

Material Education on Sustainability *for art and design students*

A course coordinated by Büro für Nachhaltigkeit & Institute für Materialdesign IMD in HfG Offenbach

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Materials & Sustainability course

Coordinated by Büro für Nachhaltigkeit & Institute für Materialdesign IMD in HfG Offenbach

Principle of Life cycle assessment
Sustainable design strategies

Material selection

New types of materials (explorations
Material design)
DIY Materials
Materials Experiences

Material innovation



Knowledge Input

Related terms in the
intersections of art,
design and sustainability

Circular design
Bioart
Biodesign
...

Material selection



Bamboo chair

€ 10.00

4.6 kg

electrical power 2.2 MJ

Sea container 0.05 m3

20.000 km

municipal waste

incineration



Oak chair

€18.00

4.3 kg

no paint

Truck&trailer 0.05 m3

500 km

municipal waste

incineration



Steel chair

€23.00

4.98 kg

Powder coating 1.1 m2

Truck&trailer 0.05 m3

500 km

municipal waste open

loop recycling



Plastic chair

€11.00

PP - 2.92 kg

Injection moulding

Truck&trailer 0.05 m3

500 km

municipal waste

incineration

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Material Innovation

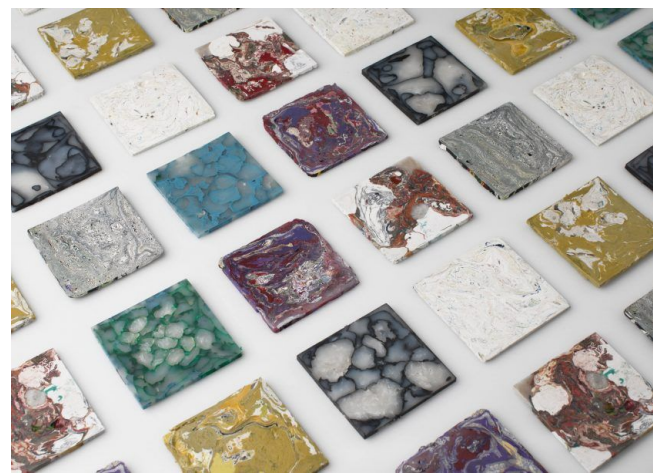


Kombucha Leather

<https://www.colorado.edu/ecenter/2021/11/04/biomaterials-what-scooby-leather>

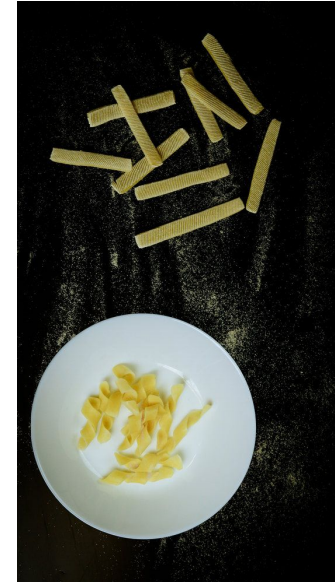
<https://www.grown.bio/?v=3a52f3c22ed6>

Mycelium



Upcycling

<https://www.dezeen.com/2019/11/19/enis-akiev-plastic-stone-tiles-recycled/>



Active materials

<https://www.morphingmatter.cs.cmu.edu/>



Bioplastic

<http://www.oohowater.com/>

A speculative view



The "Plastiglomerate"

https://www.dezeen.com/2019/04/21/kelly-jazvac-plastiglomerate-milan-triennale/?li_source=L&li_medium=bottom_block_1