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Intelligent skin

■ ASSE (BE) - In the context of sustainable construction, architects are turning more and more to textiles as an alternative for the traditional facade brick. The reasons are obvious: textiles are extremely light and consequently more flexible than traditional facade materials. They also make it possible to combine various transmission and aesthetic properties in a single material. [BLAF Architecten](#) developed an **innovative textile skin** for a private, 'passive' house.

The house's location – as close as possible to schools, work, leisure activities and public transport – was the first step in the sustainable approach. Next there was the internal layout which was designed to be flexible enough to allow for modifications by a possible subsequent occupant. Another deliberate choice relating to sustainable use of the space is the interactive play area between house and street which replaces the usual front garden.

The dwelling itself, built according to passive house design principles, consists of a solid base that is half dug into the existing slope, and a timber-frame superstructure. Below are the bedrooms, above the substantially glazed living space adjoining the back garden. The base provides the required thermal mass, the areas of glass in the upper section guarantee a high heat yield, while void areas and the open-plan layout ensure that the warmth circulates freely through the dwelling.



Measures had of course to be taken to avoid overheating. Here, too, the architects sought flexible solutions using a minimum of means. They were keen to minimize the thickness of the outer walls and for this reason they chose EPDM rubber as a cladding for the base. For the upper facades an 'intelligent' skin was developed, consisting of a framework clad with UV-resistant glass-fibre fabric. In places where it is necessary this cloth can open and close and thus act as a sun blind. In the permanently closed sections the fabric protects the underlying wood fibreboard. This innovative facade system not only satisfies all the building performance requirements but also gives the dwelling a distinctive appearance that is in keeping with the architectural concept. (*Kirsten Hannema*)

Ecocentric, Facade, Textile | Belgium

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