

Adapter for glue mounting Sensys



Complexity of bonding

Providing a permanent and therefore secure bond between a fitting and a furniture front depends on numerous factors which are beyond Hettich's control. For this reason, the fabricator must always take into consideration the factors outlined below by way of example.

Variety of materials and surface finishes for furniture fronts

Glass, for example, is among the materials that are bonded in furniture making. However, different glass types can have very different features. For instance, there is glass that is covered with film (in some cases also with mirror film), laminated glass (sometimes with embedded film that lets no UV light through), toughened glass (single pane safety glass) or coloured float glass. The nature of the surface finish also influences the choice of adhesive and gluing method. Examples include textured surfaces, roughened (satinised) or lacquered surfaces.

Defining the adhesive

The choice of adhesive depends on material selected. Often, for example, bonds with glass are made using UV adhesives which harden after exposure to a UV light source. However, it is not always possible to use this form of adhesive owing to the limited light transmissivity of some glass types for example. In such instances, other suitable adhesives, such as two component adhesives, must be used.

Gluing method

Depending on the adhesive chosen, a suitable gluing method must be applied correctly. With bonds made using UV hardening adhesives, for instance, attention must not only be paid to ensuring clean bonding surfaces but also to other factors, such as the distance and radiation field of the UV light source, exposure duration and the temperature of the materials being glued together as well as to the temperature of the surrounding area.

Long term bond stability

Influencing factors, such as temperature, humidity, excessive static or dynamic loads (e.g. from overly heavy doors) can in the long run reduce the stability of a bond. The fabricator must therefore assess the resultant residual risk of a bond failing. Borderline constructions must be avoided.

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Suitability of the bonding surface

Hettich has analysed the suitability of the adapter's bonding surface in depth. Two adapters were glued to a glass door. The door was attached to the test rig with two Sensys 8645i B-4 hinges.

Door used

- Single pane safety glass, transparent, without special coating
- Format: 600 mm wide, 700 mm high, 6 mm thick
- Weight: 7.5 kg

Adhesive used

- UV hardening
- Manufacturer: Delo
- Designation: PB437

The following tests were conducted in accordance with DIN EN 15570 Level 3:

- Horizontal/vertical test
- Endurance test
- Safety tests
- Salt spray test (in accordance with DIN EN ISO 9227-2012) 2 x 24 h
- Wear test in a alternating atmosphere, 40° C, 90 % r. h. and 5° C

- ▶ The above mentioned tests were completed with positive results: following all of the tests, the bond still provided the adapters with a perfectly firm hold.
- ▶ Assuming that the bond is correctly made, this means that the adapter's surface is suitable for bonding.
- ▶ Note:
From the results presented here it is not possible to draw any general conclusions with regard to the suitability of the specified adhesive and gluing method for other application cases/materials.

Conclusion

Given the numerous influencing factors, Hettich is unable to provide any generally binding specification on adhesive and gluing methods. The adapter must be glued to a glass door by a specialised fabricator who must also select an adhesive and gluing method suitable for the door's specific properties.