TSSD® Aero

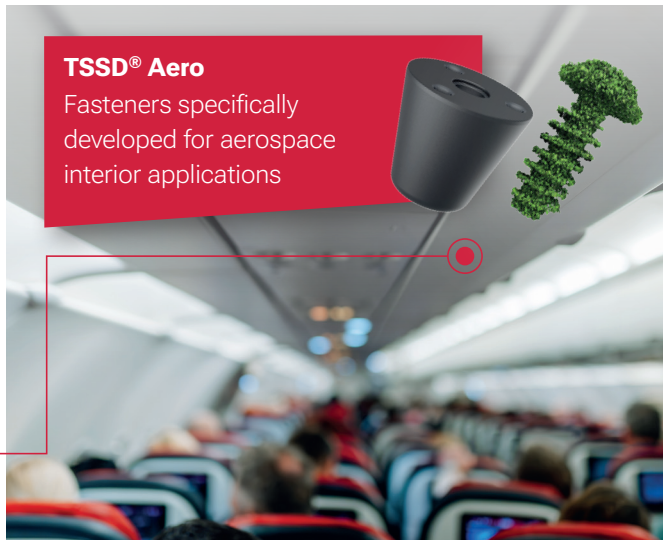
EJOT's invisible innovation as contribution to sustainability in aerospace

What is TSSD®?

- **Friction-welding** insert replacing traditional potted inserts in lightweight sandwich materials
- **Extremely fast installation** in a one-step-process without drilling, adhesives and curing time
- **FST-compliant** for safe use in aircraft cabin interiors
- **No hazardous materials / full recyclability** with mono-material setup
- **Automatization** of insert installation replaces manual work

Behind the cabin linings

Just behind the sandwich panel – that's where EJOT is – improving the aircraft's carbon footprint.



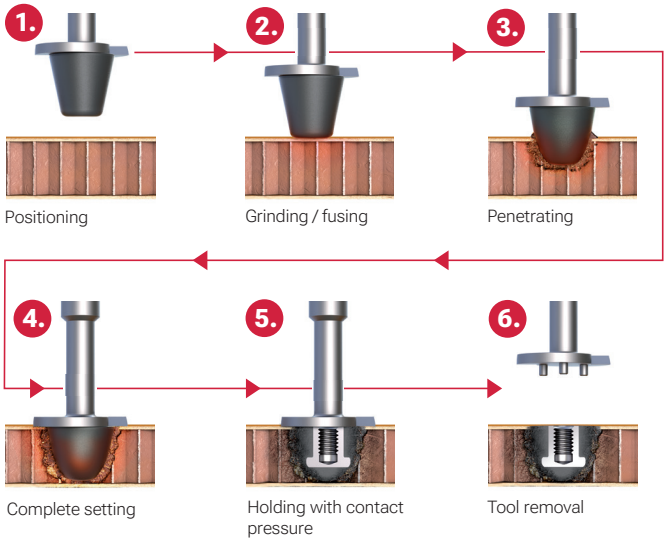
TSSD® Aero: Advanced technology for interiors

The automotive lightweight construction and efficiency trend was the starting point for the development of TSSD® technology (Thermal adhesive bonding boss) for sandwich materials with honeycomb and foam core structures and their various face sheets.

To utilize TSSD® technology **in the aerospace industry**, both the product and the joining process, were further developed and made suitable for aviation applications – the results are the TSSD® Aero variants.

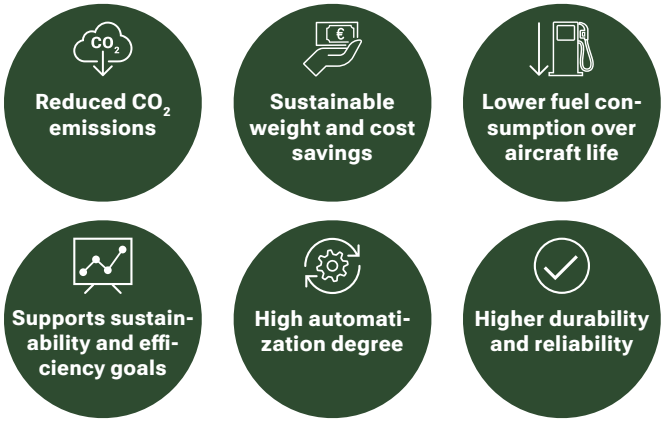
These offer **numerous advantages** over conventional insert solutions for aircraft OEMs, aircraft tiers, airlines and many more.

TSSD® installation process



Overview of the most important advantages:

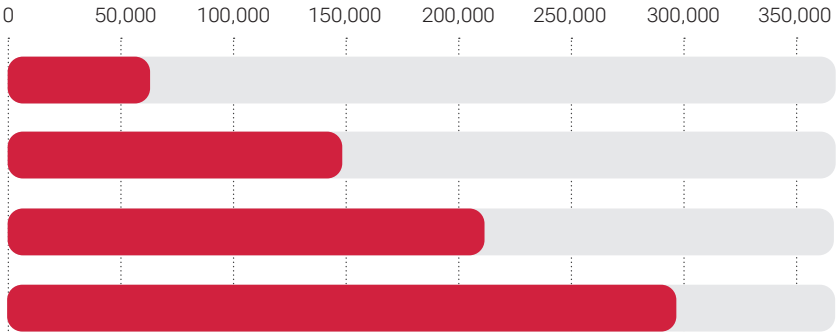
- **Airline / Operator:** Lower fuel consumption due to cumulative weight reduction, reduced total cost of ownership over the aircraft lifecycle, contribution to ESG, sustainability and emissions-reduction targets
- **OEM / Tier:** Faster and simpler installation processes in panel production with high automatization potential, stronger value proposition toward airline customers regarding efficiency and sustainability
- **MRO:** Proven repair concepts by drilling out TSSD® and replacing with conventional inserts all over the world



Bringing it together.

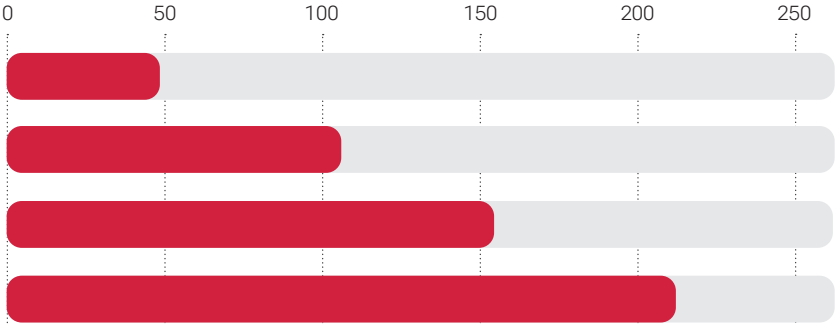
Measureable CO_2e reductions with TSSD® Aero versus alternative fastening solutions

CO_2e reduction over aircraft lifetime by saving joint weight[1] [kg]



[1] Assumptions: 1 kg of additional mass causes approx. 3,000-5,000 liters of extra kerosene consumption over the lifetime of an aircraft with 3.16 kg CO_2 per liter of kerosene.

CO_2e reduction based on material impact[2] per aircraft [kg]



[2] Assumptions: Calculations based on material and mass combination of insert + adhesive + screw (no sandwich or process parameters considered, approx. 5,000 inserts).

Charts legend

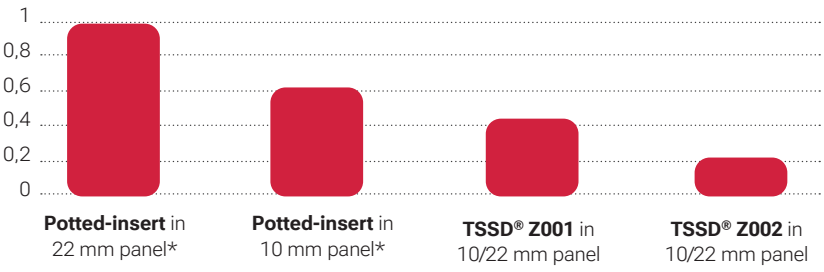
Potted-insert in 10/22 mm panel*

* no EJOT solution

TSSD® Z001 in 10/22 mm panel with threaded metal insert

TSSD® Z002 in 10/22 mm panel for thread-forming EVO PT®

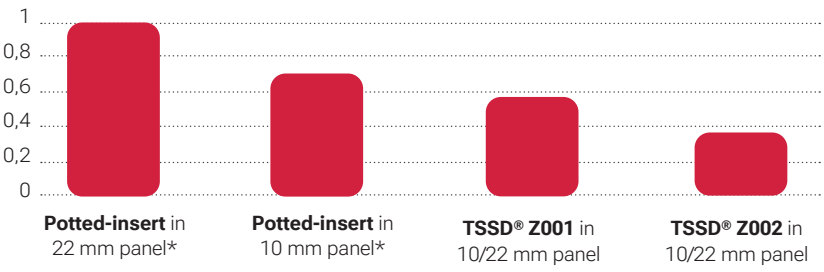
Relative CO_2e per joint (incl. screw)



recarb®

recarb® turns the EJOT EVO PT® into a greener fastening solution!

Relative weight per joint (incl. screw)



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