



Technical Specification for Drilling of Tube holes in SS-Cladded Tube plates.

1. +Item: Drilling of tube holes in SS-Cladded Carbon steel tube plates.
2. Material of construction: SS-Cladded CS Tubeplates.

Base Plate: Carbon steel forging to SA 516 Gr.70

Cladded Material: Austenitic Stainless Steel, SA 240 Ty.316/316 L

3. Salient Details

S.No.	Identification	Unit	Details
1	Tube plate thickness	mm	(40+6)=46 mm
2	Tube plate (W X L)	mm	3316 \pm 1,6671 \pm 1
3	No of tube holes	Nos.	11432
4	Tube hole Size, Dia	mm	28.85+.2
5	Tube pitch	mm	35
6	Hole finish	microns	3.2 or better
7	Chamfer of tube holes both form shell side & tube side face		1 mm on both the sides of Tube holes to remove Burrs.
8	Estimated Weight of undrilled tube plate	Kgs.	7912(Indicative)
9	Finished weight of tube plate	Kgs.	5212(Indicative)
10	Ligament (Nominal)	mm	6.15
11	Quantity	Nos.	06 (Six)

4. Scope covers Deburring of all machined edge/Tube Holes.

5. Protection:

After drilling & inspection Tube plate shall be protected by applying light oil based rust preventive on Carbon steel plates only.

6. Inspection

Each tube plate shall be subjected to inspection by BHEL/BHEL appointed inspection agency.

7. Issue of tube plate by BHEL for drilling at vendors work
 - a. Tube plates SS cladded shall be issued by BHEL.



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- b. Each tube plate shall have unique identification number which shall be used identification and correlation with the inspection reports.
 - c. Free issue tube plates shall be released with 'A' form under CEX rule-4(5)(X).
- 8. Delivery schedule:**
Vendor to indicate best delivery for supply of drilled tube plates. Delivery period shall be considered from the date of issue of tube plates.
9. Deduction rate of ED & ST on SWARF shall be as indicated in item material description note.
10. Each item of PO shall be weighed (by CRX) before dispatch and this weight shall be mentioned (item wise) in Store Receipt Voucher (SRV).
11. Difference in weight of undrilled cladded plate & drilled tube plate shall be considered as scrap. Cost of scrap shall be deducted at the prevailing rates which is presently Rs 25/- per kg.
12. Payment shall be made on per kg basis. However, if actual weight of drilled tube plate varies from the design weight, the vendors will be paid accordingly subject to a maximum variation in the total payment of $\pm 3\%$.
13. The weight of the undrilled Tube plate & drilled Tube plate shall be used for the working out of scrap generated during the operation.



BHOPAL

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