

# Let's not waste your coffee waste!

## Sustainable material research

CoffeeBased is a material- and product manufacturer, that uses low-value spent coffee grounds (SCG) to make high-valued products. On their request, their laminated furniture panel is optimized. Because, the laminate discolors and distorts when in the desired user context. Besides, except for the laminate, other components have not been selected on their sustainable character. Thus, a panel with better context resistance and sustainable value is requested.

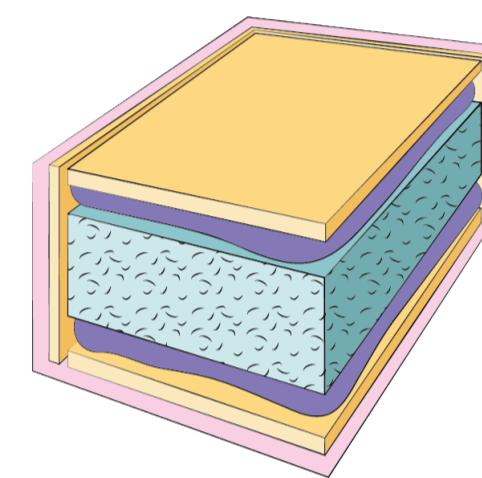
### Panel proposal

Bound by the desires of the end user, processibility of the manufacturing facilities, material compatibility and the resources available to CoffeeBased, market research was conducted. Four panel concepts are proposed panel concepts, each with its own (sustainable) advantages. Final recommendation depends on the priorities of the end user. For now, the panel with the highest increased waste content is considered most suitable to the thesis, called:

**'All aboard, the EcoBoard'.**

### Context resistance

A BioPin coating is recommended to be used until another CB material is developed and tested for laminate suitability. It offers protection from impact caused by heat, water, cleaning chemicals and sharp objects. The development of an edge band is incorporated in the concept, because it would enhance the aesthetic appeal of otherwise less attractive core materials.



### All aboard, the EcoBoard!

- Clear lacquer as coating by BioPin
- BioComposite laminate by CoffeeBased
- BioImpact adhesive by Canect
- EcoBoard core by EcoBoard International
- Edge band from CB1 by CoffeeBased

### Sustainable value

The sustainable requirements were selected based on the annotation that furniture panels in the Netherlands are incinerated<sup>1</sup>. Thus, the proposed panels are selected to be 'okay to burn'. The proposed panel has a **83% waste content increase** as well a **biobased content increase of 12%**, this while providing a potential **VOC emittance reduction of 1%**.

from panel



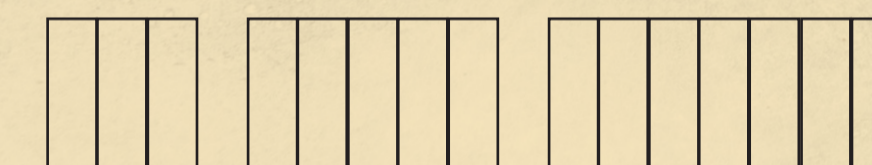
to product

### Condiment organizer

A condiment organizer is designed, with the function to orient and display additives for coffee machine beverages, called condiments. Unfortunately, the necessary manufacturing method prevents the implementation of the optimized panel's EcoBoard and edge band. Thus, no-added formaldehyde plywood is used as core instead.

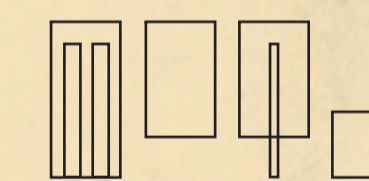
### Pre-assembled back frame

For user convenience, the back frame of the design is pre-assembled before delivery. To offer options, these are available with 3, 5 or 7 compartments.



### Selection of condiment fronts

Condiment specific fronts for tea bags, sugar sachets, milk cups and stirring sticks can be selected during purchasing. With their uniform fit, they can be switched at any given time.



The condiment organizer is called "**Kovivol**", referring to the Dutch: "full of coffee". The appearance corresponds with the other coffee corner products sold by CoffeeBased. By purchasing a Kovivol with 7 compartments, users help save SCG from **44 cups of coffee!**



**Indy Vester**  
Sustainable material research: Panel to Product  
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Integrated Product Design

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