European Project Semester

PROJECT OUTLINE

Project dates: March – June 2022

Title:

Investigation of technical solutions to disassemble structural adhesive bonding links to enable dismounting & recycling product after there service life

Project activity areas:

Mechanical & Material Engineering

Keywords:

Disassembly, adhesives, recycling

Tutor's name and coordinates

Client – End-user: *Technacol*

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Project origin

Research, Innovation, Up-cycling, Environment protection, Eco-design

Project technical background:

Structural adhesive bonding has widely spread, over the last 3 decades, across the industry and over a large scale of applications. Now time has come to disassemble theses products to recycle them. Although it is impossible to change what has been done in the past, it is still possible to limit today's consequences of yesterday's mistakes and to avoid doing the same mistake over again.

The aim of this project is though to find solution to disassemble existing structural bonding links and understand the limitations of yesterday's technologies to design a new structural assembly design that enables easy disassembling without prejudice to the reliability and durability.

The project will be organised in x phases:

1. Study of existing structural bonding technologies
2. Research of disassembling solutions for existing technologies an identification of technology limits
3. Design of eco-design disassembling solutions
4. Prototyping and Proof-of-concept
5. Advertising

This research work will be done at Technacol's facilities in order to characterise adhesives, to test disassembling methods and test new eco-designed adhesives solutions. At the end of the project, the newly designed solution will be advertised by Technacol via social networks in order to drag new customers.

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Studied topics:

- Adhesive bonding
- Mechanical and industrial design
- Polymer processing
- Industrial engineering
- Chemistry
- Project management
- Communication