

# TSSD<sup>®</sup> Aero

EJOT's invisible innovation as contribution to sustainability in aerospace

## What is TSSD<sup>®</sup>?

- > **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.



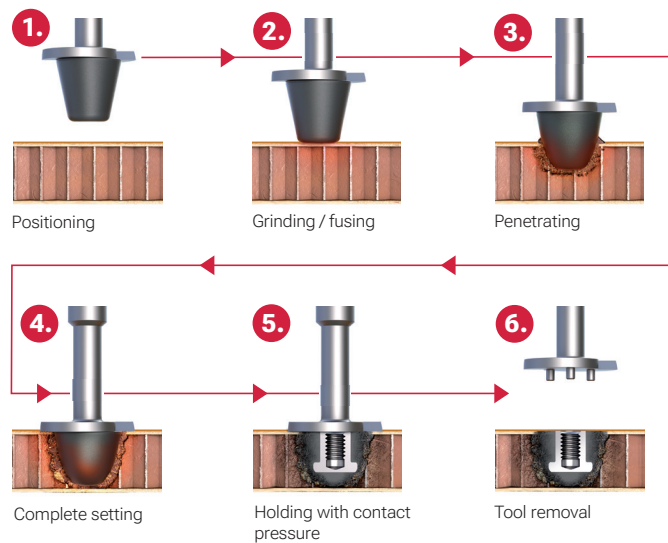
## TSSD<sup>®</sup> Aero: Advanced technology for interiors

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

To utilize TSSD<sup>®</sup> 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<sup>®</sup> Aero variants.

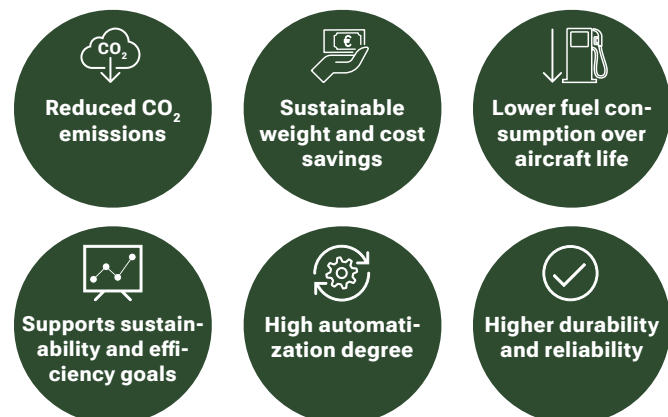
These offer **numerous advantages** over conventional insert solutions for aircraft OEMs, aircraft tiers, airlines and many more.

## TSSD<sup>®</sup> installation process



## Overview of the most important advantages:

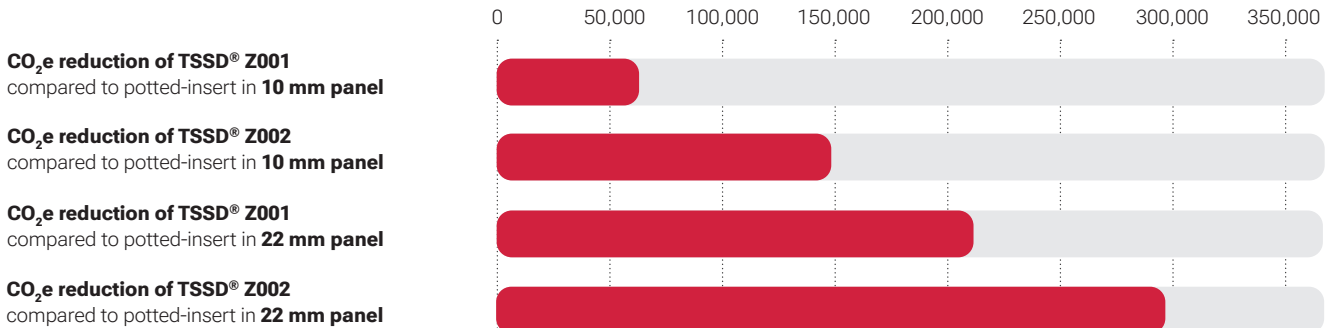
- > **Airline / Operator:** Lower fuel consumption due to cumulative weight reduction, reduced total cost of ownership over the aircraft lifecycle, contribution to ESG, sustainability and emissions-reduction targets
- > **OEM / Tier:** Faster and simpler installation processes in panel production with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



Bringing it together.

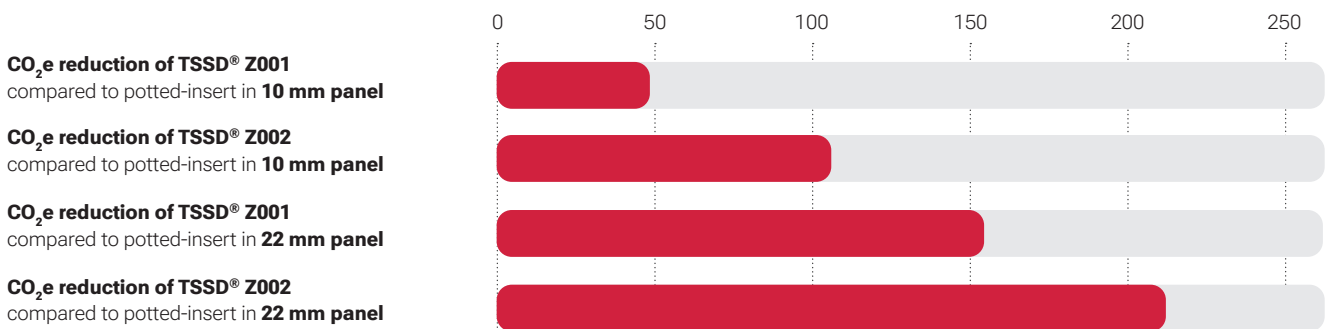
## Measurable CO<sub>2</sub>e reductions with TSSD® Aero versus alternative fastening solutions

### CO<sub>2</sub>e reduction over aircraft lifetime by saving joint weight<sup>1</sup> [kg]



<sup>1</sup> 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<sub>2</sub> per liter of kerosene.

### CO<sub>2</sub>e reduction based on material impact<sup>2</sup> per aircraft [kg]



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

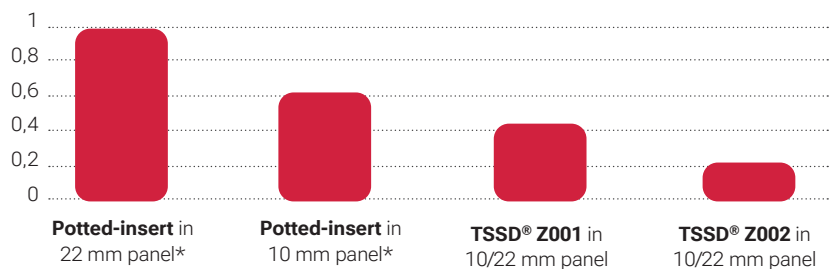
### Charts legend



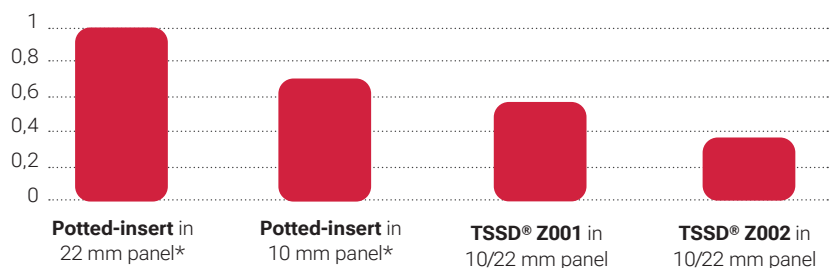
**Potted-insert** in 10/22 mm panel\*  
**TSSD® Z001** in 10/22 mm panel with threaded metal insert  
**TSSD® Z002** in 10/22 mm panel for thread-forming EVO PT®

\* no EJOT solution

### Relative CO<sub>2</sub>e per joint (incl. screw)



### Relative weight per joint (incl. screw)



**recarb®**

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



More information at [www.ejot.com/industry](http://www.ejot.com/industry) or please contact Niko Müller:  
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