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Appendix 1.1

Cost Analysis:-

(a) Hot Metal Cost Per Ton:-

| Material | Rate/Kg | Qty. Kg. | Value (Rs.) |
|---------------|---------|--------------|----------------|
| Steel Scrap | 1.00 | 1000 | 1000.00 |
| Fe-Mn H/C | 11.57 | 14 | 161.98 |
| Lime Stone | 0.31 | 20 | 6.20 |
| Fe-Si | 16.93 | 36 | 609.48 |
| Electrodes | 86.83 | 15 | 804.60 |
| Fluospar | 3.12 | 10 | 31.20 |
| Al-Shots | 61.49 | 01 | 61.49 |
| Power K.W.H. | 0.75 | 1000 | 750.00 |
| Magnesite | 4.36 | 30 | 130.80 |
| Fe-Cr | | 60 | 1695.60 |
| Graphite lump | 3.80 | 27 | |
| Iron Ore | 0.23 | 20 | 4.60 |
| | | TOTAL | 5358.55 |

(b) Moulding Section

| Material | Rate/kg | Qty.Kg. | Value (Rs.) |
|------------------|---------|--------------|----------------|
| Silica Sand | 23.00 | 3000 | 690.00 |
| Bentonite | 2.65 | 360 | 954.00 |
| Direct Labour | | | |
| Moulding & Core | | | |
| Making (N.T.) | 10.55 | 40 | 422.00 |
| (O.T.) | 3.80 | 10 | 38.00 |
| Overhead per ton | | | 1348.00 |
| | | Total | 3452.00 |

(C) Fettleing & Finishing Costs:

| | Rate | Qty. | Value (Rs.) |
|------------------|------|------|----------------------|
| Fettler N.T. | 9.58 | 32 | 315.20 |
| O.T. | 3.50 | 08 | 28.00 |
| Overhead per ton | | | 531.00 |
| Total | | | <u>874.00</u> |

(D) Heat Treatment:-

| | Qty. | Rate | Value (Rs.) |
|--------------|---------|--------|-----------------------|
| Furnace | 04 Hrs. | 576.00 | 2304.00 |
| Operator | | 9.85 | 39.40 |
| Total | | | <u>2343.40</u> |



Refractory Cost Per Ton of Hot Metal:

| Material | Qty. | Rate per Unit | Value (Rs.) | W.T. of Hot Metal Tapped M.T. | Cost per Ton (Rs.) |
|---------------------------|-----------|---------------|-------------|-------------------------------|--------------------|
| 1. Body and Bottom lining | 01 Set | 116,689 | 116,689 | 360 | 324.13 |
| 2. Roof Bricks | 01 Set | 44,582/90 | 44,582/90 | 180 | 247.68 |
| 3. Ramming mass | 2500 Kgs. | 3/97 | 9,925 | 360 | 27.56 |
| 4. Magnesite Powder | 2000 Kgs. | 4/36 | 8,720 | 360 | 24.22 |
| 5. Sodium silicate | 250 Kgs. | 4/95 | 1,237/50 | 360 | 3.43 |
| 6. Asbestos Packing | 20 Sets | 400 | 8,000 | 360 | 22.22 |
| 7. Ladle Bricks (side) | 120 Nos. | 35 | 4,200 | 120 | 35.00 |
| 8. Ladle Bricks (bottom) | 40 Nos. | 42 | 1,680 | 120 | 14.00 |
| 9. Ladle Sleeves | 05 Nos. | 42 | 210 | 03 | 70.00 |
| 10. Ladle stopper heads | 01 No. | 63 | 63 | 03 | 21.00 |
| 11. Ladle nozzle | 01 No. | 54 | 54 | 03 | 18.00 |
| 12. Ladle Stopper rod | 01 No. | 30 | 30 | 03 | 10.00 |
| 13. Fire Clay | 20 Kgs. | 1/08 | 21/60 | 03 | 7.20 |

Refractory cost per 1000 Kgs.

825.44

Pattern Shop:-

For aluminium pattern plate:-

| Material | Qty. | Rate | Value |
|----------------------------|------|-------|--------|
| Aluminium | | | 75.00 |
| Labour | | | |
| Normal Hrs. | 16 | 10.60 | 169.60 |
| Overtime | 04 | 4.20 | 16.80 |
| Overheads | | | 87.00 |
| Pattern cost per 1000 Kgs. | | | 348.40 |

Direct Material Cost (Melting)

| Material | Qty. | Rate | Value |
|--------------|------------|-------|------------------|
| Hot metal | 3,000 Kgs. | 5359 | 160,77.00 |
| Usable Scrap | 1,800 Kgs. | 2334 | 42,02.00 |
| | | | <u>118,75.00</u> |
| Labour | | | |
| Melter N.T. | 80 | 10.85 | 8,68.00 |
| O.T. | 20 | 3.95 | 79.00 |
| Refractories | 3,000 Kgs. | 825 | 2,475.00 |
| Other O.H. | 1,000 Kgs. | 528 | 528.00 |

**Direct Material Cost (Melting) per 1000 Kgs. of
Sound Castings**

| | |
|--|------------------------|
| | 15,825.00 |
| | <u>15,825.00</u> |
| | Rs. Cts. |
| Pattern Making | 348.40 |
| Moulding & core making | 3452.00 |
| Melting | 15825.00 |
| fettling, finishing | 874.20 |
| Heat treatment | <u>2343.40</u> |
| Direct Cost (Total) per 1000 Kgs. | <u>22843.80</u> |
| | <u>22843.80</u> |

