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EXPLOSIVE WELDING OF ALUMINIUM TO STAINLESS STEEL

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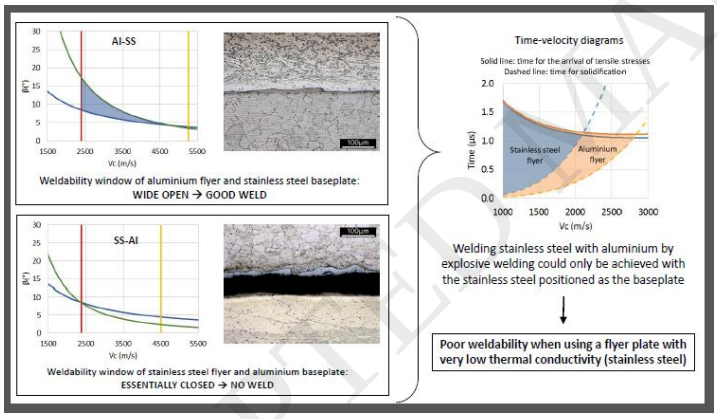
Graphical abstract



ABSTRACT

Explosive welds of stainless steel and aluminium could only be achieved with the steel positioned as the baseplate. Using stainless steel as the flyer plate, the tensile stresses arrive at the interface before the complete solidification of the localised melting and no bonding is achieved. The poor weldability in this configuration is mainly related to the very low thermal conductivity of the flyer compared to the baseplate. The position of the materials significantly influences the weldability, and the ideal material for the flyer