Casted Wood

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Photo Eeva Suorlahti
Methods

“Research Through Design” generating new tacit and explicit knowledge how the cellulosic materials like to be handled, and what are the limits of the material.

- Result: material samples, formal, visual and tactile experiments

“Research by Design” visualizing potentials and creating preliminary knowledge for future product applications

- Result: designed exhibition pieces
Materials

SAWDUST / WOOD FLOUR + NANOCELLULOSE

Mixing

MOULDS
Material Features and Value Propositions

- **Material Design**: Surface structures, colours, haptic value-laden properties and visuality can be designed varying the consistence, scale and proportion of ingredients

- **Shaping**: boards, panels, casted 3D objects
  - No need to hot press
  - The cast pieces are reproducible by using the moulds again

- **Postprocessing**: by drilling, sawing, sanding

- **Haptic properties**: surface temperature and texture are almost as in wood-based products

- **Environmental friendliness**: completely wood-based material combination has a low environmental impact and is recyclable

- **Economy**: competitive raw material price, simple production process
Experiments with Shapes

Freeform geometry

Regular shapes

Regular patterns

Details of casted tiles, 2016-2017
Photo Heidi Turunen
Shaping by Casting

→ New method among wooden products

→ Enables for new forms and shapes

→ Material consumption: saves material & energy
Experiments with Colours
Dyeing of Material

→ Altering visuality by selecting different dyes:
  
  → Soft tones
  
  → Vivid hues
Experiments with Surfaces
From Fine Wood Dust to Coarse Chips

→ Adjusting material proportions and coarseness

→ Scale of the surface

→ Visuality of surface texture
Conclusion

Create knowledge how to process material combination by casting

→ Casting not commonplace for wooden materials
→ Additive method

Understand design possibilities

→ Tactile aspects: surface textures, 3D shapes..
→ Visual aspects: dyeing, patterning..

Clarify potential end-use applications for indoor use

→ Wall panels, acoustic / sound directing elements, lightweight boards, toys, 3D printed objects, applications in sports industry, jewelry, shoes, disposable applications for indoor gardens, interior decoration products, furnishings or products related to construction industry

Photo Eeva Suorlahti
Thank you!

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