



INTERNSHIP OFFER

Understanding foam stability in plasterboard formulations

Context

Foam is a key element in the composition of plasterboards, allowing for the reduction of the board weight. Lightweight boards have a lower CO₂ footprint and are easier to handle on jobsite. Therefore, Saint-Gobain and its Gypsum business strive towards lightweight boards. However, a lower density often comes at the expense of the mechanical properties. It is therefore crucial to control the bubble size within the plasterboard to limit detrimental effects on the mechanics. The incorporation of novel additives can negatively affect foam stability, inducing a loss of control over the bubble size distribution.

Objectives

Goal of this internship is to provide an understanding of how different additives entering in the composition of plasterboards affect foam stability. The student will characterise plaster-free model foams and formulate hypotheses describing the mechanisms responsible for the stabilisation/destabilisation of foams. The student will resort to the following experimental techniques (amongst others):

- Surface tension measurements
- Interfacial rheology
- Automated foam stability analysis (Foamscan)
- Thin film stability analysis (Thin Film Pressure Balance)

A visit to SGR Paris allowing for the student to work on systems more closely related to the plasterboards will be planned.

Profile

M2/Last year of engineering school - Physical chemist or physicist of soft matter

Duration: 6 months

Site

The internship is conducted in close collaboration with Saint-Gobain Research Paris but will take place at the Institut Charles Sadron (UPR 22 CNRS, 23 rue du Loess, 67000, STRASBOURG). The internship convention will be signed by the CNRS.

Contacts

Applicants should send resume and covering letter (in English or in French) to:

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