Saint Gobain – Idea-a-thon

Problem statement:

Project-1:

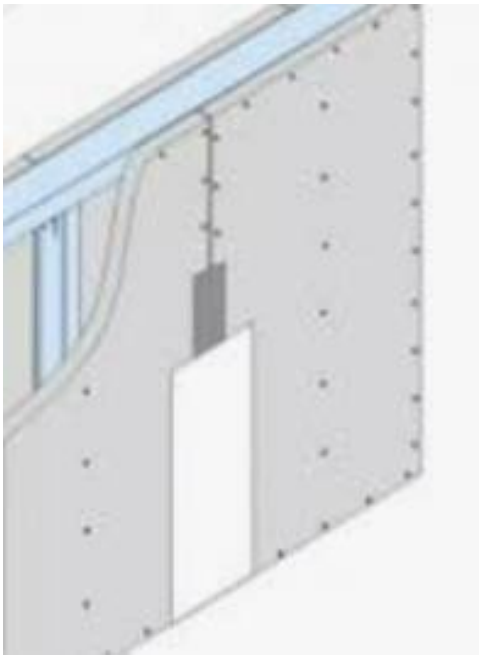
Fiber disc is made up of backing, grain which is glued by resin. Explore and identify Non-destructive Evaluation technique which can determine inhomogeneity in terms of adhesion between grain and backing.

Expected Deliverables: NDE Techniques to capture the inhomogeneity (adhesion, density variation) in the disc. Applying the knowledge of fracture mechanics, adhesion & adhesives and coupling with various forms of energy used in NDE technique and down selecting the most appropriate technique following methodical approach.

Project-2:

Drywall is built by metal framing assembled with Gypsum boards on both the sides using screws. Enhance the point load capacity of regular Gypsum board to 2X kgs.

Expected Deliverables: Ideas and concepts on formulation / system to enhance point load capacity of drywall. Ideas to be fostering recyclability and planet friendly materials and processes.



Project-3:

Composite Tape Solutions (Silicone Rubber/Fiberglass) seamlessly integrate distinct materials to deliver enhanced performance with superior strength, durability, and functionality, ensuring a higher quality and more reliable product. However, their behavior under different loading conditions is complex and difficult to predict. The goal of this project is to develop a mathematical model using a programming language to simulate the behavior of composite materials under specific loading conditions.

Expected Deliverables: Mathematical model that accurately predicts the behavior of composite materials under specific loading conditions, including stress-strain behavior, failure modes, and damage evolution.