Adhesives for aircraft interiors

Light-weight construction is one of the most essential aspects in the aircraft industry. Therefore, bonding is the joining method of choice in this field. By using adhesives to join the light-weight composite materials used, weight and (fuel) expenses can be cut down. Passenger safety also plays an important role. As a consequence, the materials used are specifically tested for their behavior and pollutant emission in the event of fire (fire smoke toxicity test).

DELO supplies adhesives specifically developed for aircraft carriers and many DELO products used in the fields of electronics, display and fastening technology are also suitable for applications in aircrafts.

Adhesive properties
- High temperature stability
- The adhesives are specially adapted to the materials to be joined
- Particularly high strength on plastics such as PPSU
- Qualified and released by Airbus according to AIMS 10-04-001 (depending on product)

Bonding of cabin interiors
The adhesives face a wide variety of challenges in this field as they bond side walls, luggage racks, light covers as well as special Dado panels.

Doors and door frame covers
DELO adhesives are already used in this area to bond sandwich structures to thin plastic panels. As adhesive joining does not damage the material, the load-bearing stiffness of the sandwich structures remains unreduced. The adhesives have tough-elastic properties and also equalize tensions well.

Assembly of fasteners
Countless assembly elements, such as inserts or ONSERTs®, can be found in the aircraft interior. These special fasteners are used for example in air distribution systems and all types of pipes and cable lines.

ONSERT® method
ONSERT® is a joining method that was designed to unify the techniques of bonding and screwing. Fasteners, such as thread inserts or clips, are attached by special light-curing adhesives. The advantages: Removable connections can be used without material-damaging boreholes.
The data and information provided are based on tests performed under laboratory conditions. Reliable information about the behavior of the product under practical conditions and its suitability for a specific purpose cannot be concluded from this. It is the customer’s responsibility to test the suitability of a product for the intended purpose by considering all specific requirements and by applying standards the customer deems suitable (e.g. DIN 2304-1). Typical physical and chemical properties of the materials to be processed with the product, as well as all actual influences occurring during transport, storage, processing and use, may cause deviations in the behavior of the product compared to its behavior under laboratory conditions. All data provided are typical average values or uniquely determined parameters measured under laboratory conditions. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for a specific purpose. Nothing contained herein shall be construed to indicate the non-existence of any relevant patents or to constitute a permission, encouragement or recommendation to practice any development covered by any patents, without permission of the owner of this patent. All products provided by DELO are subject to DELO’s General Terms of Business. Verbal ancillary agreements are deemed not to exist.

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Seats
DELO adhesives provide excellent strength and high peel resistance. Therefore, they are used in constructive seat bondings and for veneers. Unlike other joining methods, bonding gives creative freedom for design and appearance.

Displays
Today, no aircraft can be imagined without displays. They are used in in-flight entertainment and the cockpit.

Previously, the air gap between touch panel and display led to undesirable reflections. Thanks to the new optically clear DELO adhesives, these reflections can be reduced to a minimum (see picture).

Electronics
Similar to components in the automotive industry, electronic elements in aircrafts are often subject to extreme conditions and must be usable in a wide temperature range.

In addition, they must be resistant to extreme forces and vibrations and withstand aggressive media. DELO has developed chip encapsulants especially for this purpose.

Optoelectronics
Light systems are essential in aircrafts. DELO supplies a range of adhesives for a wide variety of optoelectronic applications.

Bonding as a joining method supports the trend towards miniaturization and makes many applications more cost-efficient. DELO adhesives are suitable for use in cabin lighting, illuminated signs, reflective stripes or emergency lighting.

Bonding of sensors
Sensors required in the aircraft industry place special demands on the adhesives used. They must protect the sensor from external influences such as pressure or aggressive media. Open contact areas at the housing must be reliably covered and protected from corrosion.

CONTACT

Headquarters
DELO Industrial Adhesives
Germany · Windach/Munich
Phone +49 8193 9900-0
info@DELO.de · www.DELO.de

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