



WESTERN
HEAT & FORGE

**Work Instruction For
operation of Induction
Billet Heater 750 KWH**

Document No.

30-WI-PR-27

Rev. No. & Rev.
Date

00/10.06.2022

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Scope: Operation of Induction Billet Heater.

Responsibility: Operator and Supervisor.

Method:

- 1) Prior to starting IBH, cooling tower of all pumps shall be operational.
- 2) Main supply of heater and operating panel should on.
- 3) Switch on control on push-button on operating panel.
- 4) Switch on D.M. Water pump.
- 5) Keep auto/manual selector switch on manual for cycle setting purpose.
- 6) Once cycle set, keep auto/manual selector switch in auto condition.
- 7) Keep heat safe selector switch on in auto condition on operating panel
- 8) Set Input Power Parameter on HMI Screen.
- 9) Load the cut billets on charging conveyor.
- 10) Press 'Cycle start' push button when HMI screen indicates Machine at Home Position.
- 11) Set induction heater temperature as per the Work Instruction **30-WI-MQC-01**.
- 12) Monitor the temperature of billet with the help of optical pyrometer on 100% basis. Record the temperature as per control plan.
 - a) If Billet temperature within the specified range, billet will automatically pass through OK path and take it for forging.
 - b) If billet temperature is below the specified range then billet automatically pass through the low temperature path and collect in pallet (Yellow Color) identified as a reheating
 - c) If billet temperature is above the specified range then billet automatically pass through the High Temperature path and collect in pallet (Red Color) identified as a scrap.
- 13) Do the forging on 3 MT hammer by putting the heated billet in Die cavity with the help of tong and allow the forging to cool in Air.
- 14) Forging finishing temperature shall not be lower than 870°C.
- 15) Over heated billets kept in separate pallet shall be sent to scrap yard on daily basis.
- 16) Under Heated billets kept in a separate pallet will take for reheating in a separate batch and forging will be done within specified forging temperature range.

If during reheating, billet temperature observed above specified temperature those billets will be kept in scrap pallet and send to scrap yard on daily basis.

Separate record will be maintained for reheated billet batch and batch will monitored by shift supervisor.
- 17) In case of Hammer / Induction Billet Heater breakdown, do as follows --
 - a) Major - Take out the cut billets by Switching off the induction heater and put in yellow bin for reheat.
 - b) Minor - Cut billets heat to set temperature again and do the forging.



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18) In case of power Failure, do as follows --

a) Major - Take out cut billets from Induction heater put in yellow bin for reheat.

b) Minor - Cut billets heat to set temperature again and do the forging

19) To switch off the heater press `Cycle stop` push-button.

20) Disposal of scrap billets shall be done on weekly basis from the scrap yard to outside of the company.

21) During power failure Start emergency DM water supply or cool by air as per availability.
Clean the Coil at every ideal time with the help of air.

Set Up Instructions: -

Sr. No	Section	Coil Size	KWH	Cycle Time in Seconds
1	75 RCS	75 RCS	490 -550 KWH	30-70
2	90 RCS	90 RCS	550-60 KWH	35 - 80
3	100 RCS / 125 RCS	125 RCS	570-650 KWH	40- 90
4	140 RCS	140 RCS	600-720 KWH	50-200
5	100 Dia /110 Dia	125 RCS	570-650 KWH	50- 150
6	125 Dia	125 RCS	570-650 KWH	45- 170

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