

## **Most common connections details in ETFE constructions**

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### **Abstract**

In recent years, ETFE solutions have become more and more frequent in building technology. The most common place to find an ETFE solution is the exterior skin of a building. Sometimes as a canopy, sometimes as a roof or façade, or even as a complete envelope. Also, these construction solutions can be applied to many types of buildings with very different purposes: office buildings, airports, sports facilities, shopping malls, etc. On the other hand, this new construction technology is not as well-known as other building technologies, such as glass or polycarbonate. Thus, ETFE systems must present the same demanding features and high-level quality as the more traditional building systems do in order to compete and be successful in the construction market. One point to take into account for designers and architects is how to integrate an ETFE solution into a building. This paper plans to focus on the detailing and connections between ETFE systems and the other parts of the building, essential for fulfilling the watertightness, airtightness, and thermal insulation requirements of construction. The objective of this paper is to explain the main concepts and typical connection details and illustrate how to apply them to the design process. The construction of ETFE details must be based on a good overall understanding of the system, good detailing design, and a well-developed execution plan. This could be the best approach to avoid future problems and costly maintenance.

**Keywords:** membrane structures, air supported structures, ETFE, cushions, connections, details, detailing,