

A Review on the Use of Salt in Building Construction

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Abstract : Identifying materials that can substitute rare or expensive natural resources is one of the key challenges for improving resource efficiency in the building sector. With a growing world population and rising living standards, more and more salt is produced as waste through seawater desalination and potash mining processes. Unfortunately, most of the salt is directly disposed of into nature, where it causes environmental pollution. On the other hand, salt is affordable, is used therapeutically in various respiratory treatments, and can store humidity and heat. It was, therefore, necessary to determine salt materials already in use in building construction and their hygrothermal properties. This research aims to identify salt materials from different scientific branches and historically, to investigate their properties and prioritize the most promising salt materials for indoor applications in a thermal envelope. This was realized through literature review and classification of salt materials into three groups (raw salt materials, composite salt materials, and processed salt materials). The outcome of this research shows that salt has already been used as a building material for centuries and has a potential for future applications due to its hygrothermal properties in a thermal envelope.

Keywords : salt, building material, hygrothermal properties, environment

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