

DEBONDING WELDED THERMOPLASTIC TEXTILE REINFORCED COMPOSITES BY MEANS OF INDUCTION HEATING

Centexbel has developed a highly efficient method of debonding these composites using induction heating. The method works very well with carbon fabrics or when an induction heat absorber (susceptor) is placed at the interface. The applied electromagnetic energy is concentrated at the weld interface, especially when a susceptor is used. Once the temperature is high enough to melt the polymer matrix, only a small amount of force is required to debond the material. The result is a fast, energy-efficient and safe way to disassemble composite parts.

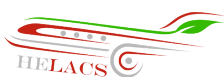
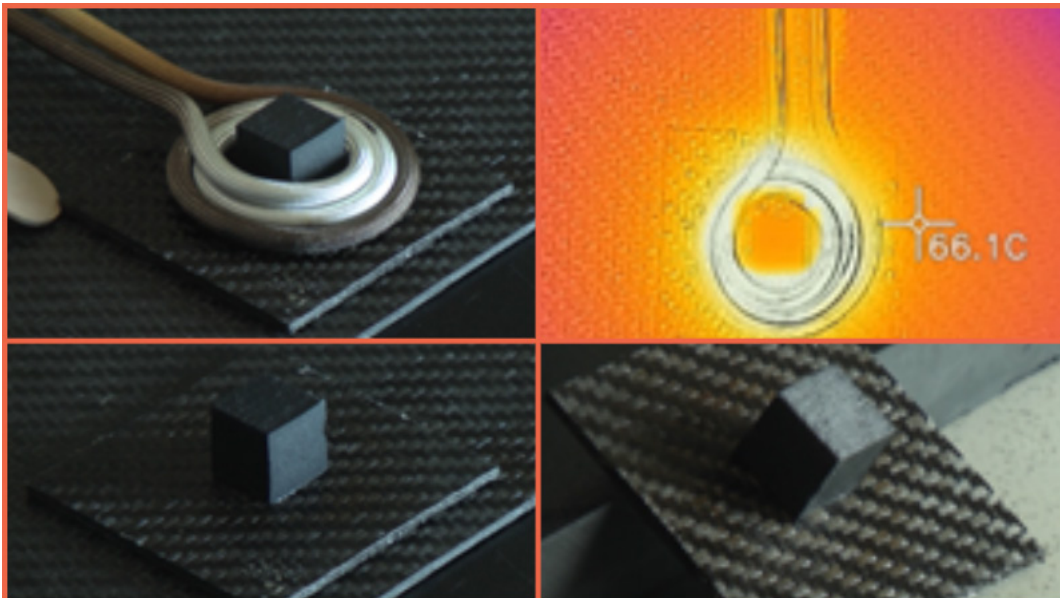
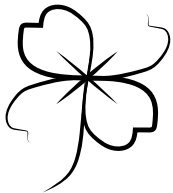
CENTEXBEL SUCCEEDED IN DEVELOPING A METHOD TO DEBOND WELDED THERMOPLASTIC TEXTILE REINFORCED COMPOSITES BY MEANS OF INDUCTION HEATING

Induction heating is a rapid method of heating metals or other electrically conductive materials. It is also effective for welding fibre reinforced thermoplastic composites. Centexbel demonstrates that the induction technology is also perfectly useful to dismantle welded composites from end-of-life aircrafts.

Induction heating offers several advantages for dismantling, including speed, energy efficiency and the absence of sawing.

As a result, there is no release of harmful carbon fibre dust during the dismantling process. Once dismantled, the composites can be easily reused, with the possibility of a repair step if necessary, or recycled if the composite is extensively damaged.

THEREFORE, THIS DISASSEMBLY TECHNOLOGY CAN CONTRIBUTE TO THE SUSTAINABILITY AND CIRCULARITY OF THE AEROSPACE INDUSTRY.



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