

INDOOR AIR QUALITY REGULATIONS. THE SPANISH CASE.

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EXTENDED SUMMARY

The current regulation in Spain regarding Indoor Air Quality (IAQ) provisions is Building Code (Código Técnico de la Edificación) for dwellings and Regulations on Building Heating Installations (Reglamento de las Instalaciones Térmicas en los Edificios. RITE) for other kind of buildings.

The Spanish Building Code is the regulation that establishes the Safety and Habitability requirements in buildings. It was developed by the Ministry of Housing, in collaboration with the Building Quality Department of Eduardo Torroja Institute for construction Sciences. CSIC. Building Code (BC) came into force in 2006 being in general performance-oriented and is composed by several basic documents. BC was the first regulatory provision in housing containing an IAQ however in a prescriptive approach. BC establish a minimum ventilation rates in habitable rooms. Before BC requirements in general was assumed that traditional ventilation and air from infiltration was enough to maintain IAQ.

In the other hand, the story of RITE goes back to the 1980s to the fulfilment of a number of obligations related to heating, climate control and hot water facilities (RD 1618/1980), this regulation was revised several times 2946/1982, RD 1751/1998, RD 1027/2007, RD 238/2013, in order to adapt requirements to European directives and the TBC. This Regulation lays down the conditions of the facilities to meet the demand of thermal welfare and hygiene through heating, cooling and hot water for a rational use of energy.

However, the experience since the approval of the Code has demonstrated that these requirements must be reviewed to make easier the application of other, especially those referred to energy economy and protection against noise. It has been proposed that the IAQ requirement can be satisfied with the supply of a flow rate which is able to keep the CO₂ concentration under some established limits (an average concentration of 900 ppm and an accumulated value of 500.000 ppm*h yearly accumulated above 1600 ppm). New flow rate values are given to ensure this fact, lower than those include in the current Building Code.

The Ministry of Developing (Housing) is member of the Inter-Jurisdictional Regulatory Collaboration Committee (IRCC), so it was decided to use a survey with a questionnaire to the rest of the members of this organization, to collect the information. It has been recognised the good practice of show this new proposal to other countries and know the current other counties regulations..

IRCC is an organization whose purpose is “to advance at an international level, framework, guidance, and support documents on construction-related regulatory environment issues relative to the development, implementation, and support of performance-based regulatory systems. The intent is to advance a common understanding of the international regulatory environment, to promote the exchange of information, and to facilitate a more open environment of inter-jurisdictional commerce in the areas of building design and construction.” (<http://www.ircc.info/>)

Eduardo Torroja Institute for construction Sciences-CSIC developed the questionnaire. The Institute supports the Ministry of Development on the continuous development and update of the Spanish Building Code, which includes regulations on IAQ that are currently under revision. As it was said before this revision responds to the goal of reducing energy demand due to ventilation systems.

The institutions members of the IRCC were invited to fulfil a questionnaire that was focused on the most relevant matters related to IAQ. The questionnaires were sent on February 2015. Information from Australia, Austria, Canada, China, Japan, Netherland, New Zealand, Norway, Scotland, Singapore, Spain, Sweden and United States of America was collected.

The main objective was to know the current state of IAQ regulations in other countries and their proposals of improvement for future versions, and particularly in learning about how IAQ performance in dwellings and car parks is expressed.

The questionnaire was organized in 16 questions in several parts. The first question asked about the area of application. From the second to the thirteenth, it was asked about regulations for dwellings; the fourteenth, about regulations for car park; and the fifteenth about regulations for other buildings. The last one was to collect any comments.

The objective of this communication is to show the Spanish regulation and the new proposal and a comparative approach with the other countries involved in the survey.