



# Development of Solid State Bonding Technology for the Aluminum Alloy in Atmosphere by Using High Frequency Induction Heating and Ultrasonic Vibration

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## *Abstract*

The new bonding method in the atmosphere in a short time for the bonding method of aluminum material in the heat exchanger have been developed. As a result, by adding the high-frequency induction heating and ultrasonic vibration to the bonding surface of the aluminum material, the oxide film is destroyed and the aluminum material was joined in a short time by the plastic flow. Then we discussed examined the bonding mechanism.

**Keywords:** Solid State Bonding, Aluminum alloy, High Frequency Induction Heating, Ultrasonic Vibration