
EDITORIAL

Five years after the launching of the new series of the CONSTRUCȚII journal, its content has adapted to the scientific context within the community of the European states and to the keen issues raised by the sustainable development specific to each technical and humanistic field. Constructions, essential for modern living, but considerably contributing to the damage of the ecological balance of this planet, attempt, rather slowly, to generate a good practice example which might be followed by other sectors of the national economies.

The European Directives, with an important impact not only on the natural environment, but also on the actors' awareness, either constructors or users of constructions, envisage an ambitious target: to mitigate the negative impact of constructions and to observe the sustainable development trend generated by all the processes specific to the erection new buildings but also to the upgrading of existing ones. If only the safety coordinates are taken into account, mainly those referring to the structural safety as well as to energy and environmental performance of constructions, a series of physical and chemical processes, sensitive in terms of a phenomenological approach, are noticed; they all have an obvious impact on the environmental and built background.

If structural safety may be the most important coordinate of the constructions sector – and here I refer mainly to earthquake safety, a field in which Romania has excelled by experts of all generations, – the Energy and Environmental Performance obviously represents a major complementary coordinate. If a devastating earthquake causing major damage and loss of human lives has a behaviour similar to a Dirac function with a concentration of the destructive energy potential in an infinitesimal time interval time, the environment pollution caused by the energy sources, the use of construction materials far from meeting the exigencies of the green environment and, last but not least, the lack of a proper energy-related education of the population, may be assimilated to the Heaviside function, with its leap generated by the modern urban society, but also with the accumulation of destructive energies distributed over time. Moreover, the whole picture of all the natural and anthropic aggressions upon the built but also upon the natural environment causes an unwished increase rate of the environment entropy increase on all the material and social coordinates.

The CONSTRUCȚII (Constructions) journal, by issue No. 1 of 2010 targets a thematic content focused on the issue of Building Energy Performance (PEC), namely on the methods of calculation of this performance. Even if currently there is a rather large range of literature concerning the property (heat and mass) transfer processes, the correlation between a profession producing a diagnosis and possibly a number of recommendations – and here we refer to the profession of building energy auditor – and the diagnosis tools is rather fragile; it is most of the time subordinated to the costs required by the energy auditing activity in itself.

The result is represented by the tendency of conceiving new calculation methods, quicker and, unfortunately, not facing the severe and objective filter of the experimental validation. The reports/papers included in this issue of the journal are a part of the results of a pre-regulatory scientific research programme coordinated by the Ministry for Regional Development and Housing (currently the Ministry of Regional Development and Tourism, MDRT) in the years 2008 and 2009.

This programme, thoroughly conceived in the years 2006 and 2007 and technically carried out by the experts of INCERC Bucharest (the National Building Research Institute), currently INCUB-INCERC, lead to the development of new and highly accurate softwares which will be included in the new Romanian calculation methodology.

The performance criteria imposed to the methods, mainly analytical and adjustable to a table-type calculation were tested by full-scale and long-term experimental validation, which allows the issuing, on this basis, of the Software for the Validation of software products for Building Energy Performance assessment, as well as for the energy-related design of new buildings, together with the upgrading of existing ones, a new discipline, complementary to architecture and urban planning, which emphasizes the energy-related exigency imposed to any building and to any building complex. The experimental platform, which soon will be completed with a new building, based on a special conception in terms of energy, was erected with the support of MRDT as well as of ANCS (the National Authority for Scientific Research); both entities have been involved, even in years that were difficult from the economic point of view, like those we are experiencing now, in supporting the scientific research projects.

The fact that this journal will reach university libraries, as well as similar research institutes in the European Network of Building Research Institutes – ENBRI, on one hand, and the fact that this journal will be accessible through the International Databases where it is indexed, on the other hand, is not only an invitation to dialogue, but also a dissemination activity, specific to any scientific research programme. If the usefulness of the thematic issues of the CONSTRUCȚII review is confirmed, we will certainly propose a schedule to be approved by the editorial staff and presented to all its readers. We also reiterate the invitation addressed to all our readers in Romania or abroad to participate in the development of thematic plans as well as in writing scientific papers or bibliographic syntheses, representative for the construction sector.

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