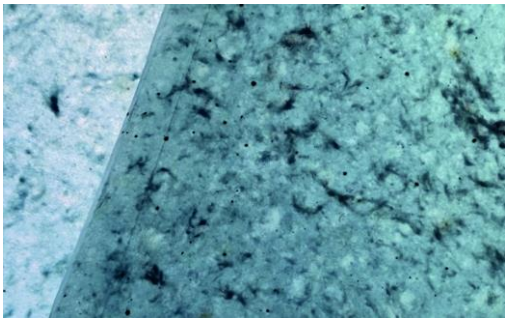
THE SONNET155 BAG MADE FROM DISCARED FRUIT SKINS AND CELLULOSE FIBRES IN GERMANY

Sonnet155 was one of the nominees of the Green Concept Award 2021: 100 concepts for a sustainable future. This translucent fruit-leather and biodegradable bag made from discared fruit skins and cellulose fibres has been developed by Johanna Hehemeyer-Cürten and Lobke Beckfeld, two Berlin design students at the Weißensee Academy of Art Berlin, in Germany

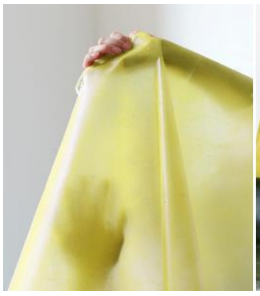
Sonnet155 provides a widely used, alternative and better everyday item than a paper or plastic bag. The bags are made in a wide range of colors derived from the natural pigments of fruit peels recycled.

This biodegradable bag has a lifespan close to a disposable paper bag and is designed to degrade naturally with wear before it can ultimately be composted or recycled. Once it is too worn down to be used, the material can be dissolved in warm water and recast to create a new bag of the same quality. Alternatively, the cellulose can be filtered out with a sieve and reused, while the pectin can be repurposed as plant food.



The Sonnet155 bag is made from two different post-industrial waste materials which can be sourced locally: fruit skins left over from juice production and short cellulose fibres sourced by the innovators from a local textile factory.

Sonnet155's key ingredient is pectin, a gelling agent that is extracted from the cell walls of the waste fruit and acts as a natural binder. Pectin is a plant-based polysaccharide already used as a fertilizer in organic agriculture. The fruit peels are reinforced with cellulose fibres, shorter than five millimeters long, which are filtered out and discarded during the industrial textile production process because they are too short to be turned into fabric. Combined with warm water, the mixture is left to cure in a mould for up to five days before it is sewn together. The material is cast into moulds in the shape of the bag.



The percentage of cellulose, as well as the length and density of the fibres, determine the structure and level of translucency and the resilience of the material. Natural pigments offer a range of colours from light to dark, translucent to opaque and dull to shimmering and the structure of the mould makes the material matt or glossy.

As the inventors point out, with Sonnet155 the aim was the design of a desirable product, which represents sustainability as a treat rather than a burden. The refined design of this bag shows how the search to reduce the use of natural resources, food waste and to replace plastic, can be associated with the

creation of attractive products, beautiful to use. The bag is produced using two waste materials that can be sourced locally, reducing the costs of its management and generating local circular economy. The material is fully compostable and can be integrated within a biological life-cycle, helping to solve problems of great environmental impact.

Johanna Hehemeyer-Cürten and Lobke Beckfeld, who are completing their master degrees at the Weißensee Academy of Art in Berlin, are currently looking for manufacturers and industrial producers to collaborate with to make the Sonnet155 commercially available.

Meanwhile, this innovative product, one of the nominees at the prestigious *Green Concept Award*, can inspire other teams of students to invest in designing and building new production processes and technologies useful to face the relevant challenges for a cleaner, more sustainable and attractive future world.

To know more

Sonnet155 in Lobke Beckfeld website

Sonnet155 in Johanna Hehemeyer-Cürten website

Sonnet155 in gp-award.com

Nominees and winners of the Green Concept Award 2021

Article in dezeen.com

Article in tuvie.com

Article in oldnwise.com

Article in arquitecturaydiseno.es

Article in futuroprossimo.it

Lobkebeckfeld.com website

Johanna-hehemeyer.com website