

Induction Hardening bed knife blade

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.uihm.com>

Objective Harden a selected area on an 18"(457.2mm) bed knife blade for a reel type lawn mower. The hardness desired is between 45 to 55 Rockwell C, and should be measured 0.062"(1.6mm) from the cutting edge.

Material 1070 Steel Bed Knife Blade measuring 18"(457.2mm) long, 1 17/32" wide (38.9mm) and 0.135"(3.4mm) thick.

Temperature 1550°F(843.3°C)

Frequency 108 kHz

Equipment • Power of 45kW induction heating system equipped with a remote workhead containing four (4) capacitors totaling 1.0 μ F

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

Process A single turn channel coil with ceramic guides is used to scan along the length of the blade for 30 seconds to reach 1550°F (843.3°C). Immediate quenching and rigid fixturing is necessary to prevent blade distortion.

Results/Benefits Induction heating provides:

- Precise & accurate placement of heat
- Consistent and repeatable results
- Non-contact clean heat



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