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2.- PROJECT

2.1.- Theoretical criteria of the intervention project.

2.2.- Traditional materials and construction methods.

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COMPARATIVE STUDY OF CONSTRUCTION OPTIONS BASED ON SUSTAINABILITY ASSUMPTIONS

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KEYWORDS: Sustainability; Rehabilitation; Isolation; Solutions; GGE Reduction.

ABSTRACT

Sustainable development is an approach grounded in the balance among three dimensions, namely environmental, social, and economic, aiming at satisfying current needs without compromising those of future generations. In the construction industry, sustainability seeks to ensure that processes of construction, rehabilitation, and demolition employ strategies that reduce environmental impacts, promote economic viability, and enhance the quality of life for generations to come. With this premise in mind, the study's objective is to conduct a comparative analysis of construction solutions that embody greater sustainability principles and meet minimum requirements for thermal performance. The goal is to identify viable solutions that minimize environmental impact, achieve energy and embodied water reductions and contribute to the reduction of greenhouse gas emissions.
The selected construction options under study were analysed based on collected results from various environmental impact categories, such as GWP, ODP, AP, among others. Bibliographic studies were conducted to support the analysis, in addition to consulting the EPDs used in construction products applied in the different studied solutions. The results are based on a proposed solution for the rehabilitation of a building, suggesting the replacement of conventional processes with sustainable and thermally efficient construction methods that are applicable.