Small Business Standards
POSITION PAPER

"CE-marking solutions for construction micro-enterprises"

A step towards the full implementation of simplified procedures under the CPR

7th September 2016

Small Business Standards (SBS) is a European non-profit association (aisbl) established with the support of the European Commission to represent European SMEs in the standard making process at European and international levels. The SBS goal is to represent and defend SME interests in the standardisation process at European and international level. Moreover, it aims at raising SME awareness about the benefits of standards and at encouraging them to get involved in the standardisation process.

Background

The Construction Products Regulation (EU) No 305/2011 (CPR) lays down harmonised rules for the marketing of construction products in the EU and replaces Construction Products Directive (89/106/EEC).

The purpose of the CPR is to ensure that essential characteristic of the product(s) are attested as easily as possible and at minimum cost. Efforts have been made to reduce the financial burden of obtaining a CE marking, particularly for micro, small and medium-sized enterprises, through 'simplified procedures' (Art. 36-38 of the CPR). In order to cater for the specific needs of micro-enterprises, Article 37 of the CPR specifies the following:

Article 37

Use of simplified procedures by micro-enterprises

Micro-enterprises manufacturing construction products covered by a harmonised standard may replace the determination of the product-type on the basis of type-testing for1 the applicable systems 3 and 4 as set out in Annex V by using methods differing from those contained in the applicable harmonised standard. Those

Small Business Standards aisbl • Rue Jacques de Lalaing 4 • 1040 Brussels, Belgium
info@sbs-sme.eu • T +32 (0)2 230 75 99

manufacturers may also treat construction products to which system 3 applies in accordance with provisions for system 4. When a manufacturer uses these simplified procedures, the manufacturer shall demonstrate compliance of the construction product with the applicable requirements by means of a Specific Technical Documentation and shall demonstrate the equivalence of the procedures used to the procedures laid down in the harmonised standards.

The necessary "Specific Technical Documentation" (STD) is defined in Article 2(15) of the CPR as:

" 'Specific Technical Documentation' means documentation demonstrating that methods within the applicable system for assessment and verification of constancy of performance have been replaced by other methods, provided that the results obtained by those other methods are equivalent to the results obtained by the test methods of the corresponding harmonised standard;"

These provisions are reserved **only to micro-enterprises** as defined in the Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium- sized enterprises (OJ L 124, 20.5.2003, p. 36).

SBS has directly contributed to the introduction of a sentence on simplified procedures for micro-enterprises in the **new template for Annex ZA** for harmonised standards developed in support of the CPR. The document make now clearly reference to the possibility for micro-enterprises to treat construction products according to provisions for system 4 of the assessment and verification of constancy of performance (AVCP) when system 3 applies:

- AVCP systems 3 prescribes that the declaration of performance (DoP) of the essential characteristics of the construction product is based on the factory production control (to be carried out by the manufacturer) and the determination of the product-type on the basis of type testing (to be carried out by the notified body).
- AVCP systems 4 prescribes that the DoP of the essential characteristics of the construction product is based on the factory production control and the determination of the product-type on the basis of type testing. Both activities have to be carried out by the manufacturer (i.e. no tasks for the notified body).

Small Business Standards aisbl • Rue Jacques de Lalaing 4 • 1040 Brussels, Belgium
info@sbs-sme.eu • T +32 (0)2 230 75 99

Problems related to the implementation of simplified procedures for micro-enterprises

Micro-enterprises have so far encountered major difficulties in the implementation of Article 37 due to:

- The difficulties in fulfilling the STD requirement related to the equivalence of results. For the vast majority of assessment methods (with the exception of some assessment methods that require the use of specific computing software) the results obtained are different depending on the method used for the product assessment.
- The significant different wording used in Article 37 ("*equivalence of procedures*") and Article 2(15) ("*equivalence of results obtained*") related to the STD.
- The difficulties to show that a specific product complies with the *"applicable requirements*". A detailed analysis of national, regional, local requirements in Member States would cause significant burdens. On the other hand, when the "*applicable requirements*" are related to those provisions imposed to any manufacturer of the same products (which could come from harmonised standards, Commission decisions, etc.), micro-enterprises could well embarking on this simplified procedure.
- The lack of a template for the STD.

Comments and recommendations

1) The EU Construction Products Regulation - entered into force on 1 July 2013. Three years after its adoption, it is of fundamental importance for construction micro-enterprise that the issues that negatively impact on the full implementation of the CPR will be soon overcame, with particular reference to simplified procedures. In particular, SBS agrees on the need to find a common interpretation of the reference to "*applicable requirements*" and invites to urgently address the issue related to the different wording used in Article 37 ("*equivalence of procedures*") and Article 2(15) ("*equivalence of results obtained*") related to the STD.

2) SBS has provided the European Commission with an operational scheme for the application of Article 37 of the CPR. Such scheme (see Annex below) makes reference to EN 14351-1 (Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics) and, in particular to the calculation of thermal transmittance for doors and windows. The proposed procedures are fully in line with the provisions of Articles 2(15) and 37 of the CPR as:

- The assessment method requires the use of a specific computing software. Thus, both the "*equivalence of procedures*" and the "*equivalence of results obtained*" requirements are met.
- The "*applicable requirements*" are related to provisions imposed to any manufacturer of the same products.

This example is only one among the several cases that could be promoted due to the increasing use of computing software to assess essential characteristics of construction products. Thus, SBS proposes that the

Small Business Standards aisbl • Rue Jacques de Lalaing 4 • 1040 Brussels, Belgium
info@sbs-sme.eu • T +32 (0)2 230 75 99

European Commission proceeds with the draft of a template for the STD to allow micro-manufacturer using similar procedures to fully benefit from simplified procedures defined in Article 37 of the CPR.

The template for the Specific Technical Documentation under the CPR should include the following essential information:

- Self-declaration specifying that the manufacturer is a micro-enterprise as defined in the Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium- sized enterprises (OJ L 124, 20.5.2003, p. 36)
- Demonstration of compliance of the construction product with the applicable requirements
- Demonstration of the equivalence of the procedures used to the procedures laid down in the harmonised standards.

3) SBS invites the European Commission to speed up the sharing of views and experience of Member States to contribute to the full uptake of the simplified procedures of Article 37 of the CPR.

4) This document and the proposed operational scheme do not refer to products that fall under the provisions of Article 5(a) of the CPR (i.e. products that are "*individually manufactured or custom-made in a non-series process*"). With regard to these products, for which the manufacturer may refrain from drawing up a declaration of performance, SBS calls for a consensus-based interpretation of the article and a quick uptake of its derogations and associated benefits which are essential for many SMEs operating in the construction sector.

Small Business Standards aisbl • Rue Jacques de Lalaing 4 • 1040 Brussels, Belgium
info@sbs-sme.eu • T +32 (0)2 230 75 99

ANNEX

Operational scheme for the application of article 37 of the Construction Products Regulation (EU) No 305/2011 (CPR) – Treatment of construction products to which the applicable AVCP system is 3 in accordance with provisions for AVCP system 4

Reference standard: EN 14351-1

Essential characteristic: Thermal transmittance - Components value

Introduction

The calculation of the essential characteristic "*thermal transmittance*" for windows and doors (respectively defined U_w and U_d) can be performed through:

1. EN ISO 10077-1 (simplified method)
   This method requires the calculation of the weighted average of transmittance values relative to the perimetric frame (U_f) and the glass (U_g), taking into account the correction factor (ψ_g) due to the thermal bridging in correspondence to the interface between the glass and the perimetric frame and the influence of the spacer inserted in insulation glasses (called Insulating Glass Units – IGU). While U_g values are declared by the IGU manufacturer and uncritically assumed on the basis of the reference standard, U_f and ψ_g values are obtained from the dedicated annexes of standard EN ISO 10077-1.
   This simplified method entails penalizing test results for manufacturers as the performance of their products can turn out to be significantly lower (up to 20%) in comparison with the real performance of the same product obtained through direct testing.

2. EN ISO 10077-1 (simplified method) + EN ISO 10077-2 (rigorous method):
   This method requires, as described above, the calculation of the weighted average of transmittance values relative to the perimetric frame (U_f) and the glass (U_g), taking into account the correction factor (ψ_g) due to the thermal bridging in correspondence to the interface between the glass and the perimetric frame and the influence of the spacer inserted in the IGU. While U_g values are declared by the IGU manufacturer and uncritically assumed on the basis of the reference standard; U_f and ψ_g values are obtained through provisions outlined in EN ISO 10077-2.
   The implementation of such "composite method" (simplified method + rigorous method) allows the declaration of values much more adherent to the real performance of their products.

Operational scheme

The proposed operational scheme is oriented to allow micro-manufacturers to proceed autonomously to the calculation of U_f and ψ_g values and declare final values of U_w and U_d more adherent to the real performance of their products without recurring to Notified Bodies, thus treating their construction products to which the applicable AVCP system is 3 in accordance with provisions for AVCP system 4, as foreseen by article 37 of the CPR. The necessity for micro-enterprises to implement the proposed operational scheme is linked to the significant amount of calculations that are required to certify a complete product line. Indeed, micro-manufacturers are currently at a following crossroad:

- Adopt the simplified method, reducing costs but entering the market with a product that is characterised, on paper, by performance values significantly lower than the real ones. This causes the unfortunate situation in which micro-enterprises, unable to invest substantial economic resources, are strongly disadvantaged in the market in comparison to large companies.
- Adopt the "composite method" (simplified method + rigorous method), thus facing costs that are often not in line with their spending capacities.

However, given the availability on the market of specific software which are intended to calculate U_f and ψ_g values in strict compliance with EN ISO 10077-2, it seems possible for micro-enterprise to execute autonomously the required calculations and benefit from the provisions of article 37 of the CPR. The validated software using numerical finite element method on the market have fluctuating costs between 1,500€ and 3,000€, to which training costs are to be added.

Step-by-Step

1. Acquisition of computing software by the micro-enterprise.
   The purchased software should be supplied with a validation certificate which proves that the software is intended to be used for calculation of U_f and ψ_g values as defined in standard EN ISO 10077-2

2. Training of certified professional(s) within the micro-enterprise.
   There should be at least one operator within the micro-enterprise with proven competence in using the computing software. The training could take place internally, reflecting the same provisions given in standard EN ISO 10077-2 for the validation of the software. A detailed report on the training of the operator(s) should be drafted and stored by the manufacturer within the micro-enterprise facilities

3. Execution of calculations on products.
   The qualified operator(s) should be responsible for the execution of calculations and the declaration of performance values of single window and/or door components as well as of the final product.

Furthermore, it will be necessary to draw up specific test reports in accordance with provisions foreseen by EN ISO 10077-1 and 10077-2

4. Drawing up of Specific Technical Documentation.
   All the papers related to the validation of purchased software, the training of operator(s) and to the test reports should be gathered in an unique document referring to a single product family or category. This document should be included in the Specific Technical Documentation to demonstrate the equivalence of the procedures used to the procedures laid down in the harmonised standard, as foreseen by article 37 of the CPR

Small Business Standards aisbl • Rue Jacques de Lalaing 4 • 1040 Brussels, Belgium
info@sbs-sme.eu • T +32 (0)2 230 75 99