

## Characterization of an Ecological Mortar Lightweight With Polystyrene

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**Abstract :** Polystyrene is often seen in the ocean and on Algerian beaches, mainly as food containers. It's one of the top 10 most common items found there. This happens because it's light and easily carried away from its original source, like packaging or transport, into the environment. Unfortunately, it's not recycled much because it's not very profitable to do so. Hence, turning this waste into a resource can turn challenges into opportunities for a territory's economic and environmental development, which is the focus of this study. the goal is to analyze the physical and mechanical properties of a new type of mortar made from dune sand mixed with recycled polystyrene. it also aim to assess its potential for use in various construction applications. The mixtures were prepared by replacing portions of dune sand with polystyrene waste at varying volumes (10%, 20%, and 30%), while keeping the amount of cement constant. The results indicate a noticeable impact on both the physical and mechanical properties because of incorporating polystyrene waste.

**Keywords :** polystyrène, eco-mortier, sable de dune, résistance

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