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Are straw bales better insulation materials for constructions? A review

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Abstract

The construction industry significantly impacts climate change, highlighting the urgent need for exploring sustainable building solutions. Among the potential candidates, straw bale constructions have emerged as a promising alternative with low environmental impact and commendable thermal performance. This paper aims to review the thermal performance of straw bale constructions and assess the benefits of utilizing straw bales as a sustainable building solution. The findings demonstrate the outstanding thermal performance of straw bales, emphasizing their significant potential as a viable alternative to conventional insulation materials. Nevertheless, the extensive integration of straw bale constructions into the mainstream market is facing challenges from various aspects of the construction industry.