

## **Oriented Strandboard-GEOGYPTM Undelayment, a Novel Composite Flooring System**

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**Abstract :** An innovative flooring underlayment was produced and tested. The composite system is made of common OSB boards and a layer of eco-friendly non-cement gypsum based material (GeoGypTM). It was found that the shear bond between the two materials is sufficient to secure the composite interaction between the two. The very high compressive strength and relatively high tensile strength of the non-cement based component together with its high modulus of elasticity provides enough strength and stiffness for the composite product to cover wider spacing between the joists. The initial findings of this study indicate that with joist spacing as wide as 800 mm, the flooring system provides enough strength without compromising the serviceability requirements of the building codes.

**Keywords :** Composite, floor deck, gypsum based, lumber joist, non-cement, oriented strandboard, shear bond

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