



DESIGN OF BUILDINGS INCLUDING ENVIRONMENTAL IMPACT

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Abstract

The paper presents the ways of integration of environmental impact in the usual design of buildings. This integrated design can change the manner of structural conception. Firstly there are presented some theoretical aspects that should be considered when performing a life-cycle assessment, such as life-cycle assessment (LCA) and life-cycle costing (LCC). The second part presents concisely the actual normative conditions at the European level regarding the sustainability of construction works. The third part presents a practical application of integration of environmental impact into design of buildings, by means of a case-study. The example compares the environmental impact for a single-family house, designed in two situations: classic design – by considering a masonry house and the same house designed in steel lightweight profiles respectively. The impact analyses are performed at different levels: construction, construction and end-of-life and construction, end-of-life including maintenance.

Key words: energy, environmental impact, impact categories, life-cycle of construction works, sustainability

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