

Timber constructions as a main participant in the solution of housing problem

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1 Abstract

The development of timber constructions all around the world may be a very important component in a global policy of affordable housing. To realize this target timber constructions must have adequate security and acceptable durability. It means to have a well-founded Specific Structural Theory and sufficient data about deterioration process and rheological comportment. In this paper we analyze: a) the advantages and disadvantages of timber constructions; b) the main basic hypothesis to develop a theory concerning the "Strength of Wood Material Bodies" (a specific Strength of Materials referred to timber constructions); c) a more precise method to determine wood strength in any case; d) an adequate policy to assure desirable durability of timber constructions.

Keywords: wood advantages; timber constructions; security; strength of materials; durability.

2 Introduction

Timber constructions are a historical legacy in a lot of countries. In many of them, it is also an actual technology but founded in traditional knowledge. Only in some developed and developing countries timber constructions are designs with the support of a theory and the guidelines of a specific Code. In

some of this last like in Argentina and other ones, Timber Codes give the strength of the material for a set of the most common woods generally employed. The large strength variability among the specimens of any tree family -and also in the different areas of the same tree- has two undesirable consequences in timber constructions: security decrease and costs increase.