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Complementary systems: Standards and technical fitness for purpose declarations (*technical approvals*)

Standardization is usually a voluntary, consensus driven activity, carried out by and for the interested parties themselves, based on openness and transparency, within independent and recognized standardization institutes, leading to the adoption of standards, compliance with which is voluntary.

Standards themselves should be fit for purpose, have a high degree of acceptability as a result of the full involvement of all relevant interested parties in the standardization process, be coherent with each other and allow for technological innovation and competition. Therefore, standards should be based on sound scientific research, be updated regularly, and be performance-based where possible. These documents, established by consensus and approved by standardization institutes, provide, 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[1]. What is all too easily forgotten, is that, in accordance with ISO/IEC Guide 2:2004, standards should be based on the consolidated results of science, technology and experience, and aimed at the promotion of optimum community benefits.

Product standards are developed for products available on the market. Consequently the requirements, evaluation methods and criteria address only those aspects that are known to be of relevance for the products found on the market at the time when standards are being developed. Hence, by definition, standards are insufficiently flexible to address innovations adequately. When innovative products are submitted to evaluation in accordance with standards that are only or mainly performance based, the risk exists that important parameters are not being addressed, because the standards were not developed for the innovative product under consideration, its innovative installation technique or its particular intended use.

Therefore, standardization for innovative areas is mostly focusing on the description of interfaces between different systems which provides for important advantages in developing those systems furthermore. However, with regard to construction products there is very often a need to know details on the product's performances as well as on its design and composition, to provide for rules on the use of the products based on the requirements of the Member States for works.

The recent Regulation (EU) N° 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European Standardization specifies the framework within which future European standardization will take place.

[1] ISO/IEC Guide 2:2004, definition 3.2

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Taking into account the required service life of construction works and the corresponding risks if the intended service life is not met or if parts of the works fail during use, the state-of-the-art in the construction sector develops relatively slowly. Innovations require time to demonstrate fitness for use in construction works, before being accepted as state-of-the-art. Consequently, in the construction sector, product standards have always been complemented by 3rd party technical fitness for purpose declarations[2]. These declarations are independent favourable judgements of a product, kit or system, taking into account the use(s) for which the manufacturer places the product onto the market. Whereas in general, (national) product standards cover products for which codes of practice[3] exist, 3rd party technical fitness for purpose declarations usually cover installation guidance, limiting conditions or requirements, but made specific for the product covered by the 3rd party technical fitness for purpose declarations.

Issuing of 3rd party technical fitness for purpose declarations

It is important to acknowledge that these 3rd party technical fitness for purpose declarations are issued by independent organizations, taking into account the needs and concerns of all stakeholders in the construction sector, i.e. whereas it is generally the manufacturer that applies for such a declaration, it is the approval body that determines the requirements, develops the evaluation scheme, sets the criteria and issues the declarations. The approval body either is a public authority, works under a mandate from such an authority, or ensures that it has a structure that allows all relevant stakeholders to be involved. The approval bodies serve the public interest. As such, approval bodies work in collaboration with the whole spectrum of stakeholders making up the construction industry, i.e. manufacturers, specification writers, contractors, regulators, designers and insurers. As the approval bodies are impartial, no stakeholder group is favoured before another and every manufacturer, large or small, is treated equally.

Taking into consideration all fair needs of all stakeholders is the key for technical approvals to reach their goal, i.e. acceptance of products assessed in the market place. In case Guides[4] are developed to ensure equivalent treatment between individual files of the same product family, relevant stakeholder involvement is ensured. In case of individual applications for which no Guide exists, the approval bodies need to be able to represent the stakeholders which are not in a position to be involved for confidentiality reasons and aspects that have already been standardized are taken into account when and in so far as relevant.

Initially, fitness for use declarations, with or without certification, were established at a national level, to suite the national circumstances, depending on the national legislation, available (national) standards and codes of practice and the presence and functioning of market surveillance, i.e. the declarations all have the same objective, but they may be substantially different. As the movement towards the European Union became stronger, the technical assessments were progressively based on common European evaluation methods, but the declarations continued to be substantially different, reflecting their history and the environment in which they were and are being used.

In any case those aspects that have already been standardized are taken into account, when and to the extent of their relevance, in the issuing of 3rd party technical fitness for purpose declarations. As science, technology and experience develop and the number of manufacturers increases, product families transfer from the 3rd party technical fitness for purpose declarations towards the standardization process. During this transfer the basis for issuing 3rd party technical fitness for purpose declarations is taken into account, but generally some of the criteria set may be reduced or removed altogether, as a consequence of the consolidated results of science, technology and experience.

[2] 3rd party Technical fitness for purpose declarations are generally referred to as *Approvals, but these may also be referred to by terms such as Agrément certificates, Avis Techniques, Zulassungen, Documento de Idoneidad Tecnica, Technical Approval, Agrément Techniques etc.*

[3] Specification comprising recommendations for accepted good practice as followed by competent and conscientious practitioners in the construction sector, and which brings together the results of practical experience and acquired knowledge for ease of access and use of the information. Exemples are **Documents Techniques Unifiés (DTU) in France, Note d'Information Technique (NIT) in Belgium.**

[4] Guides in the meaning of Guidelines for the issuing of national approvals

Judgement of fitness for purpose

3rd Party technical fitness for use declarations generally cover one or a limited number of products for which the fitness for the specified intended use has been assessed and favourably judged where relevant. Depending on the product and the degree of consolidation of the state-of-the-art, taking into account that the approval process is dealt with on a case-by-case basis, addressing those issues that are really relevant for the product concerned and making use of available engineering knowledge, the required assessment may be relatively simple or complex and consequently, costs vary considerably[5].

The process which results in an approval is all embracing and covers, as far as relevant[6]:

- assessment of the production process (whether fully developed or prototype)
- assessment of the factory production control system
- assessment of key performance characteristics
- assessment of product/system durability
- assessment of the installation process and, where relevant and appropriate, training of the associated personnel
- indications on transport and packaging
- indications on repair and maintenance
- judgement of whether the product/system performance will meet national building regulations/codes
- judgement of whether the product/system will comply with requirements of other stakeholders i.e. insurers, specification writers, architects, building designers and occupants

Taking into account that the installation is vital as regards the incorporated product meeting the specified performances, technical approvals always consider installation guidelines.

Problems with standards that SMEs occasionally experience, i.e. costly assessment methods and FPC requirements, are issues that are normally not encountered in the technical approval process, because approvals are tailor made and always foresee appropriate provisions for the applicant.

Not all approval bodies offer product certification, but in many cases, they do monitor products for which fitness for purpose declarations have been issued. Certification represents an important added value for users and enhances the reputation of the issued declaration and the fitness for purpose declaration in general, by increasing confidence that products on the market comply with the declaration.

[5] Although no official consultation was carried out, it is estimated that the costs for the development and issuing of fitness for use declarations varies between 3 and 20k€, with the majority within the range of 5 and 15k€.

[6] Testing of samples is not listed above since the establishment of product performances is in most cases necessary to place the products on the market anyway. Where possible, UEAtc members accept test reports of tests performed prior to the application for a fitness for use declaration, although in many cases, acceptance is conditional on sampling having been performed by an independent and impartial third party and the use of recognized laboratories. Some of the UEAtc members offer testing services as well.