

Module 2: Sustainability of cork, carbon footprint of cork, potential products of cork

IO1 – Educational curriculum



Description

This module describes the importance of cork material in relation to sustainability and the green economy as well as its current and potential uses beyond the well-known cork stopper.

We will also establish the relationship between the use of cork and the contribution to the UN Sustainable Development Goals as well as the threats caused by climate change.



Index

1. Cork and sustainability.

- Introduction.
- Cork ecosystem.
- Environmental services.
- Sustainable management.
- Impact of climate change on the cork ecosystem.



2. Carbon footprint of cork products:



















- Introduction to carbon footprint.
- Carbon fixation of forests.
- Life cycle of cork products.
- Carbon footprint values.


 CO_2 (R) k
-234g.fixed



3. Potential uses of cork.

- Main properties of cork.
- Construction and design.
- Textile and mobility.
- Pharmacy and cosmetics.
- Others.

					
Whistler Home Cork + Ceramic	Fioat Lighting Cork	Corqui Furniture Cork	Corqui Home Cork	Puf string Furniture Composite of cork with natural rubber + Steel	Wallcork Home Cork fabric + Ink
Producers/designer Matoeramica /Amorim	Benjamin Hubert	Corque/Pedro Silva Dias	Corque/Fernando Brito	Corque/Ana Mestre	Corque/Sofia Dias
Manufacturing process of cork Agglomeration + cutting	Agglomeration + cutting	Agglomeration + cutting	Agglomeration + cutting	Production of rubber cork	Print of natural cork laminated
Country Portugal	United Kingdom	Portugal	Portugal	Portugal	Portugal
Website www.corkway.com/	http://layerdesign.com/	http://corquedesign.com/	http://corquedesign.com/	http://corquedesign.com/	http://corquedesign.com/
					
Cork chaise longue Furniture Cork	Place mat Home Cork	Ricardo Rollbag Fashion Cork fabric + Cotton	Pinha Lighting Cork and electric components	Corkybow Home Cork	Boat Toy Cork + Ceramic
Producers/designer Daniel Michalik	Escofet	Lena Hieslatter	Materia/Raw Edges	Vicars/ Tiago Sá da Costa	Materia/BIG GAME
Manufacturing process of cork Agglomeration + cutting	Agglomeration + cutting	Adhesion of thin cork slices and coagulation with PU	Agglomeration + cutting	Agglomeration + cutting	Agglomeration + cutting
Country USA	Spain	Germany	Portugal	Portugal	Portugal
Website http://danielmichalik.com/	http://escofetcork.com/	http://lenahieslatter.de/	http://www.materia.amorim.com/	http://vicars.org/	http://www.materia.amorim.com/
					
Lagarta Furniture Cork	Wash basin Sanitary Cork	Bench Furniture Cork + painting	Corkers Decoration Plastic	Mobile cover Electronic Cork	Car dashboard Automotive Cork fabric
Producers/designer Corque/Ana Mestre	Simple Form Design/Azira Pevco and Carlos Mendonça	Daniel Michalik	ReddishMonkey business	Ryan Frank	Marcos Benoit/Ilirai
Manufacturing process of cork Agglomeration + cutting	Agglomeration + cutting	Agglomeration + cutting	Plastic moulding	Agglomeration + cutting	Adhesion of thin cork slices and coagulation with PU
Country Portugal	Portugal	USA	Israel	United Kingdom	Germany/Italy
Website http://corquedesign.com/	http://www.simpleformdesign.com/	http://danielmichalik.com/	http://fau.monkeybusiness.com/	http://www.ryanfrank.net/	www.villanella.com



Target Groups

- Engineering students (Aerospace, Aeronautical, Materials and Mechanical Engineering).
- Engineers, technical staff and leaders in Aerospace and Aeronautical Industries.



Learning Objectives

- Understand why cork is considered a sustainable material.
- To know and clarify the concept of carbon footprint and the different steps for its calculation.
- To get an introduction of different uses of cork material and the characteristics that makes it suitable for the aerospace sector.



Learning Resources

- Scientific Articles
- Audiovisual material
- Field trips
- Books and Thesis



Self-assessment and Learning Activities

- Quizzes
- Oral presentations
- Video lectures
- Book

