document lies with the user.

Please note:

- ✓ At the date of publication of this document, the QUALICHeCK consortium believes that the definitions as well as their corresponding examples reflect the meaning of terms and expressions used within the QUALICHeCK project. Nevertheless, the project findings may lead the consortium to modify definitions or examples.
- ✓ Therefore, the latest version of this document should be used. It can be downloaded from the QUALICHeCK website from www.qualicheck-platform.eu/results/terms
- ✓ Note also that the examples provided may apply to some regulatory contexts and not to others.

## Approach to overcome identified problems

*Input data for Energy Performance Certificates (EPC)*

EPC input data are data used to assess the energy performance of a building which results in an Energy Performance Certificate. Such data describe or can be related to the physical characteristics of the building (e.g., floor area, heat transmission of building materials and components), its environment (e.g., climate and orientation), its systems (e.g., efficiency of heating system and/or individual components) and its operation (e.g., occupant schedule).

*Agreed procedures for determining EPC input data*

Agreed procedures for determining EPC input data are publicly-available documents produced at national or regional level in the EPC regulation explaining how to derive the proper values for the input data. These documents have a legal status. They may refer to standards, professional rules, etc.

Ideally, these procedures should include:

1. TECHNICAL PROCEDURES explaining how to determine the value of the EPC input data (e.g., calculation of thermal transmittance of walls, calculation of solar shading coefficients);
2. ORGANISATIONAL PROCEDURES stating requirements in order for the input value to comply with the rules (e.g., control by an independent third-party; product or system certified data; product manufacturer or distributor declaration; competence of the expert in charge of assessing the data; competence of the expert issuing the certificate if they assess the value of the input data[1] themselves)

---

[1] *Some of these examples may or may not be relevant depending on the regulatory context.*

3. REQUIREMENTS FOR EVIDENCE OF COMPLIANCE, i.e., a set of elements considered as evidence that the EPC input data has been correctly determined (examples of elements: electronic file including all input values uploaded in a national database, test report issued by an accredited laboratory, certificate of certification or qualification of persons or companies, certificate issued by a competent person that the calculation is consistent1).

### Errors in input data in EPC context

Errors in EPC input data are mistakes (intentional or not) made in the process of deriving the input data taking as reference the procedures for determining EPC input data.

### Reporting requirements of the EPC procedures or specifications of the works

Necessary information to be filed within a certain period of time and in accordance with a specific format as defined in the EPC procedures or specifications of the works.

### Compliance – Compliant

Compliance is defined as the fact of conforming with EPC procedures or with specifications of the works. Compliant is the adjective referring to something which is in accordance with EPC procedures or with specifications of the works.

The most typical cases of non-compliance are:

a) NO REPORTING: The reporting requirements of the EPC procedures (e.g., certificate, database transfer, test report, etc.) or specifications of the works (e.g., test report, photo archives, etc.) are not met. This type of non-compliance may occur if, for instance, there is no energy performance certificate for a new building, or there is no test report of a given system (if mandatory in that context).

b) WRONG REPORTING: There are substantial differences between the data reported and the correct data according to the agreed procedure or specifications of the works. This may happen for instance if the energy performance certificate assumes or the installer formally confirms that a given component or system is certified, although the installed component or system is not certified.

c) NOT MEETING THE REQUIREMENTS: The required energy performance or specifications of the works are not achieved. This may happen for instance if:
   ➢ the minimum building energy performance level is not met;
   ➢ a minimum performance requirement for a system or component is not met;
   ➢ a non-certified contractor has performed work which required certification.

Note that these cases may or may not occur simultaneously (see Table 1).

### "Compliant" input data in the EPC context

A quantity used as an input data for:
➢ the calculation or the assessment of the energy performance of a building and/or
➢ the declaration of its energy performance in the Energy Performance Certificate (EPC)

is "compliant" in the EPC context if this data has been established in line with the procedures in force in the context of the applicable legislation. For brevity, this term is sometimes shortened to "compliant input data" or "compliant data".

Note that:
➢ The data may be qualified as "compliant" without being "accurate", i.e., it may be far away from the true value of the quantity to be characterised. Deviations may be observed for example in cases such as the following:
   ✓ The procedures allow or require the use of a default solar shading coefficient of 0,50 in all cases. This default value may be very far from the shading coefficient of the device actually installed. In general, default values are not expected to be accurate.
   ✓ The product or system specificities are not well-covered by existing test methods, or cannot be accurately described with the input parameters as defined in the calculation method.
➢ The procedures may allow different values of the same input to be qualified as "compliant". For example, this would be the case if the procedure allows the assessor to use either a default value for the airtightness of a building, or the value obtained from field measurement.

| Type of non-compliance | | | Example |
|:---:|:---:|:---:|---|
| **(a)** | **(b)** | **(c)** | |
| X | | | There is no EP Certificate but the building characteristics comply with the technical requirements. |
| X | X | | Simultaneously: no test report of a given system; inappropriate value used in the EPC for this system; the characteristics of the installed system comply with the regulatory requirements. |
| X | X | X | Simultaneously: no test report of a given system; inappropriate value used in the EPC for this system; the characteristics of the installed system *do not* comply with the regulatory requirements. |
| | X | | The value used for a characteristic of a given system in the EPC is inappropriate according to the procedures, but the characteristics of the installed system comply with the regulatory requirements. |
| | X | X | The value used for a characteristic of a given system in the EPC is inappropriate according to the procedures, and the characteristics of the installed system *do not* comply with the regulatory requirements. |
| | | X | The value used for a characteristic of a given system in the EPC is correct according to the procedures, but the characteristics of the installed system *do not* comply with the regulatory requirements. |
| X | | X | There is no EP certificate and the building characteristics do not comply with the technical requirements. |

*Table 1: Categorised examples of non-compliance*

## *"Easily accessible" input data*

A quantity used as input data for

➢ the calculation or the assessment of the energy performance of a building; and/or
➢ the declaration of its energy performance in the Energy Performance Certificate (EPC)

is "easily accessible" if it can be found, seen and used by taking "reasonable time, effort or money".

The notion of "reasonable time, effort and money" is to be appreciated in the context of contemporary information technologies and media available to get the information.

We consider as reference for easy access to data with these modern information technologies and media, information available on an Internet page, preferably with free access. Input data will be considered more or less accessible depending on the effort needed to obtain this data compared to the above reference.

## *Quality of the works*

"Quality of the works" refers to the potential gap between the works realised and the works expected to meet stated or implied needs. When looking specifically at how quality of the works impacts energy performance certificates, "quality of the works" may be further defined as a measure of the gap between the specifications of the works stated or implied to be consistent with the input values assumed to be used in the energy performance certificate, and the actual execution of the works. It is assumed that the desired levels of the corresponding input data are explicitly defined.

Therefore, quality of the works may be considered "good" or "compliant" if, for example:

✓ a system is installed according to the technical specifications agreed within a given context (e.g. technical prescriptions, a technical approval, rules of a professional association, etc.) ;
✓ products are installed according to the designer's and manufacturer's specifications in another context.

Quality of the works has no absolute meaning, but is always linked to the stated (and implied) needs, i.e. one has to know the needs in order to judge the quality of the works.

*Errors in execution of the works*

Errors in execution of the works are mistakes (intentional or not) made when implementing the works, taking as reference stated or implied specifications. The quality of the works depends on the size and nature of these errors.