



Work Instruction For operation of Induction Billet Heater 350 KWH

Document No.

30-WI-PR-17

Rev. No. & Rev.
Date

01/10.08.2019

MASTER COPY

Scope: Operation of Induction Billet Heater 350 KWH.

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 1 MT hammer / 1000 T Press 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 and check the micro structure per heat to comply the requirement of grain growth as per ASM Handbook Vol 9.
- 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 taken 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



**Work Instruction For
operation of Induction
Billet Heater 350 KWH**

Document No.

30-WI-PR-17

Rev. No. & Rev.
Date

01/10.08.2019

MASTER COPY

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

Set Up Instructions:-

Sr. No	Section	Coil Size	KWH	Cycle Time in Seconds
1	40-60 Dia	60 Dia	68/100	25/30
2	63 RCS / 70 Dia	63 RCS	250/270	30/35
3	75 RCS	75 RCS	275 / 325	25 / 35

PREPARED BY.
Supervisor Production

APPROVED BY.
Head Production -CDF