

LiteWWeight® Lotus



WHAT IS MULTIMATERIAL-WELDING®?

MultiMaterial-Welding (MM-Welding® in short) is a Fastening Technology Platform that uses ultrasonic energy to partially liquify thermoplastic materials to create a functional and strong connection within lightweight materials in fractions of a second.

SERIAL PRODUCTION

To install the MM-Welding® fasteners, ultrasonic welding equipment is necessary, which is available through the MM-Welding® production systems offered by Bossard. From stand-alone systems for small scale and flexible projects, up to fully automated equipment for large scale serial production projects are available.

LITEWWEIGHT® LOTUS FASTENER

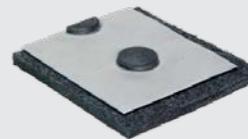
LiteWWeight® Lotus is a fast and reliable connection concept for fibrous components (woven and non-woven) and textile structures.

- Very fast processing time of ~1 second
- High strength due to intensive integration in the fibrous matrix
- No markings on the opposite side, even in thin and sensitive materials
- Only 1 side required for installation
- Allows connection of thin sheet metal to fibrous materials without pre-holes by piercing through process
- Available in several common thermoplastics

LITEWWEIGHT® LOTUS FASTENER

Technical data:

Head diameter:
14mm
Functional diameter:
10mm
3 different length:
4.5 / 5.5 / 6.5mm



LiteWWeight® Lotus pierced through alluminum.



Hinge attached with LiteWWeight® Lotus.



Pull-out test shows intensive integration into substrate material.

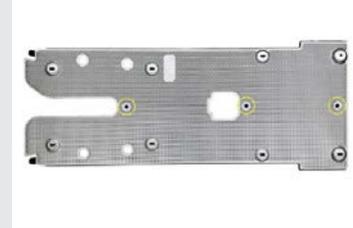
APPLICATION EXAMPLES



WHEEL ARCH LINER



HEADLINER



HEAT SHIELDS / NVH

The LiteWWeight® Lotus fasteners can be the perfect substitution for conventional and in some case not even suitable fastening technologies like rivets, rivet nut studs, staples, hot melts, etc.

FUNCTIONALLY INTEGRATED PARTS (FIP)

MM-Welding® LiteWWeight® Lotus connection geometry can be integrated into an injection molded part, which simplifies production, reduces costs, and enables complete design freedom.



ADVANTAGES

- Reduced cycle time.
- Reduced costs due to the fast process and less parts to manipulate.
- Higher Strength: With less material, higher strength can be achieved.
- Easy one-sided access only assembly process # Geometric Simplification:
 - Connection geometry can be integrated into the part to connect.
 - Design freedom: different sizes such as long or large geometries are possible.
 - Form freedom: No rotational symmetry required.
 - Improved aesthetics: No fasteners are visible.