Induction Pre-heating Truck Axle

United Induction Heating Machine Limited

We are experienced in Induction Heating, induction heating machine, Induction Heating equipment. They are widely used in induction heating service, induction heat treatment, induction brazing, induction hardening, induction welding, induction forging, induction quenching, induction soldering induction melting and induction surface treatment applications http://www.uhm.com

Pre-heating Truck Axle Objective To pre-heat the seam of a truck axle to over 300°F within 15 seconds for a welding application and maintain temperature within the welding zone for 15 seconds after the power is

turned off.

Material Steel truck axle; 350° and 400°F temperature indicating paint; 350°, 375° and 400°F temperature indicating "crayons"

Temperature 350°F

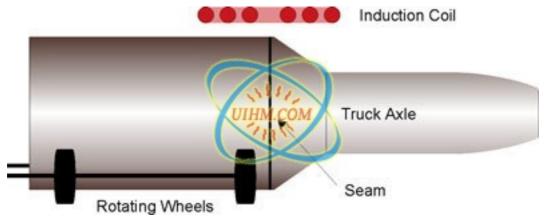
Frequency 35 kHz

Equipment Power of 45kW power supply, remote heat station with four 1.2 μF capacitors and a specially designed pancake induction coil.

Process A fixture was constructed to rotate the axle 400° in 15 seconds and the induction coil was placed above the axle. The circumference of the axle (beneath the coil) was painted with 350° and 400°F temperature indicating paint. While the axle was being rotated, RF power was applied for 15 seconds. All of the paint melted, confirming that the axle temperature was above 400°F. The RF power was shut off and the temperature "crayons" were immediately placed against the axle to monitor temperature. The 400°F crayon did not melt; the 375°F crayon melted for 15 seconds; the 350°F crayon melted for 30 seconds.

Results The steel axle was heated to over 400°F within 15 seconds and temperatures above 350°F were maintained for 30 seconds after power was turned off, meeting the requirements

of the welding application.Pre-heating Truck Axle



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