

Induction Shrink fit steel gear

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
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Shrink fit steel gear Objective Heat the bore of a hardened spur steel gear to shrink fit onto a gear motor shaft. This is part of a chair for the disabled.

Material Steel gear 2.5 h (63.5mm) OD, .75 h (19mm) ID x .625 h (16mm) thick, temperature indicating paint

Temperature 400 oF (204 oC)

Frequency 30 kHz

Equipment .Power of 15 kW induction heating system, equipped with a remote workhead containing two 0.66 μF capacitors for a total of 1.32 μF

. An induction heating coil designed and developed specifically for this application.

Process A four turn helical internal coil is used to heat the gear bore. The coil is inserted into the gear bore and power is applied for 10 seconds to reach the required 400 oF (204 oC) and expand the gear bore. The gear is then placed on the shaft and allowed to cool, creating the shrink fit between the gear and the shaft.

Results/Benefits Induction heating provides:

- . No pre-heat cycle, heat is available on demand
- . Energy efficient, heats only the part, not the atmosphere around it
- . Controlled, even distribution of heating
- . Faster production times shrink fit steel gear

service@uihm.com

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