Utilizing Basalt Stone in Interior Spaces in AL Madinah AL Munawwarah to Achieve Environmental Comfort

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Abstract:

The basalt stone material available in Al-Madinah needs to highlight its features as an environmentally- friendly material and its utilization as a local resource.
This holds a significant importance in reducing construction costs and dealing with thermal issues that escalate energy consumption. Its use in interior and architectural design is crucial. This study assumes that employing local materials like basalt stone in interior spaces contributes to environmental comfort.
Innovating new materials from it aids in creating sustainable materials that address environmental problems.
Its utilization in architecture and interior design contributes to creating new opportunities and fields for researchers, designers, and architects.
Additionally, it enhances aesthetics and establishes a connection with Al Madinah's identity.
This study aims to establish foundations and methodology for utilizing basalt stone in interior spaces. It explores the possibility of creating a new material that ensures environmental comfort within these spaces.
This involves employing several methodologies, such as:
Descriptive-analytical method:
By Identifying basalt stone, its historical uses in Al Madinah's architecture and conducting interviews with geological, architectural, and interior design experts.
Formulating a SWOT analysis model to assess the effectiveness of using basalt stone in architecture and interior design, as well as creating new materials through theoretical study, building analysis and interviews.
Qualitative method: Analyzing architectural models in the field to gather insights and information about basalt stone's potential ability of providing thermal comfort in interior spaces.
This study concludes that basalt stone possesses numerous properties that make it a suitable raw material for usage in interior spaces and external facades.
It provides thermal, acoustic, and optical insulation.
Its natural form distinguishes Al Madinah's architecture from other regions.
Moreover, it has led to the creation of easily manufactured materials, such as rock wool, basalt aggregate and basalt fibers which do not require high energy during production.

Keywords:

Basalt stone, local materials, environmental comfort, development of materials, Medina.

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