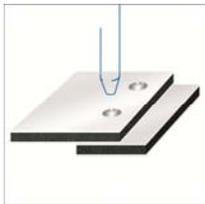


Jointing and fixing techniques

DIBOND® can be joined by means of standard processes used in metal and plastics manufacturing.

If DIBOND® needs to be joined to structural metal parts other than aluminium, or if fasteners (e.g. bolts, screws) are used, the following material guidelines need to be considered.

- Fasteners and structural parts made of aluminium, plastic or stainless steel are applicable.
- When using other materials insulating intermediate layers or protective coatings are required to prevent corrosion.
- For the outdoor use of DIBOND®, its thermal expansion needs to be considered in order to avoid deformation.
- The minimum hole clearance for the fixing material in the panel depends on and must be chosen according to expected expansion of the panel in order to avoid restraints or deformation.



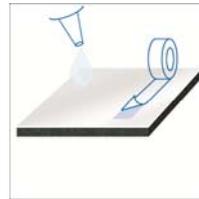
Riveting

DIBOND® panels can be fastened together or joined to other materials with standard rivets for aluminium constructions. For outdoor use and areas of high humidity we recommend aluminium blind rivets with stainless steel mandrils in order to prevent corrosive edges. Countersunk rivets are suitable for indoor use only.

Please note: important for exterior riveting

As various factors may have an influence on the exact tolerance of the 0.3 mm thick rivets (e.g. rivet head tolerance), we recommend making a test on a panel.

The protective film in the riveting area needs to be removed prior to riveting.



Gluing

Gluing is a common jointing technique for DIBOND® which is used for various applications. We recommend the following gluing methods:

Metal adhesives/Universal adhesives

For indoor applications such as trade fair/exhibition stand structure, furniture or shop design universal adhesives or metal adhesives are most suitable.

Gluing tapes/Velcro tapes

For applications with low requirements regarding tensile strength or shearing strength, double-sided tapes (such as 3M VHB high capacity jointing systems) can be used. For detachable joints we recommend Velcro tapes such as SCOTCHMATE or tapes known under the brand name Dual Lock.

Adhesive sealing compounds

For elastic joints we recommend the one component adhesive sealing compound SIKA BOND-T2 (Polyurethane basis). This adhesive can be used outdoors for jointing parts of minor static importance.

Please note:

Please read the manufacturer's instructions for the application and use of adhesives/tapes carefully. Adhesives and sealing compounds do not adhere to the DIBOND® plastic core (cutting edges). The gluing of DIBOND® to other materials may result in deformation of one or both of the laminates due to the different expansion parameters of materials (bimetal effect). The expansion of the panels with temperature changes has to be taken into consideration as well. In order to absorb the expansion we recommend to choose glues that provide enough elasticity.

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Jointing and fixing techniques



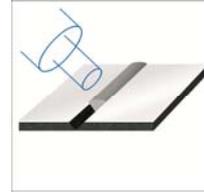
Screwing

Fastening without forcing is possible using fascia screws made of stainless steel with sealing washers that have been approved for construction. It goes without saying that the screws must be suitable for the corresponding substructure.

Screws with different head-shapes for any metals or wood are suitable for indoor use. They do not normally allow for any panel expansion. Countersunk screws can be used with the standard countersinking method or by depressing the aluminium surface, the diameter of the hole in the panel needs to be larger than the screw diameter.

Please note for indoor and outdoor application:

It is important to remove the protective film in the screwing area prior to screwing.



Hot air welding is a standard technique for jointing thermoplastics and has proven useful for welding of DIBOND® as well. The plastic core and the plastic welding rod are heated and welded with electrical hot air welding sets. The plastic core of DIBOND® can be hot air welded by using a polyethylene welding rod. We do not recommend this method for constructive applications.

The following conditions are essential for good welding results:

- Well prepared welding joint
- Good quality welding rod
- Clean hot air
- Correct temperature
- Correct contact pressure
- Welding speed

Clamp connections

Especially for exhibition design, signage and display applications, clamp connections are a favoured method to join materials. Clamp connections out of aluminium or plastics are particularly suitable for DIBOND®.

They generally consist of two parts with the clamping effect achieved by bolting. Various designs of clamping elements and aluminium profiles can be used for shock-resistant and stiff indoor display and store fitting purposes. The inevitable tolerances show different retention forces.

A uniform and solid fit of the sections is obtained by pressing both sides of the profiles together. Butt joint, corner and edge profiles are available for panels of 3 mm, 4mm and 6 mm thickness.

Especially for shop fronts and cladding applications we offer clamp connections and aluminium profiles. Please ask for your special profile list.

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