

# LiteWWeight® Lotus Abalone



## 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.

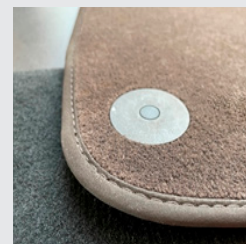
## LITEWWEIGHT® LOTUS

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
- Available in several common thermoplastics

## LITEWWEIGHT® LOTUS ABALONE

Clip retainer for floor mats



### Technical data:

- available diameters: 30mm and 48mm
- Different clip shapes



LiteWWeight®  
Lotus  
Abalone ML



LiteWWeight®  
Lotus  
Abalone MS



Pull-out test  
shows intensive  
integration  
into substrate

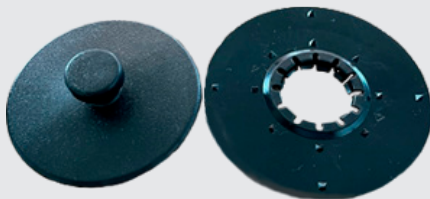
## LITEWWEIGHT LOTUS ABALONE



The LiteWWeight® Lotus Abalone can be the perfect substitution for clipped floor mate retainers. The male part is mounted in a one step process within fractions of a second.

## THE ONE COMPONENT CLIP SOLUTION

MM-Welding® LiteWWeight® Lotus Abalone accelerates the mounting of the male clip component considerably. No punching/cutting required and eliminate the need for connecting two separate components. This clip can also be attached to the floor/carpet after the sound insulation is attached to the backside of the floor/carpet.



Conventional two component clip solution.



MM-Welding® one component clip solution.

## ADVANTAGES

- Reduced cycle time
- Reduced costs due to the fast process and less parts to manipulate
- Two piece clip into one piece
- No pre hole need
- Eliminate risk of hole being too large and part moving
- Eliminate risk of floor mat moving
- Remove tolerance necessary for holes
- No noise from underbody due to space between hole and part
- Eliminate risk of water/moisture coming up through carpet from hole
- Access from only one side needed