

Material Specification

<u>1</u>	HEARTH TOP OUTER CONTOURED BRICK GB - 1 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 1 6 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 3 0 Cycles
<u>2</u>	HEARTH TOP CONTOURED BRICK GB - 2 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>3</u>	HEARTH TOP CONTOURED BRICK GB - 3 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>4</u>	HEARTH TOP CONTOURED BRICK GB - 4 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>5</u>	HEARTH TOP CONTOURED BRICK GB - 5 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M s
<u>6</u>	HEARTH TOP CONTOURED BRICK GB - 6 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>7</u>	HEARTH TOP CONTOURED BRICK GB - 7 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles

<u>8</u>	HEARTH TOP CONTOURED BRICK GB - 8 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>9</u>	HEARTH TOP CONTOURED BRICK GB - 9 DRAWING NO.: 3-7-1101-01-10008-REV.01 MATERIAL :- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>10</u>	HEARTH TOP FLAT BRICK FB-1 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>11</u>	HEARTH TOP FLAT BRICK FB-2 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>12</u>	HEARTH TOP FLAT BRICK FB-3 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>13</u>	HEARTH TOP FLAT BRICK FB-4 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>14</u>	HEARTH TOP FLAT BRICK FB-5 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>15</u>	HEARTH TOP FLAT BRICK FB-6 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>16</u>	HEARTH TOP FLAT BRICK FB-7 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al2O3 % = 80 +/-1.5 Fe2O3 % =

	1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>17</u>	HEARTH TOP FLAT BRICK FB-8 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al203 % = 80 +/-1.5 Fe203 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19 Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>18</u>	HEARTH TOP FLAT BRICK FB-9 DRAWING NO : 3-7-1101-01-10008-REV.01 Material:- Al203 % = 80 +/-1.5 Fe203 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>19</u>	HEARTH TOP FLAT BRICK FB-10 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al203 % = 80 +/-1.5 Fe203 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>20</u>	HEARTH TOP FLAT BRICK FB-11 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al203 % = 80 +/-1.5 Fe203 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>21</u>	HEARTH TOP FLAT BRICK FB-12 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al203 % = 80 +/-1.5 Fe203 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>22</u>	HEARTH TOP FLAT BRICK FB-13 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al203 % = 80 +/-1.5 Fe203 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>23</u>	HEARTH TOP FLAT BRICK FB-14 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al203 % = 80 +/-1.5 Fe203 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>24</u>	HEARTH TOP FLAT BRICK FB-15 DAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al203 % = 80 +/-1.5 Fe203 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 19 Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles

<u>25</u>	HEARTH TOP FLAT BRICK FB-16 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>26</u>	HEARTH TOP FLAT BRICK FB-17 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>27</u>	HEARTH TOP FLAT BRICK FB-18 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>28</u>	HEARTH TOP FLAT BRICK FB-19 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>29</u>	HEARTH TOP FLAT BRICK FB-20 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles
<u>30</u>	HEARTH TOP FLAT BRICK FB-21 DRAWING No. : 3-7-1101-01-10008-REV.01 MATERIAL:- Al2O3 % = 80 +/-1.5 Fe2O3 % = 1.5 - 2.0 PCE SK = 36 Min. RUL Ta deg.C = 1630 Min. PLC % Max = +/- 0.5 @ 1600 deg.C/1Hr. AP % Max = 16 Max(M/C), 1 9Max(H/M) CCS-Kg/sq.cm = 800 Min(M/C), 500 Min(H/M) B.D gm/cc = 2.8 Min(M/C), 2.7 Min(H/M) SPALLING(A/Q) = + 30 Cycles

TECHNICAL DELIVERY CONDITIONS

- Materials to be delivered through pallet packing to prevent damages during transit. Acceptance of material is based on condition at receipt only.
- Original Test Certificates for all specifications and Chemical Composition to be produced along with supply. If the submitted specifications do not meet the lab test conducted at BHEL Plant lab (NABL Accredited) or any independent lab, the entire lot is liable to be rejected and is to be taken back by the vendor at his own cost.
- Dimensional reports to be provided by random sampling of 1% of total shaped refractory brick, including weight. Weight of each shaped refractory brick can be referred from the reference drawing No.
- Material Inspection will be carried out by M/S. BHEL Inspector or BHEL authorised third party Inspection at Supplier's works if necessary prior to dispatch of all materials. Relevant parts IS: 1528 will be reference standard during inspection.
- Offer is considered only on free door delivery at SSTD STORES including unloading charges

80001-10-1011-2-3 DRAWING NO:

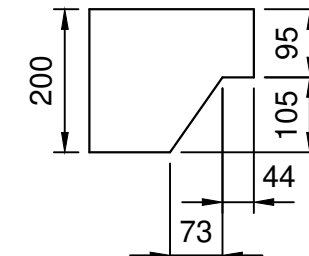
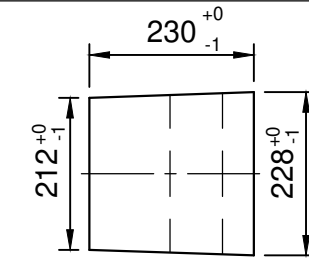
ALL DIMENSIONS ARE IN MILLIMETRES

GROOVED BRICKS (GB)

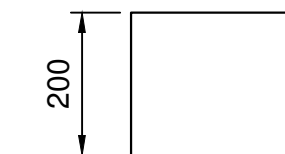
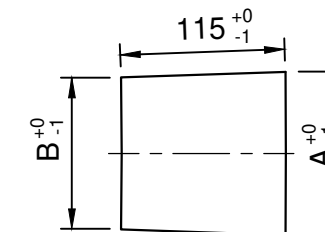
ITEM NO IN ASSY	DIMENSION						QTY (in Nos)	UNIT wt
	A	A1	A2	B	B1	B2		
1	As per Drawing						90	35.17
3a	As per Drawing						1800	20.02
3b	359	179.5	174.5	351	175.5	170.5	90	22.25
3c	351	175.5	170.5	343	171.5	166.5	90	21.24
3d	343	171.5	166.5	335	167.5	162.5	90	20.53
3e	335	167.5	162.5	327	163.5	158.5	90	20.25
3f	327	163.5	158.5	319	159.5	154.5	90	20.35
3g	319	159.5	154.5	311	155.5	150.5	90	21.39
2	310	155	150	294	147	142	90	40.15

FLAT BRICKS (FB)

ITEM NO IN ASSY	DIMENSION		Quantity (in Nos)	UNIT wt
	A	B		
3i	As per Drawing		90	22.30
3j	212	204	90	12.92
3k	204	196	90	12.42
3l	196	188	90	11.92
3m	188	180	90	11.43
3n	180	172	90	10.93
3o	172	164	90	10.43
3p	164	156	90	9.94
3q	156	147	90	9.41
3r	147	139	90	8.88
3s	139	131	90	8.38
3t	131	123	90	7.89
3u	123	115	90	7.39
3v	115	107	90	6.89
3w	107	99	90	6.40
3x	99	90	90	5.87
3y	90	82	90	5.34
3z	82	74	90	4.84
3aa	74	66	90	4.35
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3cc	58	50	90	3.35

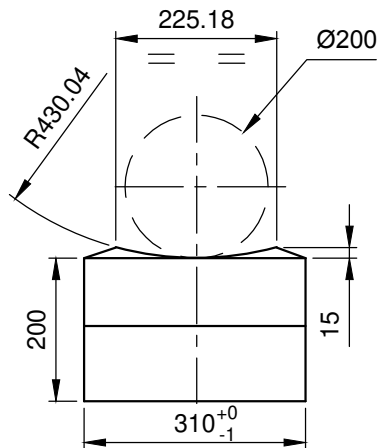


ITEM NO: 3i (OUTER)

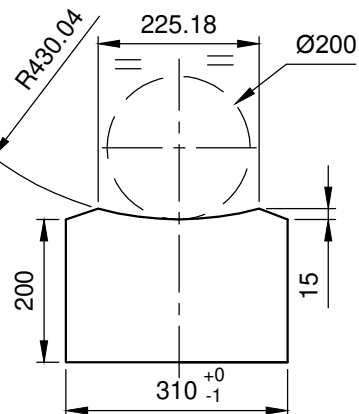


ITEM NO: 3j TO 3cc (MIDDLE)

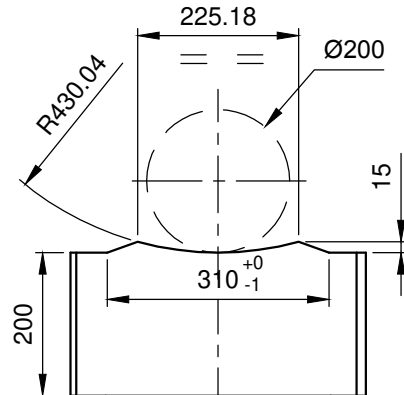
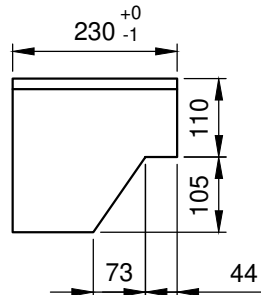
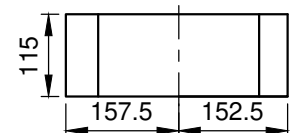
Material for GB & FB : Al_2O_3 %, min : 80
: FeO_3 %, max : 1.5 - 2
B.D ,gm/cc : 2.7
C.C.S ,kg/cm² : 600
A.P % ,gm/cc : 8.22
PLC % ,max : 1.5@1600°C/2Hrs
PCE ,S.K min : 37
R.U.L.ta°C ,min : 1550



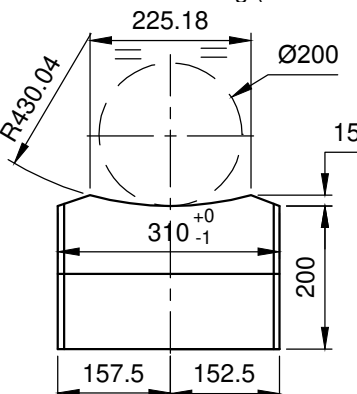
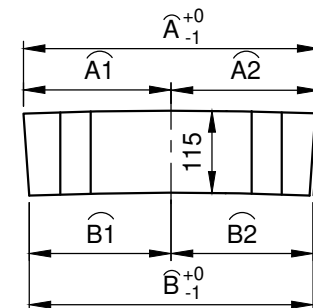
ITEM NO: 1 (OUTER)



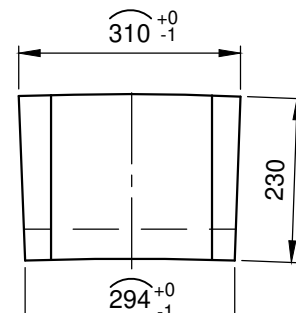
ITEM NO: 3a (MIDDLE)



ITEM NO: 3b TO 3g (MIDDLE)



ITEM NO: 2 (INNER)



NOTES:

- The Refractories shall be of Homogeneous texture and free from cracks, voids and other flaws. It shall be evenly burnt throughout and shall have sufficient mechanical strength and no soft corners.
- All Corners to be minimum 3mm. Radii, Unless otherwise stated.
- Tolerance on size ± 0.1

REF: ASSY DRG NO. : 1-7-1101-02-10074

REV 01 DATE 7.2.2015 ALTERED *P.N.Kumar/K.Nr* CHECKED *R.K.Singh* APPROVED *S.Loganathan*
CONTOUR RADIUS R430.04 ADDED
BRICK HEIGHT 215 WAS 250
(BASED ON USER'S REQUIREMENT)

CAUTION: THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT
			MATL SPEC	QTY
EQPT: ROTARY HEARTH FURNACE				
Bharat Heavy Electricals Ltd		DRN	NAME SSN.KUMAR	SIGNATURE <i>P.N.Kumar</i>
SEAMLESS STEEL TUBE PLANT		CHD	R.RAGUVEER	<i>R. Raguveer</i>
TIRUCHIRAPALLI - 620014		APPD	G.LOGANATHAN	<i>S. Loganathan</i>
DEPT SSTD	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO
CODE 456	$\phi/M/\#$ IS: 2102	1:10	70822	REF TO OLD DWG NO
TITLE RHF -HEARTH TOP LAYER CONTOURED REFRACTORY BRICKS			CARD CODE U 01	DRAWING NO : 3-7-1101-01-10008
				REV 01

ANNEXURE-I

SL NO	PRE QUALIFICATION REQUIREMENT	VENDOR'S COMMENTS
1	Vendors shall be Manufacturer of Refractory bricks containing alumina minimum 55%. The vendor shall be in the field of refractory manufacturing for a minimum period of 5 years from the date of tender. Udyam certificate/registration certificate to indicate the experience in refractory manufacture for past 5 years or more to be provided.	
2	Vendor should have supplied similar Refractory shape bricks containing alumina minimum 55% to projects with operating temperatures exceeding 1500°C within the past 5 years. The proof of such supply (Executed Purchase Order Copy along with TDS (Tax Deducted at Source) certificate issued by the organization or Form 26 AS or Bank statement for transaction of payment for completion of supply), along with technical specifications of the supplied bricks to be provided as proof of experience and shall be submitted with the offer.	
3	The vendor shall submit detailed technical specification of Refractory bricks containing alumina minimum 55%, and of their make, equivalent to BHEL required specification.	
	COMMON FOR ALL	
4	If the submitted specifications of vendor supplied material do not match the lab test of supplied bricks conducted at BHEL Plant lab (NABL Accredited) or any independent lab, the entire lot is liable to be rejected and is to be taken back by the vendor at his own cost within 3 months, failing which the material will be disposed off by BHEL.	
5	Offers not meeting the above requirements shall be liable for rejection. Kindly submit only one OR two relevant document related to Pre-Qualification requirement of previous supply. Avoid sending multiple documents which is liable for rejection.	

ANNEXURE -II

SL NO	Documents requirements	VENDOR COMMENTS
1	Signed copy of technical specification and drawing with organization seal/ stamp	
2	Executed Purchase Order Copy of Refractory bricks containing alumina minimum 55%, Form 26 A or Bank statement for transaction of payment for completion of supply to meet the requirements in Annexure I Sl No 2A. Copy of the tax invoice / Delivery challan from the customer for the purchase order should be submitted as the documentary proof	
3	Filled in & signed copy of Annexure I - PQR details with organization seal / stamp	
4	Filled in & signed copy of Annexure B & C (BHEL Technical Cum Commercial Terms And Conditions) for Indigenous Vendor with organization seal / stamp	
5	The vendor shall submit detailed technical specification and MSDS of bricks of their make, equivalent to or better than BHEL required specification.	