

Environmental product declaration (EPD) for the TensoSky®-ETFE-System

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ABSTRACT

As we know today, the earth's natural resources are limited. In addition, emissions and waste must be limited and the energies used must be handled carefully.

The construction sector has one of the highest levels of CO₂ production. In 2006, the Environmental Product Declaration (EPD) defined by the International Organization for Standardization (ISO 14025) was introduced as a Type III declaration, with which the environmental impact of a product is quantified. According to ISO 14040, the EPD is based on the life cycle assessment (LCA). This records the effects of a product during its entire life cycle, from raw material to the end life.

The data that are obtained for the EPD of the individual product are indispensable if, for example, you want to quantitatively evaluate a building with regard to its impact on the environment (green building rating). Depending on the region, there are different certification procedures, such as LEED (US), BREEAM (UK) or DGNB (DE). The data are also valuable for the manufacturer of the respective product, as it shows him his environmental footprint and gives him the opportunity to produce or use his product in a more environmentally friendly way. Finally, the data enable the user, e.g. building owners or architects, to compare different products with regard to their ecological balance and to select and use the most environmentally friendly product at the end.

In this article, the EPD for an ETFE-foil-system is presented, which is increasingly being used as transparent building envelope. There are already so-called product category rules (PCR) for such systems available, according to which the LCA has been carried out. The reported ecological assessment relate to one square meter of the investigated product: The TensoSky® system with 3 ETFE-layers from Taiyo Europe GmbH using the ETFE film FLUON NJ from AGC Inc.

REFERENCES

- [1] Taiyo Europe GmbH and AGC Inc., Environmental Product Declaration (EPD) as per /ISO 14025/ and /EN 15804 for the TensoSky®-System with Fluon® ETFE-Film, Institut Bauen und Umwelt e.V. (IBU) EPD-TAI-20190092-ICB1-EN, 2019