

## **BONDING VERSUS MECHANICAL FASTENERS**

Structural adhesives are now a responsible and widely used method for bonding facade panel materials. This is not only due to their aesthetic advantages but especially because of their ability to evenly distribute stress across a joint.

When bonding panel materials, it is important to consider the types of stresses to which the joint will be exposed. These forces can include tensile, compressive, and shear forces, as well as thermal and dynamic loads.

In traditional methods of bonding panel materials, such as using screws, rivets, or hooks, the connection point, where stress concentration occurs, becomes the "weakest link in the chain" and will eventually lead to fatigue and failure. Moreover, mechanical fasteners tend to loosen under dynamic loads or vibrations.

However, structural adhesives will evenly distribute the occurring stresses across the entire bonded surface, which, together with their elasticity, ensures a strong and durable bond.

Another advantage of using structural adhesives is that they contribute to the reduction of the overall weight of the facade construction, leading to lower operating costs. Furthermore, the use of structural adhesives will help reduce the wear of facade cladding materials, including supporting structures, improving the lifespan and reliability.

Aesthetically, adhesive bonding also plays an important role. Unlike traditional bonding methods such as screws, rivets, and hooks, structural adhesives create a clean and invisible joint, free from visible fasteners.

By using structural adhesives, facade builders can create strong, lightweight, and aesthetically pleasing facade constructions that are also resistant to extreme stress and loads.