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# ASSESSMENT OF HEALTH AND COMFORT CRITERIA IN A LIFE CYCLE SOCIAL CONTEXT: APPLICATION TO BUILDINGS FOR HIGHER EDUCATION

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## ABSTRACT

In order to assess sustainability of buildings, environmental, economic and social aspects should be addressed. Within the evaluation of the social criteria, regarding a building in the use stage, the standard EN 15643-3:2012 defines, as a general methodology, a list of performance categories to be addressed. General guidelines for the evaluation of these performance categories are provided by standard EN 16309:2014, and its effective assessment is mainly based on qualitative criteria and a checklist approach, which does not enable an easy comparability of the results of different assessments.

Therefore, the aim of this paper is to perform a social life cycle assessment of school buildings for higher education, focusing on the criterion of health and comfort, which addresses different sub-criteria. In the proposed methodology different levels of assessment were defined. In the first level are each one of the sub-criteria for health and comfort (e.g. thermal characteristics), being this evaluation based on a bottom-to-up approach.

For some of the sub-criteria, there are recommendations, established in standards or technical codes, which were followed to define this methodology at baseline level. The Analytical Hierarchic Process (AHP) was used to overcome the lack of reference values for the assessment of the remaining sub-criteria. Within each assessment level, a multi-criteria approach was required to reach a score. The list of weights to be used requires an

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