

THERMOPLASTIC RESISTANCE WELDING FOR COMPLEX INTERFACES

RESEARCH LOCATION

DLR Institute of Structures and Design,
Stuttgart

PROJECT

LuFo VI-2 ZEUS

PROJECT TERM

2024

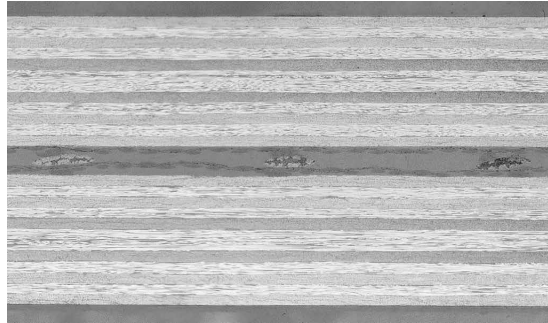
MATERIAL

CF-LMPAEK

OBJECTIVE

Adaption of the resistance welding process for complex shaped welding interfaces.

This technology is focused on the adaption of the resistance welding process for complex shaped welding interfaces. The resistance welding process uses a conductor (called welding element) to melt the interfaces of two welding partners when applied with electrical power. The baseline welding element consists of a carbon fibre fabric. By using carbon fibre fabrics, the welding interfaces are limited to



rectangular shapes. To enable unrestricted design freedom this technology is based on novel conductors based on single carbon fibre rovings. The adapted welding process serves as a technology to manufacture complex stiffened structures and enable thermoplastic repair strategies.

Supported by:



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More information

[Research infrastructure – Welding System for Thermoplastic Composites](#)