

## SILICON-BASED HYDROPHOBIC ADMIXTURE FOR FIBER REINFORCED CEMENT BOARDS

Name of authors

LECOMTE JEAN-PAUL<sup>#</sup>; ARNAUD CARNIAUD; SPAETH VALERIE <sup>+</sup>

<sup>#</sup>Dow Corning, Rue Jules Bordet, B-7180 seneffe, Belgium, <sup>+</sup>Université Libre de Bruxelles, Belgium

**Keywords:** (Silane; silicone; integral water repellent)

### **Abstract.**

Protecting Fiber reinforced cement boards against water absorption is key to protect the boards against water-induced physical change or freeze thaw degradation.

After having reviewed the different strategies which can be used to reduced the water absorption of Fiber cement boards thanks to the use of silicon-based additives during the last conference, this paper will focus only on the use of silicon-based additive as admixture (treatment of the bulk of the board).

The rationale behind the selection of a proper hydrophobic admixture will be shared. Lab data showing how the hydrophobic admixture can be added in the FRC slurry and the impact of addition of hydrophobic admixture on FRC properties such as water absorption or resistance to freeze thaw will be illustrated.

Reactivity of the silicon-based additive with the FRC components and potential transfer in water will be discussed