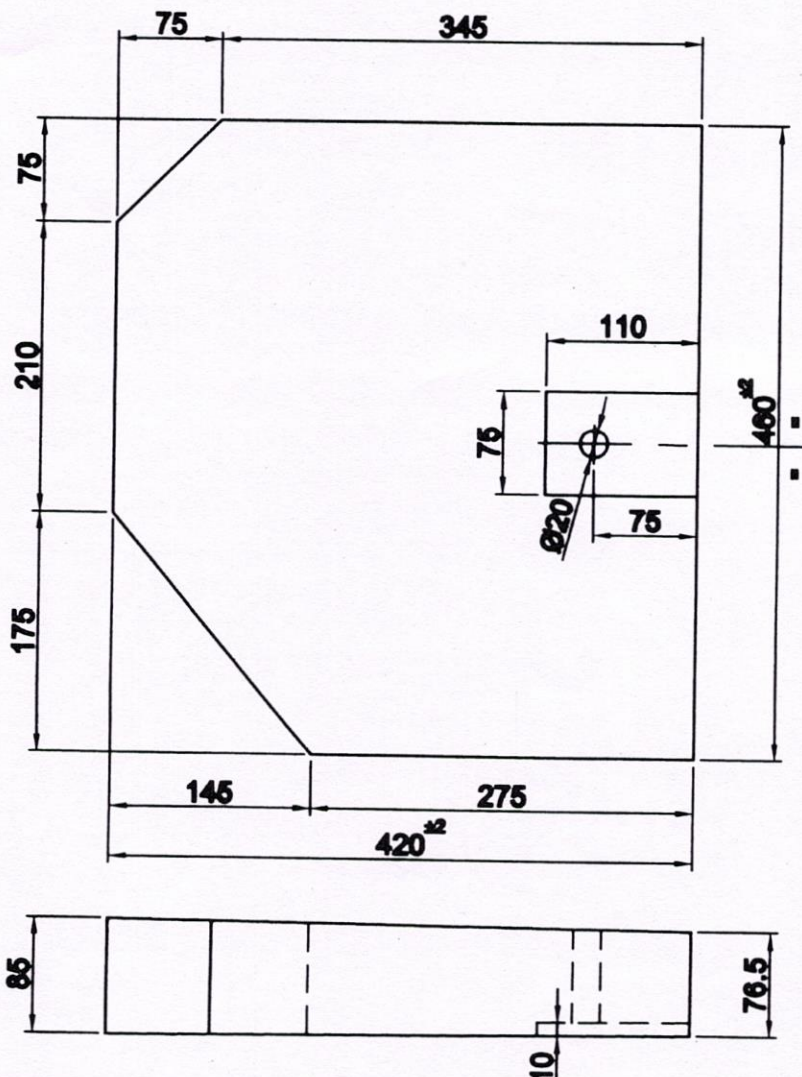
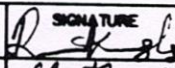
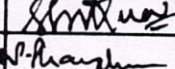
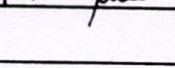


ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED
01		CHECKED
		APPROVED

**NOTES:**

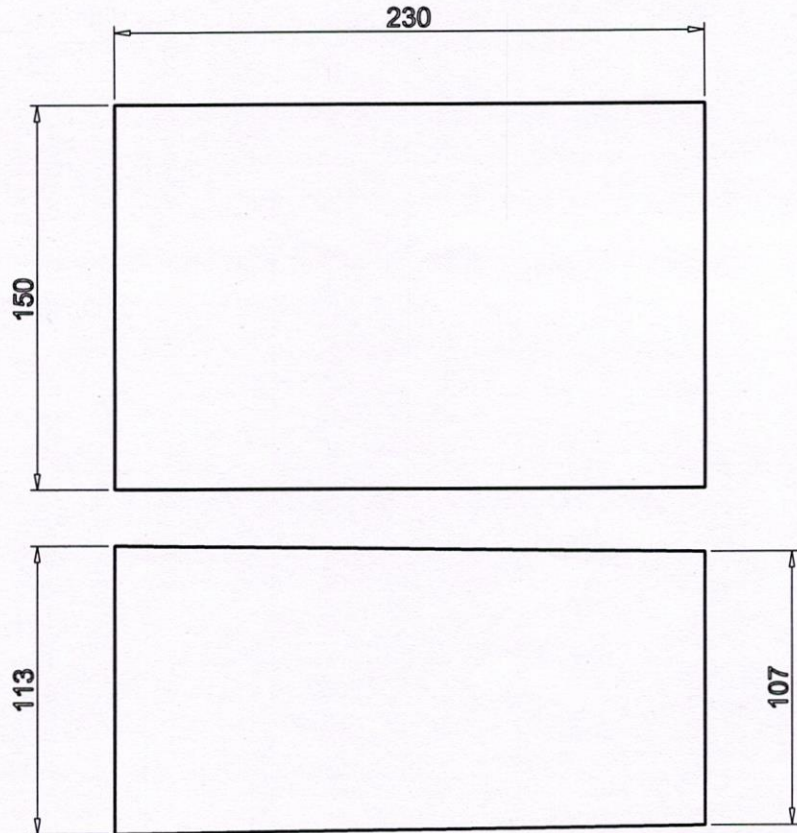
- 1) THE REFRACTORIES SHALL BE COMPACT, OF HOMOGENEOUS TEXTURE AND FREE FROM CRACKS, VOIDS AND OTHER FLAWS. THEY SHALL BE BURNT EVENLY THROUGHOUT AND SHALL HAVE SUFFICIENT MECHANICAL STRENGTH AND NO SOFT CORNERS.
- 2) ALL CORNERS TO BE MIN. 5mm RADII.

ITEM NO		DESCRIPTION		DRAWING NO		55%-60% AL ₂ O ₃		320			
						MATL CODE		UNIT WT			
						MATL SPEC		QTY			
EQPT: ROTARY HEARTH FURNACE											
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014				NAME P. RAMAKRISHNAN		SIGNATURE 		DATE 29.12.04	
						DRN CHD		SIGNATURE 		DATE 11/1/05	
						APPD S. SHANKAR		SIGNATURE 		DATE 01/01/05	
DEPT MPG		GRADE OF UNTO. DIM C/M/F		SCALE 1:5		WEIGHT (Kg) 35.5		REF TO ASSY DRG		ITEM NO	
CODE								REF TO OLD DRG 388105 1/3-5			
TITLE INNER WALL SUPPORTING BRICK						CARD CODE U 01		DRAWING NO : 4-7-1101-01-06305		REV 00	

ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	<i>M. Ganesan</i>
01	01.08.14	CHECKED	<i>R.K. Singh</i>
		APPROVED	<i>S. Loganathan</i>

New border inserted



NOTES:

- 1) THE REFRACTORIES SHALL BE COMPACT, OF HOMOGENEOUS TEXTURE AND FREE FROM CRACKS, VOIDS AND OTHER FLAWS. THEY SHALL BE BURNT EVENLY THROUGHOUT AND SHALL HAVE SUFFICIENT MECHANICAL STRENGTH AND NO SOFT CORNERS.**
- 2) ALL CORNERS TO BE MIN. 5mmRADI.**

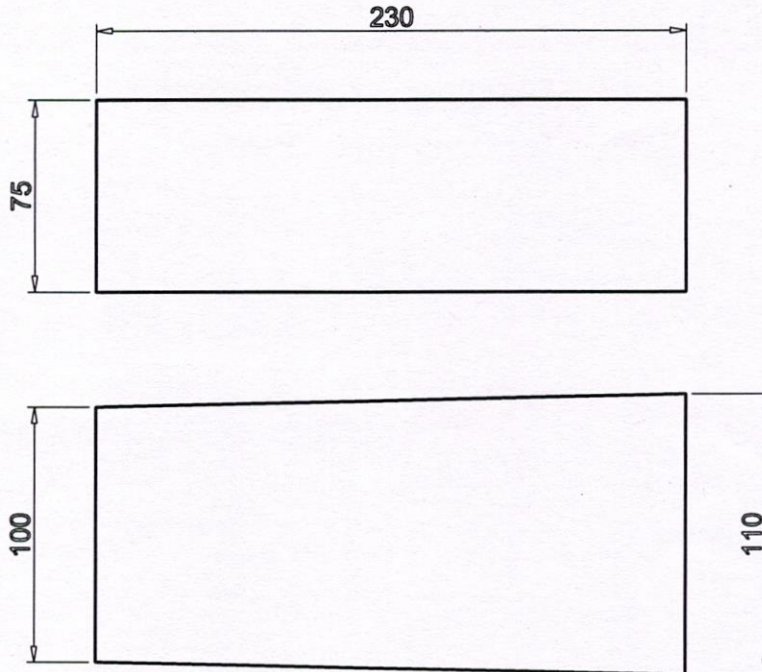
CAUTION: THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.	ITEM NO	DESCRIPTION	DRAWING NO	55%-60% Al_2O_3	220				
				MATL CODE	UNIT WT				
				MATL SPEC	QTY				
	EQPT: ROTARY HEARTH FURNACE								
	Bharat Heavy Electricals Ltd			NAME	P. RAMAKRISHNAN	SIGNATURE	<i>P. Ramakrishnan</i>	DATE	29.12.04
	SEAMLESS STEEL TUBE PLANT			DRN	SSN.KUMAR		<i>SSN.Kumar</i>		29.12.04
	TIRUCHIRAPALLI - 620014			CHD	S.S.SUNDARAM		<i>S.S. Sundaram</i>		29.12.04
DEPT	SSTP	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO	ITEM			
CODE	456	$\phi/M/F$ IS: 2102	1:2.5	9.5	REF TO OLD DWG NO	358105 1/2-12			
TITLE				CARD CODE	DRAWING NO :				REV
RHF - INNER WALL SHAPE BRICK-I				U 01	4-7-1101-01-06312				01

A4-SIZE

ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	<i>M. Jonesan</i>
01	02.09.14	CHECKED	<i>R. K. Fingh</i>
		APPROVED	<i>S. Loganathan</i>

New border inserted

**NOTES:**

- 1) THE REFRACTORIES SHALL BE COMPACT, OF HOMOGENEOUS TEXTURE AND FREE FROM CRACKS, VOIDS AND OTHER FLAWS. THEY SHALL BE BURNT EVENLY THROUGHOUT AND SHALL HAVE SUFFICIENT MECHANICAL STRENGTH AND NO SOFT CORNERS.**
- 2) ALL CORNERS TO BE MIN. 5mmRADII.**

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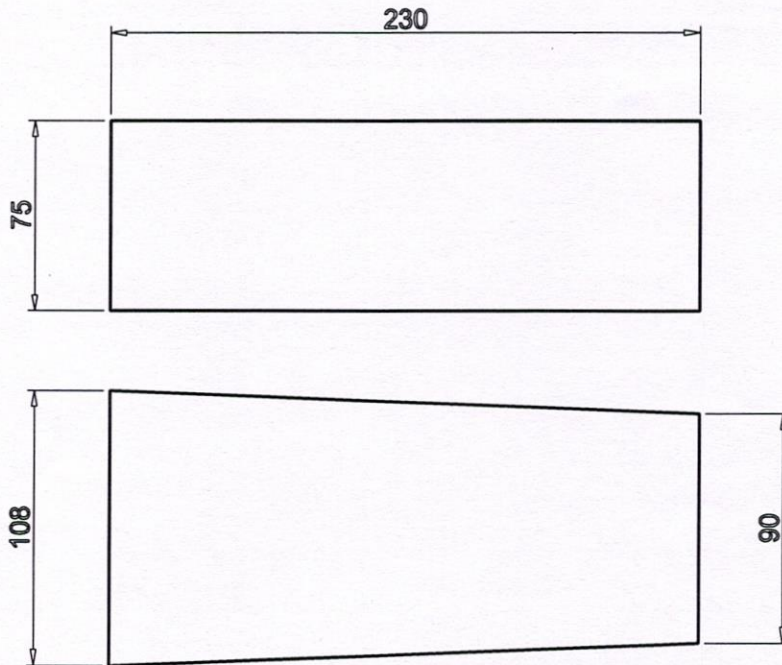
				55%-60% AL₂O₃		575	
ITEM NO	DESCRIPTION	DRAWING NO		MATL CODE		UNIT WT	
				MATL SPEC		QTY	
EQPT: ROTARY HEARTH FURNACE							
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME P. RAMAKRISHNAN	SIGNATURE <i>P. Ramakrishnan</i>	DATE 29.12.04
				CHD	SSN.KUMAR	<i>SSN.Kumar</i>	29.12.04
				APPD	S.S.SUNDARAM	<i>S.S. Sundaram</i>	29.12.04
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO		ITEM
CODE 456	$\phi/M/F$ IS: 2102		1:2.5	4.5	REF TO OLD DWG NO 358105 1/2-13		
TITLE RHF - INNER WALL SHAPE BRICK-II				CARD CODE U 01	DRAWING NO : 4-7-1101-01-06313		REV 01

A4-SIZE

ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED	<i>M. Ganesan</i>
01	02.09.14	CHECKED	<i>R. K. Singh</i>
		APPROVED	<i>S. Loganathan</i>

New border inserted



NOTES:

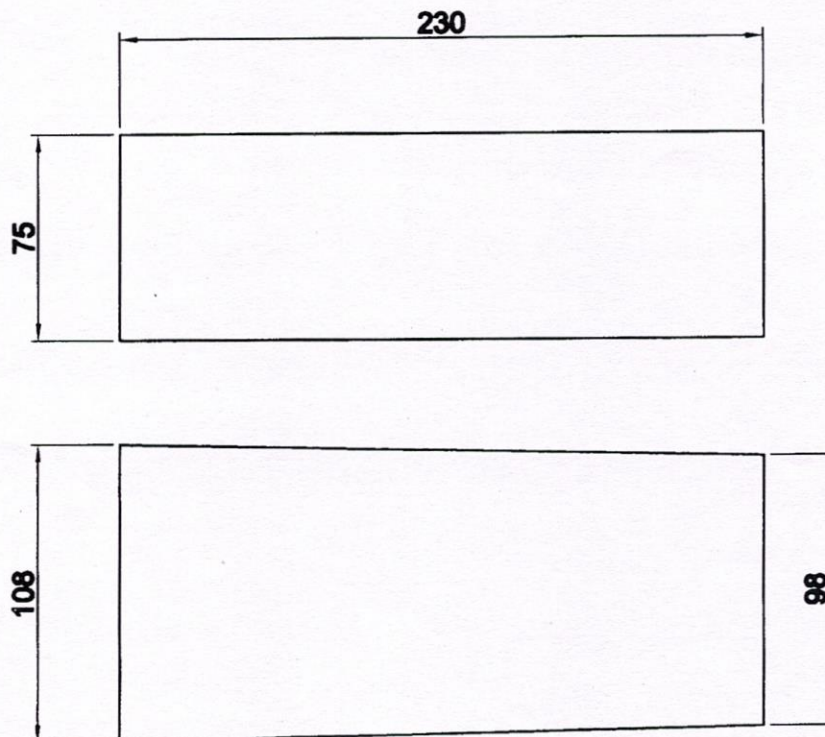
- 1) **THE REFRACTORIES SHALL BE COMPACT, OF HOMOGENEOUS TEXTURE AND FREE FROM CRACKS, VOIDS AND OTHER FLAWS. THEY SHALL BE BURNT EVENLY THROUGHOUT AND SHALL HAVE SUFFICIENT MECHANICAL STRENGTH AND NO SOFT CORNERS.**
- 2) **ALL CORNERS TO BE MIN. 5mmRADI.**

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			55%-60% AL ₂ O ₃		620		
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE		UNIT WT		
			MATL SPEC		QTY		
EQPT: ROTARY HEARTH FURNACE							
		Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI – 620014		DRN	NAME P. RAMAKRISHNAN	SIGNATURE <i>P. Ramakrishnan</i>	DATE 29.12.04
				CHD	SSN.KUMAR	<i>SSN. Kumar</i>	29.12.04
				APPD	S.S.SUNDARAM	<i>S. S. Sundaram</i>	29.12.04
DEPT SSTP	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DWG NO —		ITEM —
CODE 456	Ø/M/F IS: 2102		1:2.5	4.3	REF TO OLD DWG NO 358105 1/2-14		
TITLE RHF - INNER WALL SHAPE BRICK-III				CARD CODE U 01	DRAWING NO : 4-7-1101-01-06314		REV 01

A4-SIZE

REV	DATE	ALTERED
01		CHECKED
		APPROVED



NOTES:

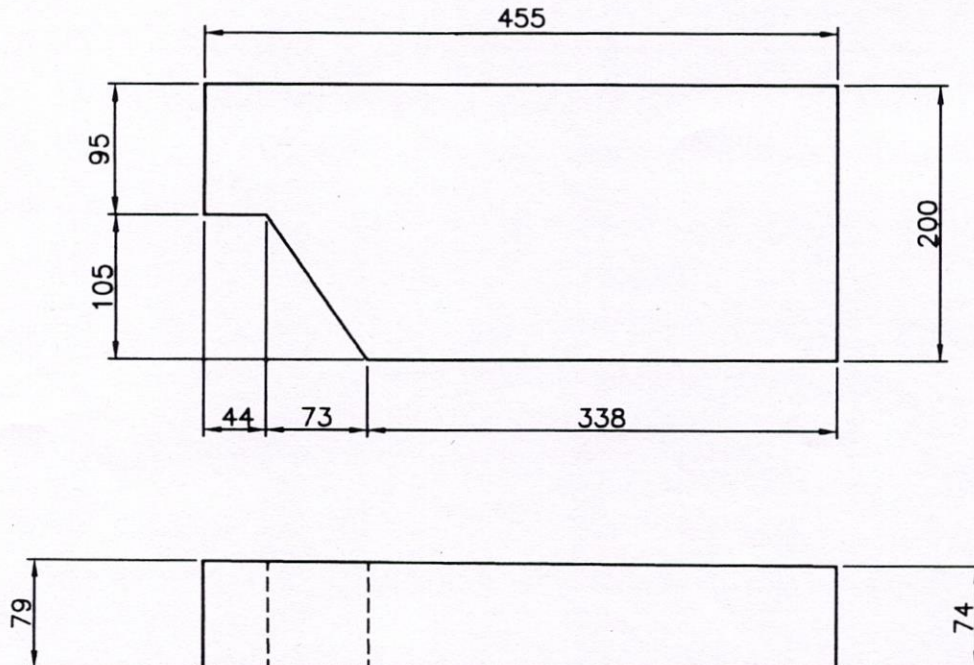
- 1) THE REFRACTORIES SHALL BE COMPACT, OF HOMOGENEOUS TEXTURE AND FREE FROM CRACKS, VOIDS AND OTHER FLAWS. THEY SHALL BE BURNT EVENLY THROUGHOUT AND SHALL HAVE SUFFICIENT MECHANICAL STRENGTH AND NO SOFT CORNERS.
- 2) ALL CORNERS TO BE MIN. 5mmRADII.

		55%-60% AL ₂ O ₃		2850
ITEM NO	DESCRIPTION	DRAWING NO	MATL CODE	UNIT WT
			MATL SPEC	QTY
EQPT: ROTARY HEARTH FURNACE				
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRN	NAME P. RAMAKRISHNAN	SIGNATURE <i>[Signature]</i>
		CHD	SSENKUMAR	DATE 29.12.04
		APPD	S.SHANMUGASUNDARAM	DATE 01/01/05
DEPT MPG	GRADE OF UNTOL DIM C/M/F	SCALE 1:2.5	WEIGHT (Kg) 4.4	REF TO ASSY DRG
CODE				REF TO OLD DRG 358105 1/2-15
TITLE INNER WALL SHAPE BRICK-IV			CARD CODE U 01	DRAWING NO : 4-7-1101-01-06315
				REV 00

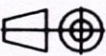
ALL DIMENSIONS ARE IN MM

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REV	DATE	ALTERED
01		CHECKED
		APPROVED

**NOTES:**

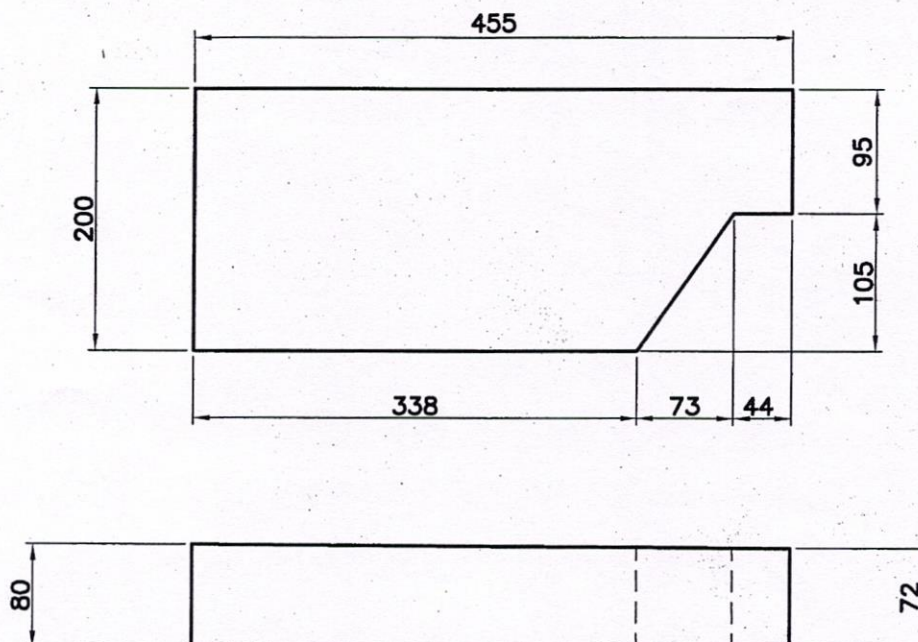
1. THE REFRACTORIES SHALL BE COMPACT, OF HOMOGENEOUS TEXTURE AND FREE FROM CRACKS, VOIDS AND OTHER FLAWS, THEY SHALL BE BURNT EVENLY THROUGHOUT, AND SHALL HAVE SUFFICIENT MECHANICAL STRENGTH AND NO SOFT CORNERS.
2. ALL CORNERS TO BE MINIMUM 3 mm. RADII, UNLESS OTHERWISE STATED.
3. TOLERANCE ON SIZE $\begin{smallmatrix} +0 \\ -1 \end{smallmatrix}$

				80% Al_2O_3		800	
ITEM NO	DESCRIPTION	DRAWING NO		MATL CODE		UNIT WT	
				MATL SPEC		QTY	
EQPT: ROTARY HEARTH FURNACE							
 Bharat Heavy Electricals Ltd SEAMLESS STEEL TUBE PLANT TIRUCHIRAPALLI - 620014		DRW	NAME	SIGNATURE	DATE		
		CHD	SENJUMAR	S. K. Kumar	15.12.04		
		APPD	R. SHANMUGASUNDARAM	S. Shanmugam	16/12/04		
DEPT	GRADE OF UNTOOL DIM		SCALE	WEIGHT (Kg)	REF TO ASSY DRG		ITEM NO
MPG	2/M/T		1:5	17.6	REF TO OLD DRG FA-0427-3/2		
CODE				CARD CODE	DRAWING NO :		REV
TITLE				U 01	4-7-1101-01-06278		00
HEARTH TOP OUTER SLAB BLOCK							

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ALL DIMENSIONS ARE IN MM

REV	DATE	ALTERED
01		CHECKED
		APPROVED



NOTES:

1. THE REFRACTORIES SHALL BE COMPACT, OF HOMOGENEOUS TEXTURE AND FREE FROM CRACKS, VOIDS AND OTHER FLAWS, THEY SHALL BE BURNT EVENLY THROUGHOUT, AND SHALL HAVE SUFFICIENT MECHANICAL STRENGTH AND NO SOFT CORNERS.
2. ALL CORNERS TO BE MINIMUM 3 mm. RADII, UNLESS OTHERWISE STATED.
3. TOLERANCE ON SIZE $\begin{matrix} +0 \\ -1 \end{matrix}$

				80% AL ₂ O ₃		360	
ITEM NO	DESCRIPTION	DRAWING NO		MATL CODE		UNIT WT	
				MATL SPEC		QTY	
EQPT: ROTARY HEARTH FURNACE							
		Bharat Heavy Electricals Ltd		DRN	NAME	SIGNATURE	DATE
		SEAMLESS STEEL TUBE PLANT		CHD	SSN.KUMAR	<i>SSN.Kumar</i>	15.12.04
		TIRUCHIRAPALLI - 620014		APPD	S.SHANMUGASUNDARAM		
DEPT	MPG	GRADE OF UNTOL. DIM	SCALE	WEIGHT (Kg)	REF TO ASSY DRG		ITEM NO
CODE		$\phi/M/f$	1:5	17.4	REF TO OLD DRG FA-0427-3/3		
TITLE				CARD CODE	DRAWING NO :		REV
HEARTH TOP INNER SLAB BLOCK				U 01	4-7-1101-01-06279		00