EJOT TSSD® Aero

Reliable and lightweight insert technology for sandwich materials

The automotive trend subject "lightweight design" was the starting point for the development of TSSD® technology ("Thermischer Stoffschlussdom") for sandwich materials with honeycomb and foam core structures and their various top layers. The TSSD® is a product which is completed by the corresponding installation process to join components made of the mentioned lightweight materials in a reliable way and with outstanding strength properties. For applications in the aerospace industry, the TSSD® product and the joining process were further developed and redesigned - resulting in the TSSD® Aero variants.

TSSD® with threaded insert

TSSD® with ball head

TSSD® with matching EVO PT® screw

EJOT TSSD® Aero - overview of the advantages

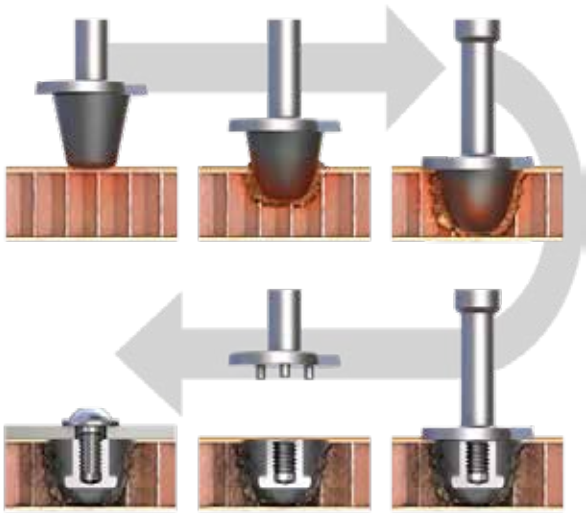
- Extremely fast installation process (< 10 seconds)
- Installation process fully automatable (Industry 4.0)
- Fully automatable quality assurance and documentation
- No time-consuming or process-intensive component preparation or post-processing (no pre-hole)
- No curing times / direct processing after installation process
- Meets FST requirements (ABD0031 & CS/FAR 25.853)
- Weight savings of up to 65 % compared to conventional inserts
- Available as threaded insert or all plastic version

TSSD® Aero with UNJC/UNJF insert in honeycomb sandwich structure

Functioning of the TSSD®

- The TSSD®, rotating at a defined speed and pushed down by a forced feed with the installation tool, will be grated through the top layer of the sandwich material by breaking the layer partially through friction and heat to enable a controlled penetration of the TSSD® element.
- The frictional heat softens the TSSD® material at the edge layer which will then spread inside the sandwich and connect to the structure.
- After reaching the end position the rotation immediately stops without overrun - the setting tool continues to exert pressure on the joining element so that the softened plastic mass in the component can solidify completely in the final position.
- After removal of the installation tool the component with the joined TSSD® can directly be used for further processing.

TSSD® installation process



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05.22/PDF01.23 Subject to technical changes.