AMORIM

CORK COMPOSITES

CORK SOLUTIONS & MANUFACTURING PROCESSES

INDEX

03. CORK ORIGINS

15. CORK SOLUTIONS

19. CORK MANUFACTURING PROCESSES

REINVENTING HOW CORK ENGAGES THE WORLD

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CORK COMPOSITES

CORK ORIGINS

REINVENTING HOW CORK ENGAGES THE WORLD

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Cork is the bark of the
CORK OAK TREE
(Quercus Suber L.)

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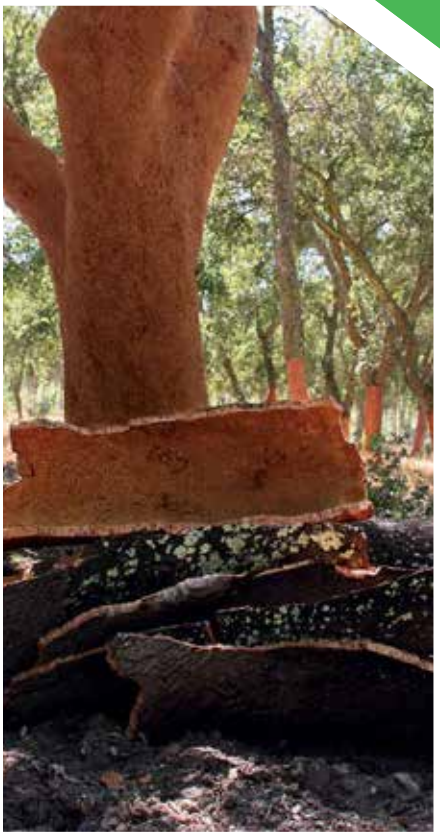
CORK HARVESTING

Stripping is a highly specialized process that doesn't harm the tree.



A NOBLE TREE THAT CAN LIVE UP TO 200 YEARS,

during which time it may be harvested 15 to 18 times.

THE BARK RENEWS ITSELF

CORK FORESTS IMPROVE SOIL'S ORGANIC MATTER
and help regulate the hydrological cycle

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2.2 MILLION HECTARES OF CORK OAK FORESTS

Western Mediterranean Basin

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CORK OAK FORESTS ARE NATURAL CO2 RETAINERS.

(the major cause of global warming. Up to 14 million tons of CO2/year)

THE CORK OAK FOREST HAS THE CAPACITY TO ABSORB 14.7 TONS OF CO_2 PER HECTARE*

14.7 tons of CO_2

EXTRAPOLATING TO THE GLOBAL AREA OF CORK OAK FORESTS, THE WESTERN MEDITERRANEAN HAS A RETAINING CAPACITY OF ABOUT 30.66 MILLION TONS OF CO_2

30.66 million tons of CO_2

The carbon fixed by the cork oak is stored in the cork, remaining there for the entire lifetime of the product.

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MEDITERRANEAN BASIN IS ONE OF THE 35 BIODIVERSITY HOTSPOTS

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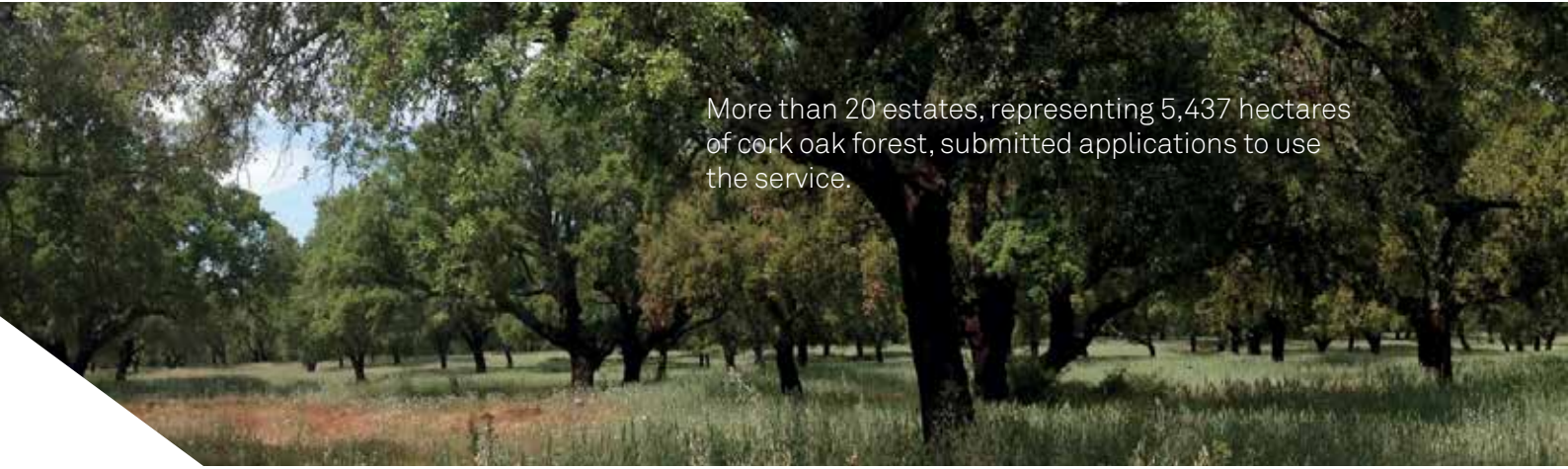
EUROPE'S BUSINESS & BIODIVERSITY INITIATIVE

which Corticeira Amorim has joined, included the creation of the biggest award to date for researchers working in the field of "the cork oak and related biodiversity", as well as a technical advisory serve for forestry producers (totally financed by Corticeira Amorim).



More than 20 estates, representing 5,437 hectares of cork oak forest, submitted applications to use the service.

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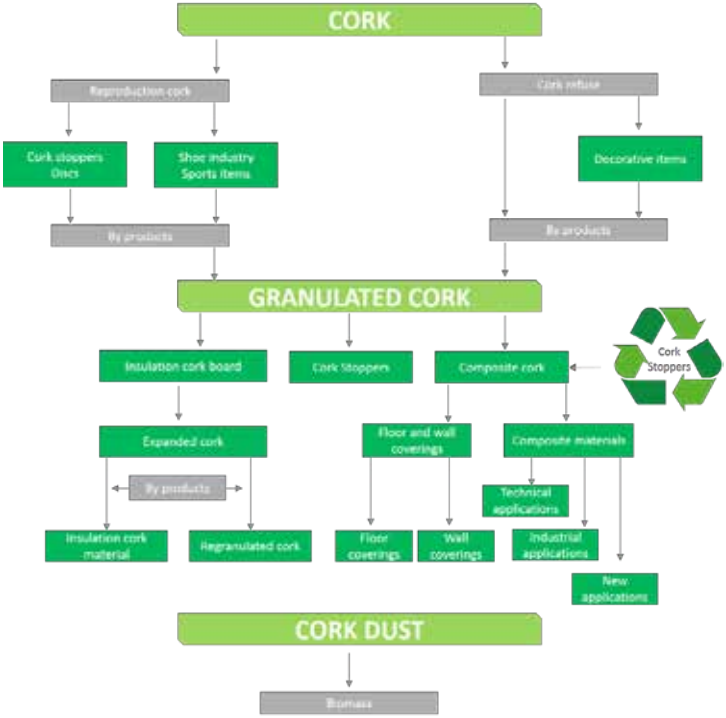
CORK INDUSTRY VALUE-CHAIN

Nothing is wasted and everything is valued.

From natural to highest demanding applications, the cork waste is recycled in all stages of the value-chain.

The cork dust is used in electrical cogeneration, improving energy efficiency.

Over 60% of the company's energy needs are met by using biomass (cork dust) which is a CO2 neutral source of energy.



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SUSTAINNABLE DEVELOPMENT PRACTICES IN THE CORK INDUSTRY

We were the first cork company in the world to have the FSC Certification.

FSC
www.fsc.org
FSC® C022338
The mark of responsible forestry

PEFC
PEFC/04-31-0507
Promoting Sustainable Forest Management
www.pefc.org

We hold both Forest Stewardship Council (FSC®) chain of custody certification and certification issued by the Programme for the Endorsement of Forest Certification Schemes (PEFC) which together demonstrate those raw materials used in FSC® or PEFC certified products are sourced from responsibly managed forests.

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THERE IS NO OTHER MATERIAL IN THE WORLD LIKE CORK

100% natural, reusable and recyclable, cork is, from the environmental, social or economic perspectives, one of the world's most versatile materials.

100% NATURAL

REUSABLE AND RECYCLABLE

WARM FEELING

40 MILLION CELLS

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CORK SOLUTIONS

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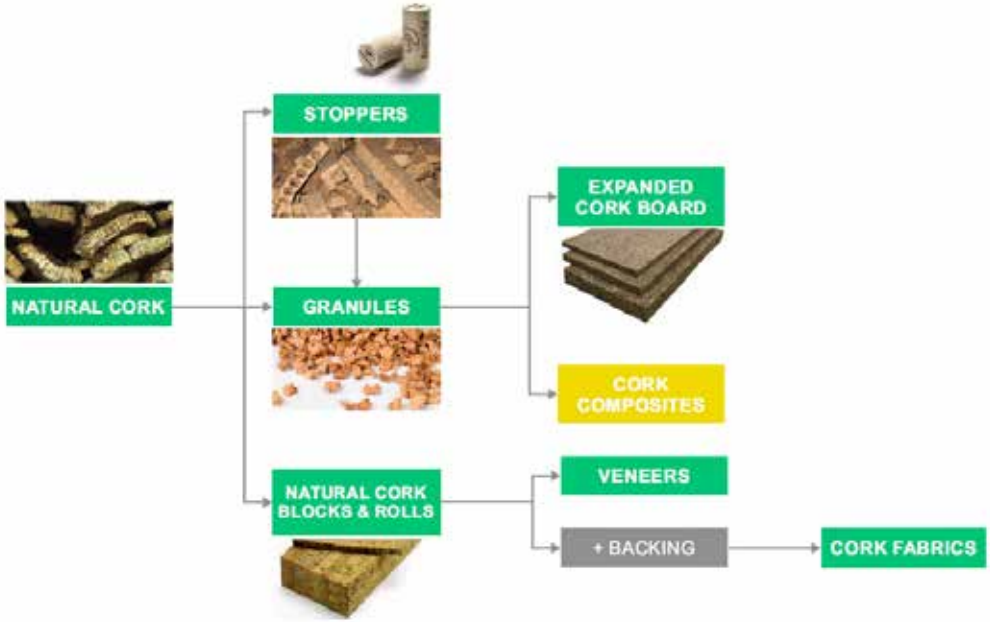
CYCLE OVERVIEW

Materials & Processes



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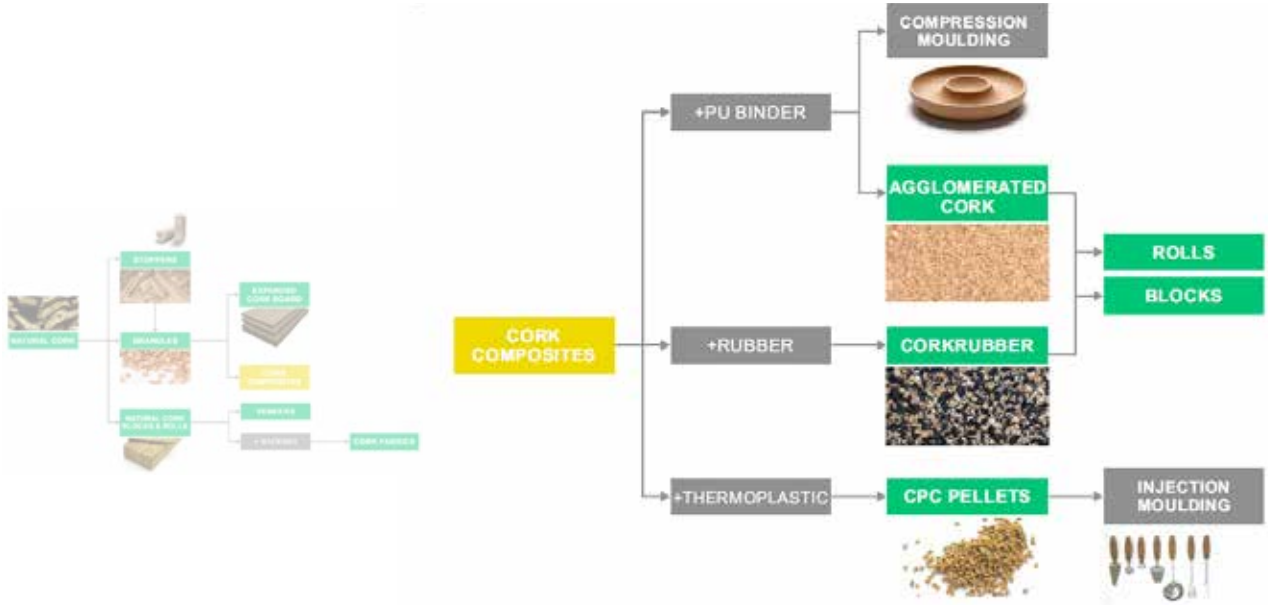
CYCLE OVERVIEW
Materials & Processes



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CORK MANUFACTURING PROCESSES

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DIE CUTTING

CHARACTERISTICS:

- Available for rolls and sheets
- Maximum thickness of 7mm
- Maximum area of 1200mm X 700mm
- Not suitable for high density materials
- Low-cost tools
- High cadency

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LAMINATION

WOOD, FOAMS, PLASTICS, RUBBER, METAL, TEXTILES, ADHESIVES, FIBERS

CHARACTERISTICS:

- Available in sheets and rolls
- Customizable layer thickness
- High efficiency process
- Easy gluing (wood, textiles and foams)
- Possible to combine cork with rigid and flexible surfaces
- Possible to associate multi-materials
- Wide range of cork visuals and densities
- High resistance & low weight
- Suitable for acoustic/thermal applications remaining natural cork visual

MACHINING
STICKLE BOARD MILLING

CHARACTERISTICS:
- Thicknesses from 5mm to 30mm
- Diameters from 90mm to 300mm
- Rectangular shapes till 600x450mm
- Low cost tools
- Good for fast prototyping

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MACHINING
MILLING | CILINDRICAL | CUTTER | TURNING

CHARACTERISTICS:
- High waste of material
- Suitable for high density materials
- Low cost tools
- Small grain size
- Suitable for sample/prototype production

Cilindrical cutter
- maximum height of 180mm
- irregular interior finishing

Turning
- maximum height of 300mm
- maximum diameter of 300mm

CNC MACHINING

CHARACTERISTICS:

- Allows more complex shapes than milling
- Best surface finishing with small size granules
- Suitable for high/mid density materials
- High-tech process
- 5-axis machining

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COMPRESSION MOULDING

CHARACTERISTICS:

- Maximum area of 450x900mm
- Maximum height of 95mm
- Complex geometries possible with no material waste
- Faster production cycles than machining
- Refined grain size is used (0,5-1mm)
- Mostly suitable for high quantities (requires investment in moulds)

OVERMOULDING

WOODEN, METALLIC OR POLYMERIC SUBSTRATE (threaded inserts, screws, etc)

CHARACTERISTICS:

- Suitable for big production batches
- Low unit cost
- High Cadency
- No material waste
- No additional stages required
- Possible to add flexible parts to a rigid component
- Cork associated to heavy mechanical solicitations (Traction, Torsion and Compression)

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3D MOULDING

CHARACTERISTICS:

- Complex geometries
- Cork look & high resistance materials
- Customizable Thickness
- Wide range of core materials
- Compatible with all Cork references
- Surface Resistance (Stains, Scratches)
- Suitable for furniture applications
- High rates of acoustic insulation or mechanical resistance
- Customized coating for 3D Moulding production

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PLASTIC INJECTION MOULDING

CHARACTERISTICS:

- Allows more complex geometries
- Possibility of adding colour
- Possibility of overmoulding with other materials
- Possible to adapt corkrubber composition
- Suitable for big production batches
- To be used under injection moulding technologies
- Good grip for demanding applications

BOARD ON FRAME

CHARACTERISTICS:

- Lightweight
- Rigid surface
- Possible to work with a wide range of geometries
- Core with an honeycomb structure
- Stiff surface layers
- Compatibility with other materials (ex: metal, wood,...)

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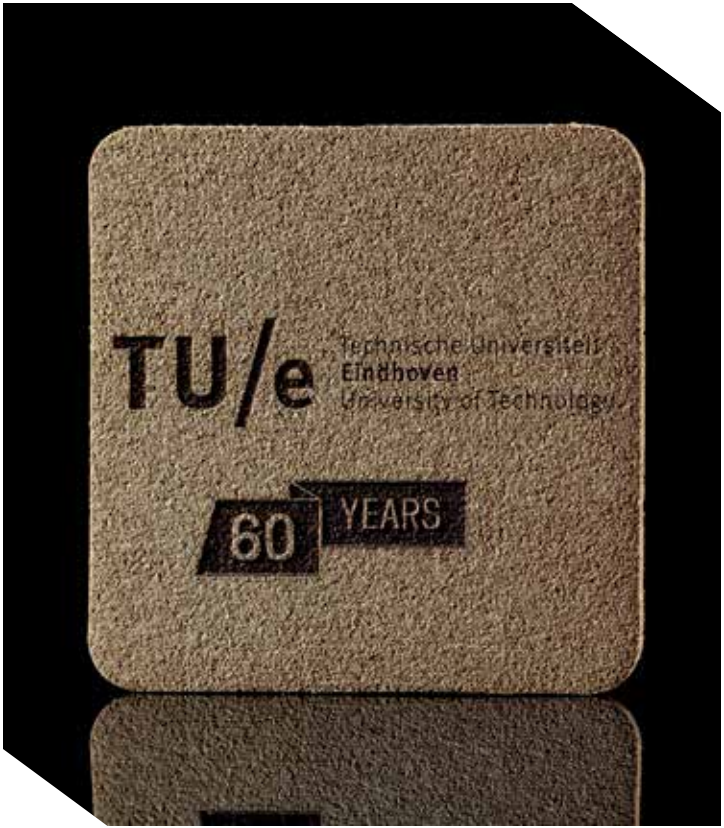
LASER ENGRAVING

CHARACTERISTICS:

- High cadency
- Possible to be used in several materials
- No limit of batches dimensions
- High resolution



PRINTING

SILK SCREEN, OFFSET AND DIGITAL PRINTING, SERIGRAPHY

CHARACTERISTICS:

Silk screen printing
- Max. Area of 900x600mm
- Max. Height of 80mm for small components
- Max. Height of 30mm for wide sheets
- Only used up to two colours

Offset printing
- Max. Area of 600x400mm
- Max. Thickness of 0,8mm

Digital printing
- Max. Area:
- Sheets: 1900x3000mm
- Rolls: 1450mm width
- Max. Thickness of 30mm

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THANK YOU!

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