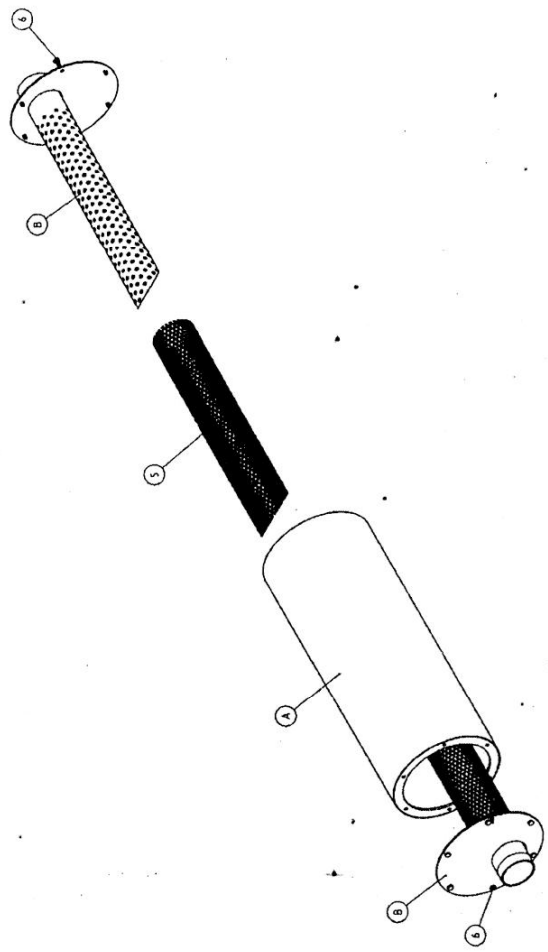
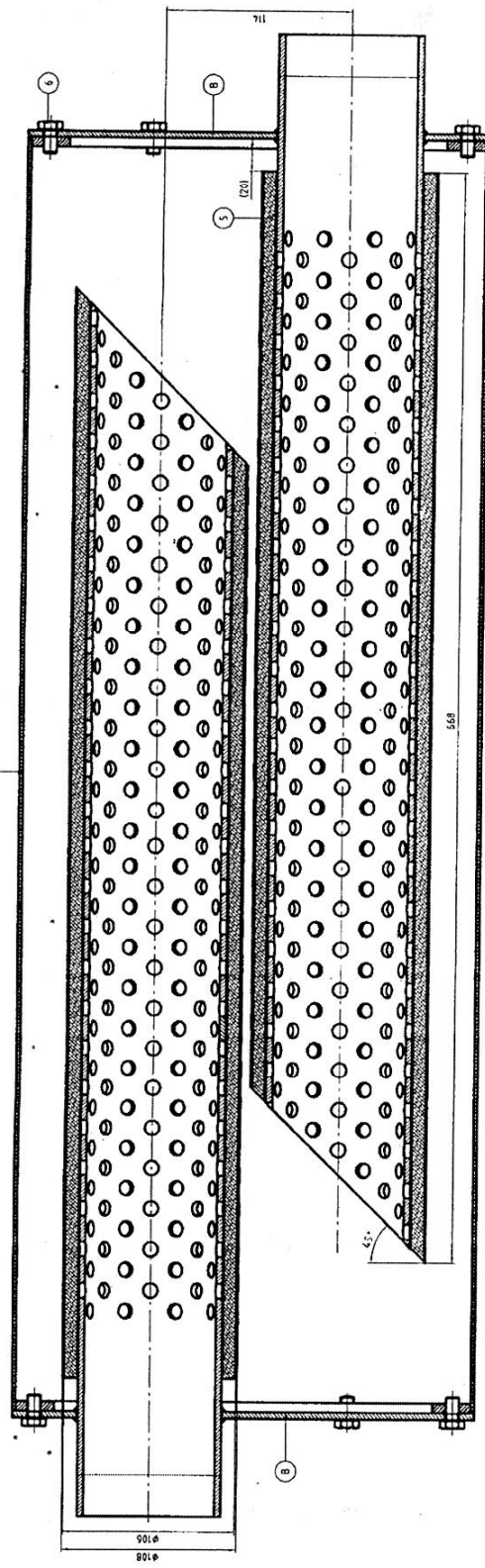


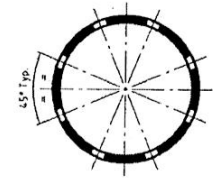
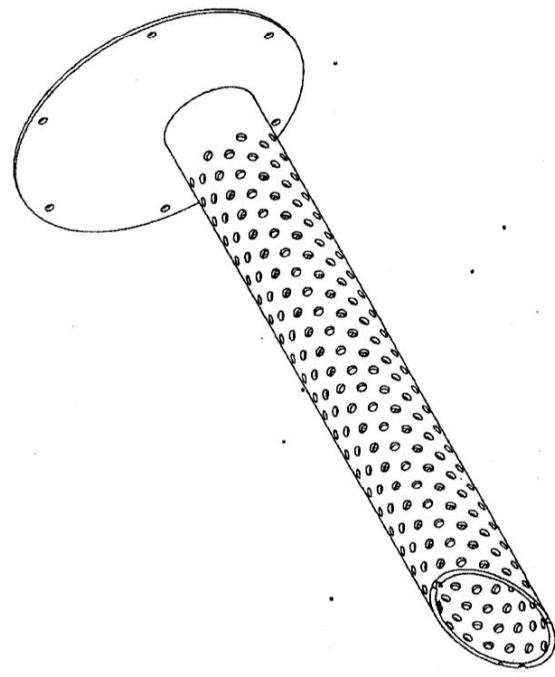
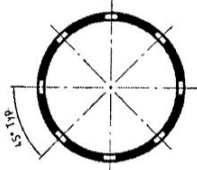
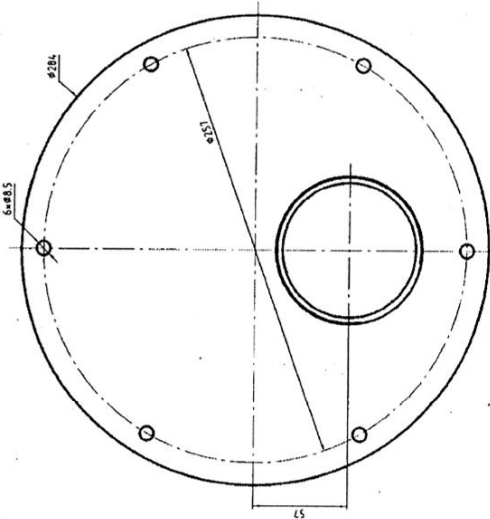
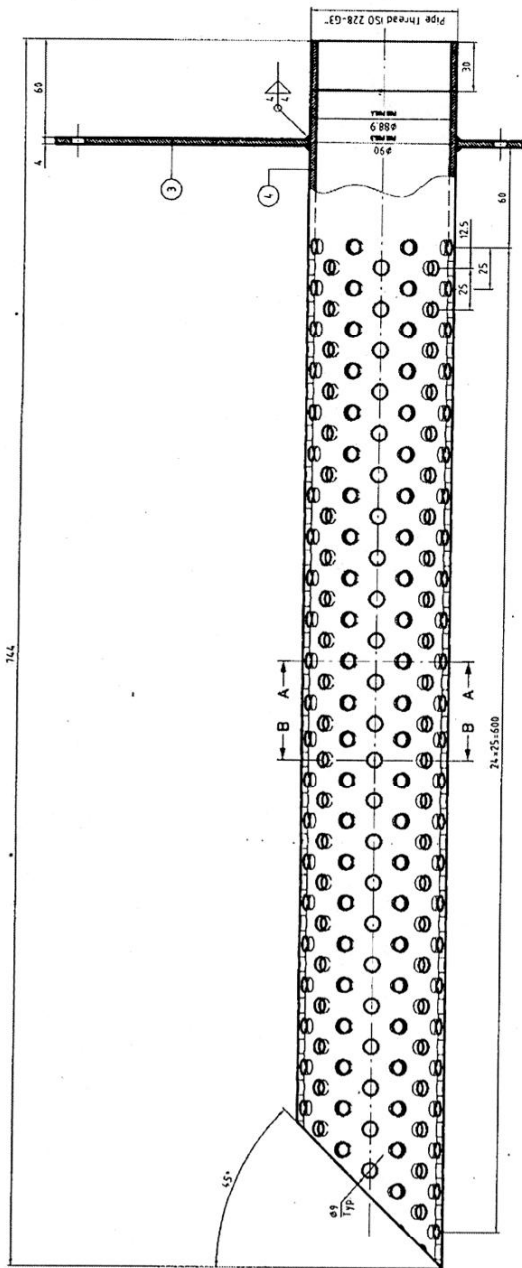
REV. DATE REVISION NOTE DRAWN CHECKED APPROVED



6	12	HEXAGON HEAD SCREW M6x16	8.8	SEE NOTE	3620MM11441	0
5	2	GLASS WOOL TRIM-18	SEE DWG	114	3620MM11441	0
4	2	FLANGE PIPE	SEE DWG	114	3620MM11441	0
3	1	TANK	SEE DWG	114	3620MM11441	0
2	1	PERFORATED PANEL	SEE DWG	114	3620MM11441	0
1	1	EGZOZE HEAD EXHAUST	SEE DWG	114	3620MM11441	0
DRAWING TITLE: EGZOZE HEAD EXHAUST						
General Information: IKA, 150128, Proj. No. 150128, Project Name: EGZOZE HEAD EXHAUST, Project Method: 1/3						
Drawing Information: 3620MM11441, 0.1, 4, 0, 0, 1/3						
Drawing Scale: 1:1						
Drawing Date: 08/08/2018						

NOTE:
1. Use white glass wool without resin "T" and class C, with galvanized perforated sheet or equal.
2. Surface treatment for pos. 5, galvanized plating.

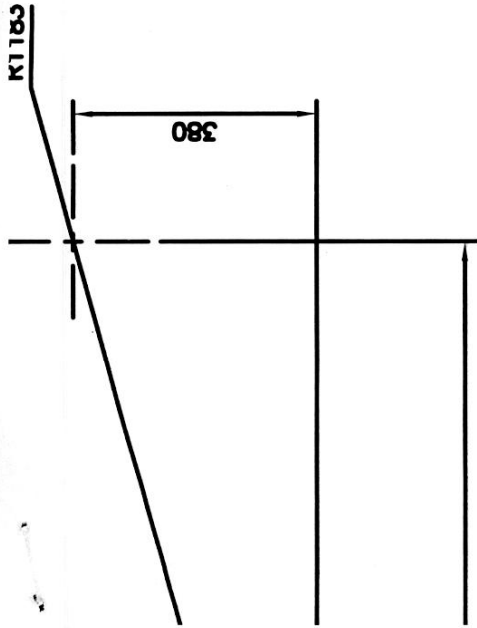
REV	DATE	REVISION NOTE	DRAWN	CHECKED	APPROVED
1					
2					
3					
4					
5					
6					
7					
8					



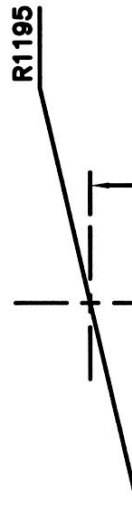
CUTTING LINE
12.5/12.5

1	2	PIPE	80x4	THK.L	S135	DN 24.8
3	2	PLATE	THK.L	S135	S137-2	
B	2	FLANGE PIPE				
Pos. Qty		Description	National	Unit	Total	Weight
DRAWING TITLE: EGZOZE HEAD EXHAUST						
General tolerances Acc. to EN ISO 1204-04						
ISO 120 First Angle Projection Method						
Drawing: ALIIMBARI 80.71						
Checked: GHASEMI						
Approved: BAKSAR						
Scale: 1:2						
Material: 6002 AF-88-6002-0187						
Total Drawing No: 3/6						
Reference Drawing No: 014012						
Sheet: 3/3						
0						

NOTE:
General tolerances for welded constructions Acc. to EN ISO 13920-BE



GUSSET.
DRAWN MK'D



GENERAL NOTES!

1. MATERIAL TO BE TO BS EN10025 OR OTHER INTERNATIONAL EQUIVALENT SUBJECT TO THE ENGINEERS APPROVAL
2. MATERIALS TO BE PREHEATED TO 94°C FOR WELDING OR FLAME CUTTING
3. WELDING TO BE PERFORMED USING LOW HYDROGEN ELECTRODES TYPE E7015, E7016, E7018, E7028 OR ASTM A233
4. ALL WELDS TO BE SUBJECTED TO MAGNAFLUX INSPECTION
5. ALL PARTS TO BE CLEAN AND FREE FROM SHARP EDGES, BURRS ETC.
6. WELDING SHOULD BE CARRIED OUT IN ORDER TO MINIMIZE DISTORTION OBTAINED BY STITCH WELDING 50-100 & BACK STEP UNTIL CONTINUOUS WELD IS OBTAINED.

REFERENCE DRAWINGS.

THIS DRAWING TO BE READ IN CONJUNCTION WITH:-
010735-5074 ~ GENERAL ARRANGEMENT OF 7.5T CRUCIBLE.

STEELWORK IS TO BS EN 10025 & BS970 Part 1 (OR APPROVED INTERNATIONAL EQUIV.)

SURFACE ROUGHNESS IN ACCORDANCE WITH BS308 Part 2

ALL ROUGH EDGES AND CORNERS ARE TO BE REMOVED

ALL RADII TO BE 12MM. UNLESS OTHERWISE STATED

TOLERANCES: LINEAR—UPTO 500mm. ± 1.5 MM.

LINEAR-OVER 500mm. ± 2.5 MM.

ANGULAR - $\pm 1^\circ$

WHERE SURFACES ARE TO BE MACHINED DIMENSIONS ON THIS DRAWING
ARE AFTER MACHINING.

COVER BAIL (ITEM 02) TO BE TESTED FOR S.W.L. OF 3 TONNES

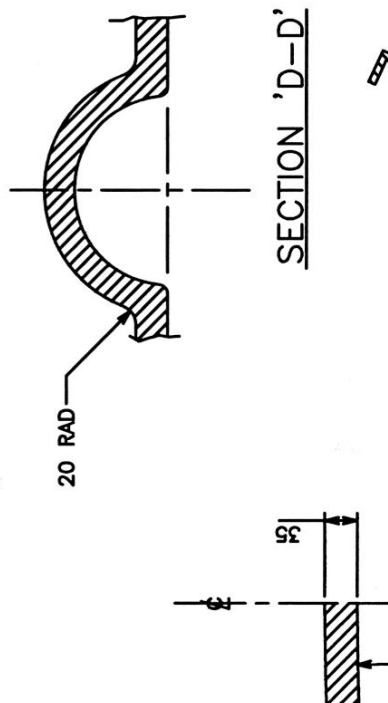
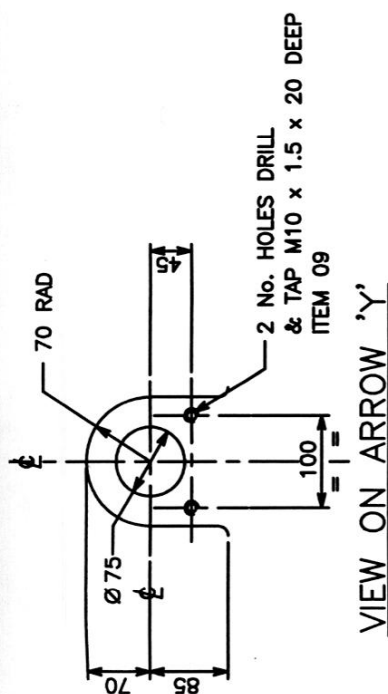
NOTES

1. MATERIALS TO BE PREHEATED TO 94°C FOR WELDING OR FLAME CUTTING
2. WELDING TO BE PERFORMED USING LOW HYDROGEN ELECTRODES TYPE E7015, E7016, E7018, E7028 OR ASTM A233
3. ALL WELDS TO BE SUBJECTED TO MAGNAFLUX INSPECTION
4. AFTER FABRICATION, STRESS RELIEVE BY HEATING TO 482°C THEN ALLOW TO AIR COOL
5. ALL JOINTS MUST BE FREE OF RUST AND OTHER ADHERENTS

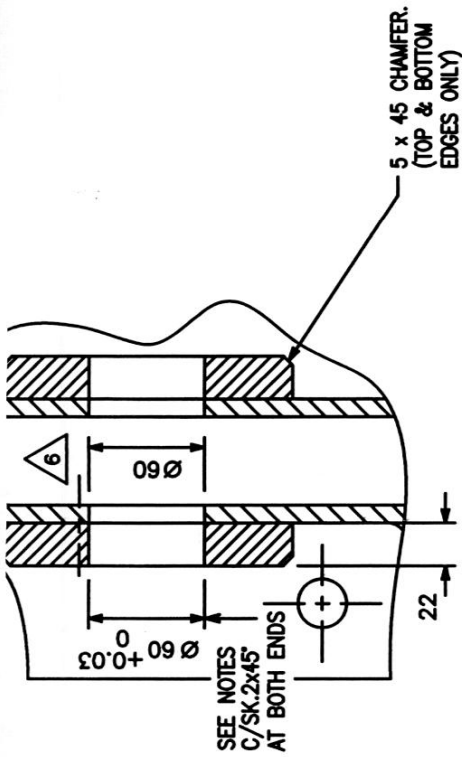
REFERENCE DRAWINGS

GENERAL ARRANGEMENT OF
7.5 TONNE CRUCIBLE

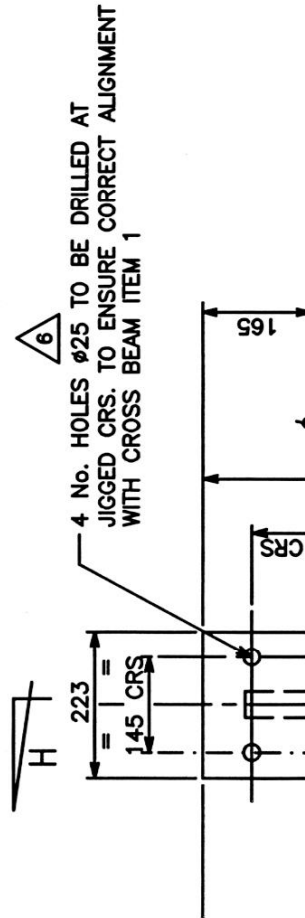
CRUCIBLE SHELL FABRICATION
DETAILS



110



DETAIL 3



ALL STEELWORK IS TO BS EN10025 & BS 970. BOLTS & SCREWS TO BS 3692.

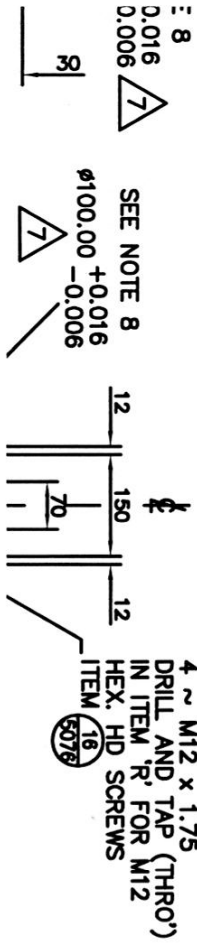
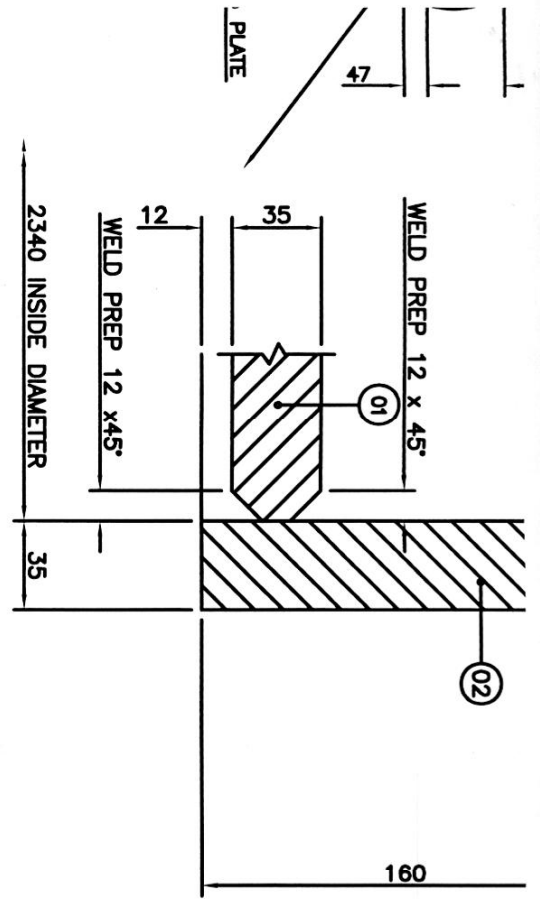
FOR GRIT BLASTING & PAINTING, SEE SPECIFICATION

NOTES

1. MATERIALS TO BE PREHEATED TO 94°C FOR WELDING OR FLAME CUTTING
2. WELDING TO BE PERFORMED USING LOW HYDROGEN ELECTRODES TYPE E7015, E7016, E7018, E7028 OR ASTM A233
3. ALL WELDS TO BE SUBJECTED TO MAGNAFLUX INSPECTION
4. AFTER FABRICATION, STRESS RELIEVE BY HEATING TO 482°C THEN ALLOW TO AIR COOL
5. DIA. 60 BORE TO BE DRILLED AT 864 CRS. USING A JIG TO ENSURE CORRECT ALIGNMENT WITH YOKE LOOP ITEM 3.
6. CROSS BEAM & ARMS TO BE PRE-ASSEMBLED AND DIA. 60 HOLES TO BE LINE BORED THROUGH BOTH MEMBERS.
7. ALL JOINTS MUST BE FREE OF RUST AND OTHER ADHERENTS
8. THE BAIL IS TO BE HARD STAMPED WITH AN "SWL 20 TONNE" AND PROOF LOAD TESTED TO 25 TONNE.
9. UPON FINAL ASSEMBLY OF BAIL ARM TO TRUNNIONS, A HIGH TEMPERATURE GREASE TO BE APPLIED VIA THE GREASE NIPPLES TO THE TRUNNION SHAFTS.

THIS DRAWING TO BE READ IN CONJUNCTION WITH
DRG. No. 010735 / 5077 (LIFTING BAIL DETAILS SHEET 2).

5

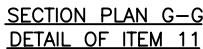
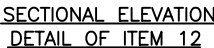


GENERAL NOTES

1. NO UNDERCUTTING, DISCONTINUITIES, LACK OF PENETRATION, OVERLAP, BEAD CRACKING OR ANY OTHER DEFICIENCIES SHALL BE PERMITTED. ALL REPAIRS MUST BE MADE PRIOR TO DEPOSITING SUBSEQUENT BEADS OR LAYERS OF WELD. DEFECTIVE AREAS MUST BE REMOVED BY CHIPPING, GRINDING OR ARC-AIR GOUGING. NO FLAME GOUGING SHALL BE PERMITTED.
2. CRUCIBLE TO BE STRESS-RELIEVED AS FOLLOWS:
FURNACE TEMPERATURE AT START IS NOT TO EXCEED 150°C
INCREASE TEMPERATURE TO 650°C AT THE RATE OF 95°C PER HOUR
HOLD AT 650°C FOR ONE HOUR
DECREASE TEMPERATURE TO 280°C AT THE RATE OF 95°C PER HOUR
3. ON COMPLETION OF FABRICATION THE INSIDE OF THE CRUCIBLE SHALL BE THOROUGHLY CLEANED FREE OF RUST, SCALE, OIL AND GREASE. ALL SHARP EDGES SHALL BE REMOVED.
4. ALL MATCHING PARTS MUST BE ALIGNED TO WITHIN 1.5 mm UNLESS INDICATED OTHERWISE. ANGULAR TOLERANCE IS 1.5°
5. FOR GRIT BLASTING AND PAINTING SEE SPECIFICATION
6. ALL JOINTS MUST BE FREE FROM RUST AND OTHER ADHERENT MATERIALS. THIS WELD SHALL BE RADIOGRAPHICALLY INSPECTED.
7. ALL UNSPECIFIED WELDS ARE 6mm CONTINUOUS
8. THESE TWO BORES ARE TO BE MACHINED LINE BORED AFTER FINAL WELDING OF TRUNION ASSEMBLES ON CRUCIBLE IN ORDER THAT THE BORES ARE COAXIALLY LINED UP.
9. THESE WELDS TO BE 100% UT AND 100% MPI

ALL STEELWORK IS TO BS EN 10025 AND BS EN 10277 OR OTHER INTERNATIONAL EQUIVALENT SUBJECT TO THE ENGINEER'S APPROVAL

9/10



GENERAL NOTES

SURFACE ROUGHNESS IN ACCORDANCE WITH BS 308 PART 2
WHERE SURFACES ARE TO BE MACHINED, DIMENSIONS ON
THIS DRAWING ARE AFTER MACHINING.

REFERENCE DRAWINGS

GENERAL ARRANGEMENT OF 7.5 TONNE CRUCIBLE - 010735 / 5074.

CRUCIBLE COVER & BAIL DETAILS - 010735 / 5078.

K HOME ENGINEERING LTD
Allensway Thornaby Cleveland
Phone 01642 765421
Fax 01642 760721 TS17 9HA

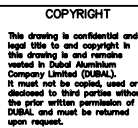
K.H.E. ACAD REF: 07355079.DWG

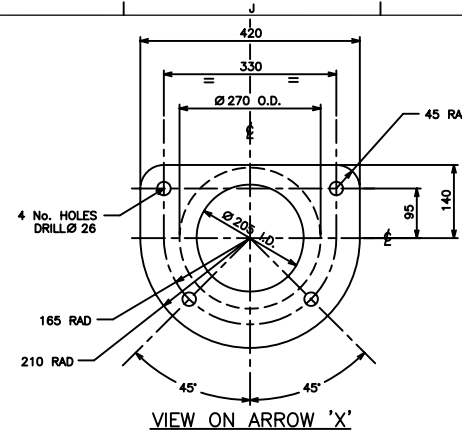
KESTREL PROJECT

Dubai Aluminium Co. Ltd

AREA 5000
7.5 TONNE CAPACITY CRUCIBLE
METAL SYPHONING EQUIPMENT
ARRANGEMENT & DETAILS.

DRG. No. 010735 / 5079

REV
2



ITEM No.		COL. A UNITS REQD	COL. B QUANTITY PER UNIT OF COL. A	DESCRIPTION	MATERIAL SPECIFICATION
				<u>7.5 TONNE CRUCIBLE</u>	
01	1			<u>CRUCIBLE COVER</u> MATERIAL: CAST STEEL TO BS3100 Gr.A1 WITH REFERENCE TO SECTION 1, PARA 15.1, NOTE THAT FAULT RECTIFICATION BY WELDING MAY NOT BE MADE WITHOUT PRIOR APPROVAL OF THE PURCHASER.	
02	1			<u>COVER RAIL</u>	
A		1		50 x 65 BAR x 2000 LG. APPROX.	150M19
B		1		25 x 100 BAR x 116 LG.	S275
03	2			<u>RAIL BUSH</u>	
				Ø 65 ROUND BAR x 50 LG.	S355J2G3
04	2			M36 x 4 x 160 LG. HEX. HD. BOLT	Gr.4.6
05	2			STL. WASHER Ø37/Ø75 x 5 THK.	S275
06	2			M36 PLAIN ROUND WASHER	
07	2			M36 x 4 CASTLE NUT	
08	2			COTTER PIN Ø16 x 65 LG.	
09	2			M10 x 1.5 x 25 LG. HEX. HD. SCREW	Gr.4.6
10	1			KEEP PLATE 10 x 75 x 140	S275
11	2			ALL. ORIFICE PLATE 3 x 100 x 215	
12	1			<u>COVER SEAL</u>	
				SEAL, ROPE, 1.062 IN SQ. FIBRE	
				PYROTEK F10 x 7288 LG. APPROX.	

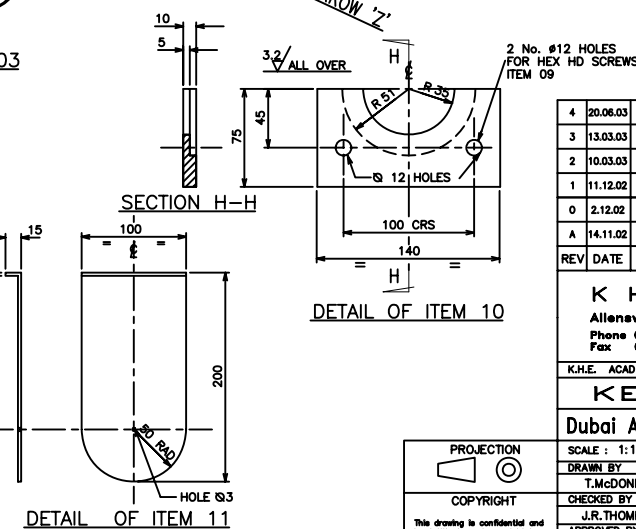
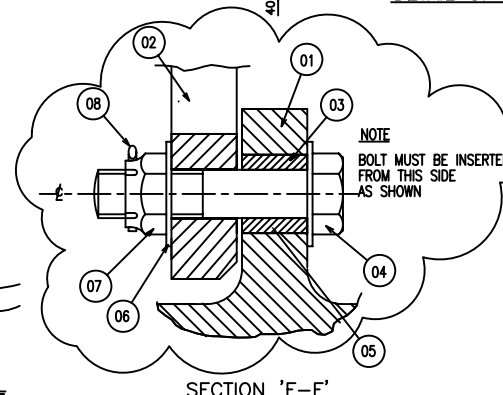
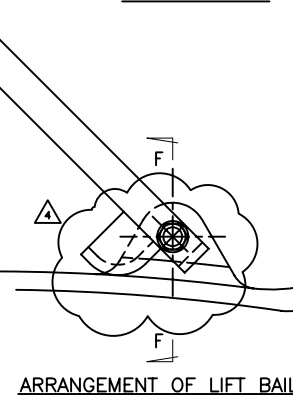
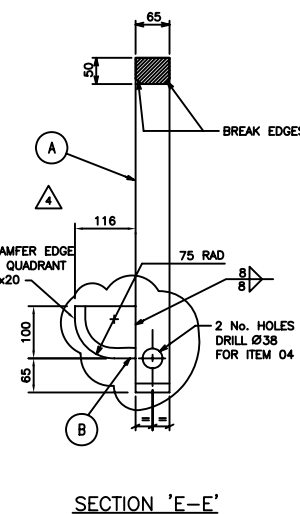
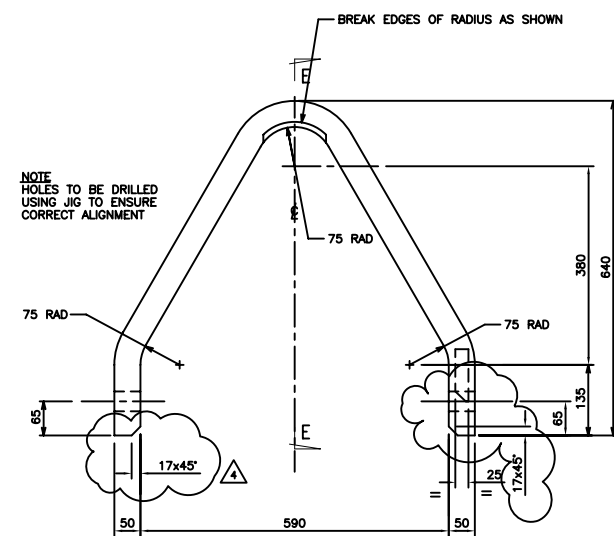
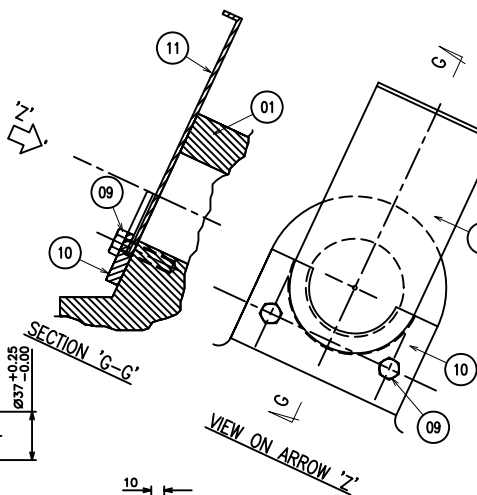
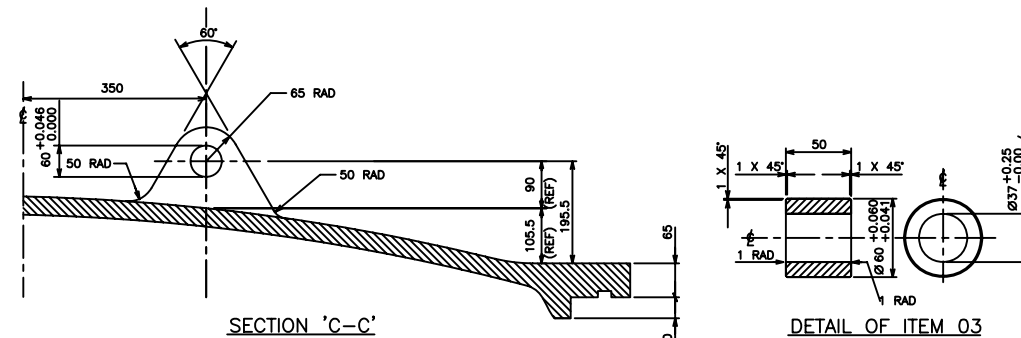
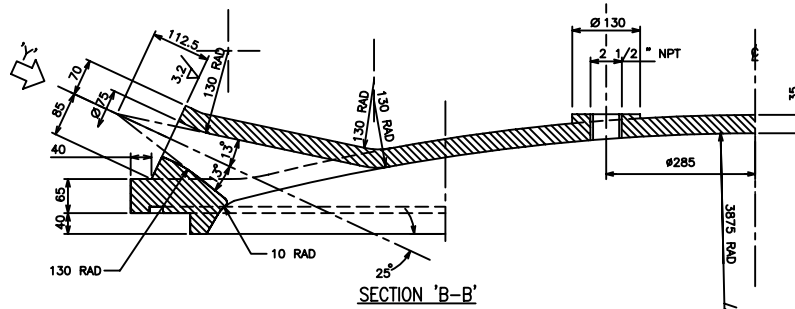
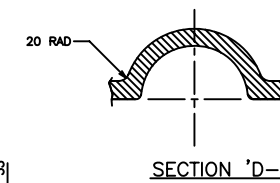
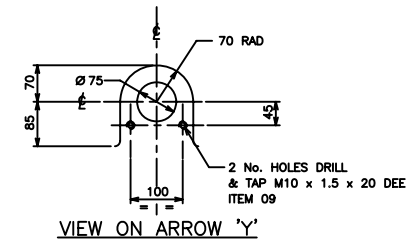
STEELWORK IS TO BS EN 10025 & BS970 Part 1 (OR APPROVED INTERNATIONAL EQUIV.)
SURFACE ROUGHNESS IN ACCORDANCE WITH BS308 Part 2
ALL ROUGH EDGES AND CORNERS ARE TO BE REMOVED
ALL RADII TO BE 12MM. UNLESS OTHERWISE STATED
TOLERANCES: LINEAR--UP TO 500mm. ± 1.5 MM.
LINEAR--OVER 500mm. ± 2.5 MM.
ANGULAR $\pm 1^\circ$
WHERE SURFACES ARE TO BE MACHINED DIMENSIONS ON THIS DRAWING
ARE AFTER MACHINING.
COVER BAIL (ITEM 02) TO BE TESTED FOR S.W.L. OF 3 TONNES

NOTES

1. MATERIALS TO BE PREHEATED TO 94°C FOR WELDING OR FLAME CUTTING
2. WELDING TO BE PERFORMED USING LOW HYDROGEN ELECTRODES TYPE E7015, E7016, E7018, E7028 OR ASTM A233
3. ALL WELDS TO BE SUBJECTED TO MAGNAFLUX INSPECTION
4. AFTER FABRICATION, STRESS RELIEVE BY HEATING TO 482°C THEN ALLOW TO AIR COOL
5. ALL JOINTS MUST BE FREE OF RUST AND OTHER ADHERENTS

REFERENCE DRAWINGS

GENERAL ARRANGEMENT OF 7.5 TONNE CRUCIBLE	- 010735 / 5074.
CRUCIBLE SHELL FABRICATION DETAILS	- 010735 / 5075.



4	20.06.03	ITEM 2A & 2B REVISED TO GIVE CLEARANCE TO LIFTING LUG	F	J	1
3	13.03.03	ISSUED FOR CONSTRUCTION.	F	J	2
2	10.03.03	DIMENSIONS CLARIFIED	J	T	3
1	11.12.02	RE-ISSUED FOR TENDER	LD		4
0	2.12.02	ISSUED FOR TENDER	MA		5
A	14.11.02	ISSUED FOR REVIEW/COMMENT.	F	J	6
REV	DATE	DESCRIPTION			BY

K HOME ENGINEERING LTD
Allensway Thornaby Cleveland
Phone 01842 765421
Fax 01842 760721 TS17 9HA

K.H.E. ACAD REF: 07355078.DWG

KESTREL PROJECT	
Dubai Aluminium Co. Ltd.	دوبال

SCALE : 1:10, 5, 2.5, 2		TITLE
DRAWN BY	DATE	

DRAWN BY	DATE	AREA 5000
T.McDONNELL	10.9.02	
CHECKED BY	DATE	

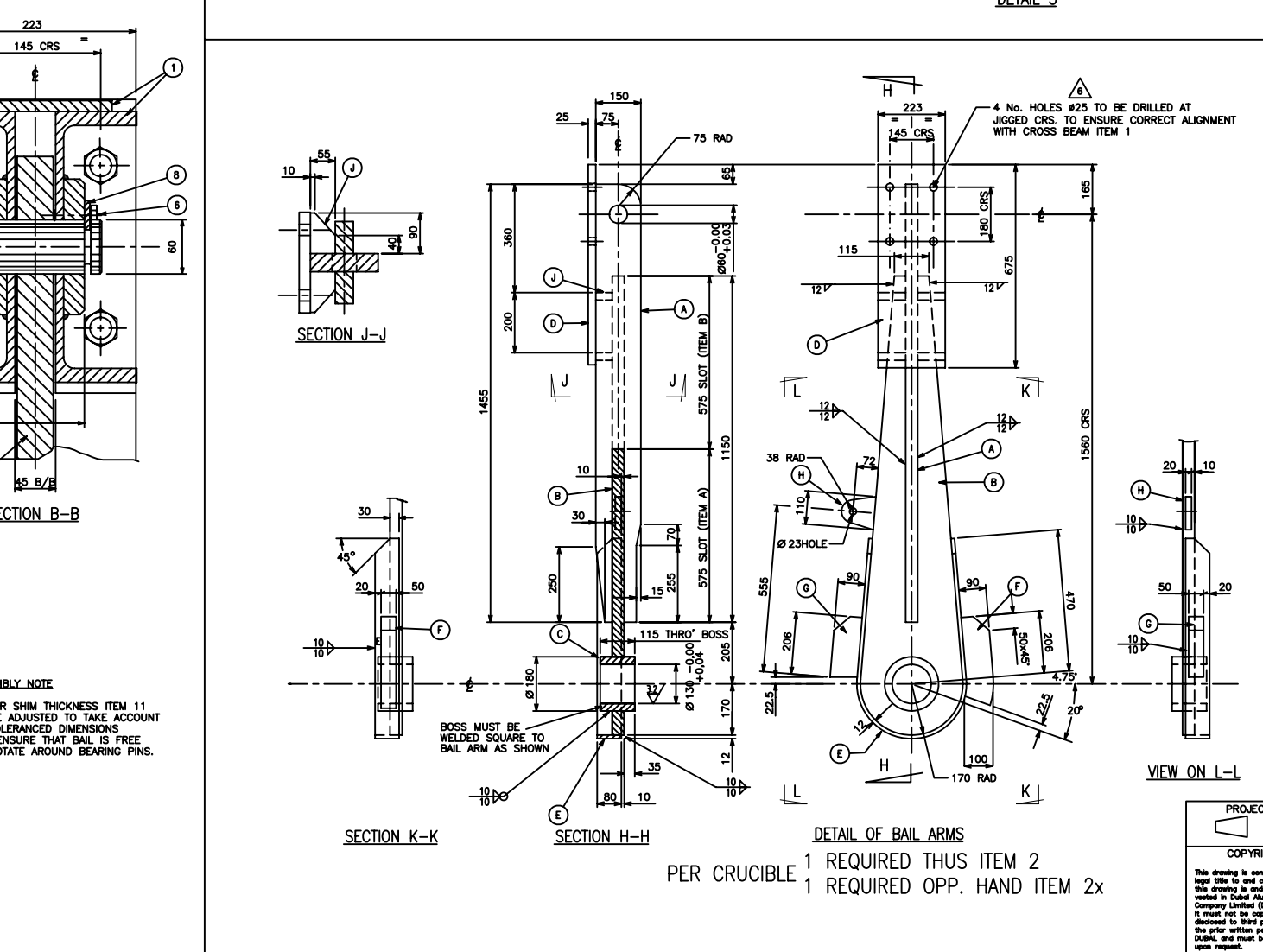
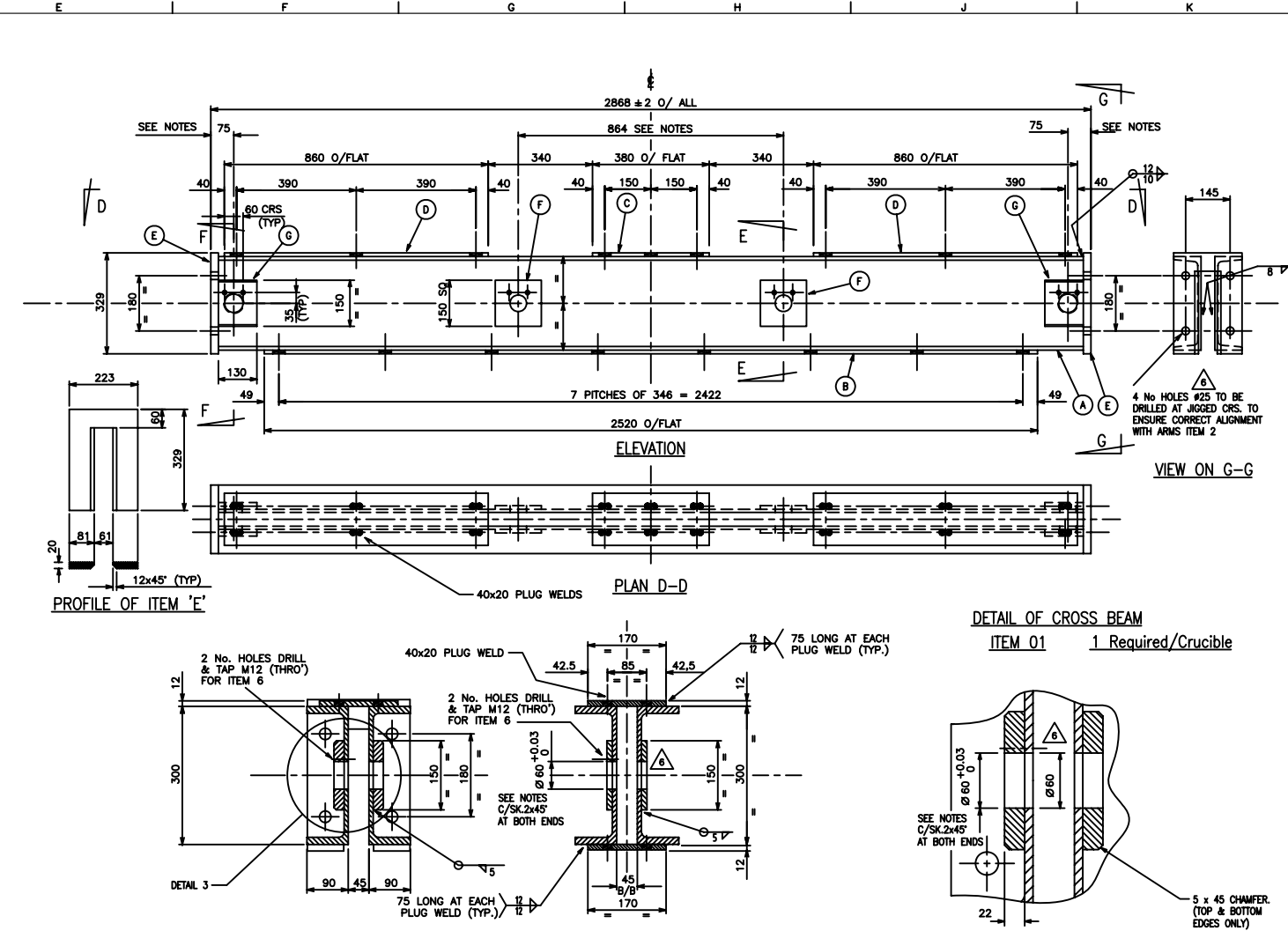
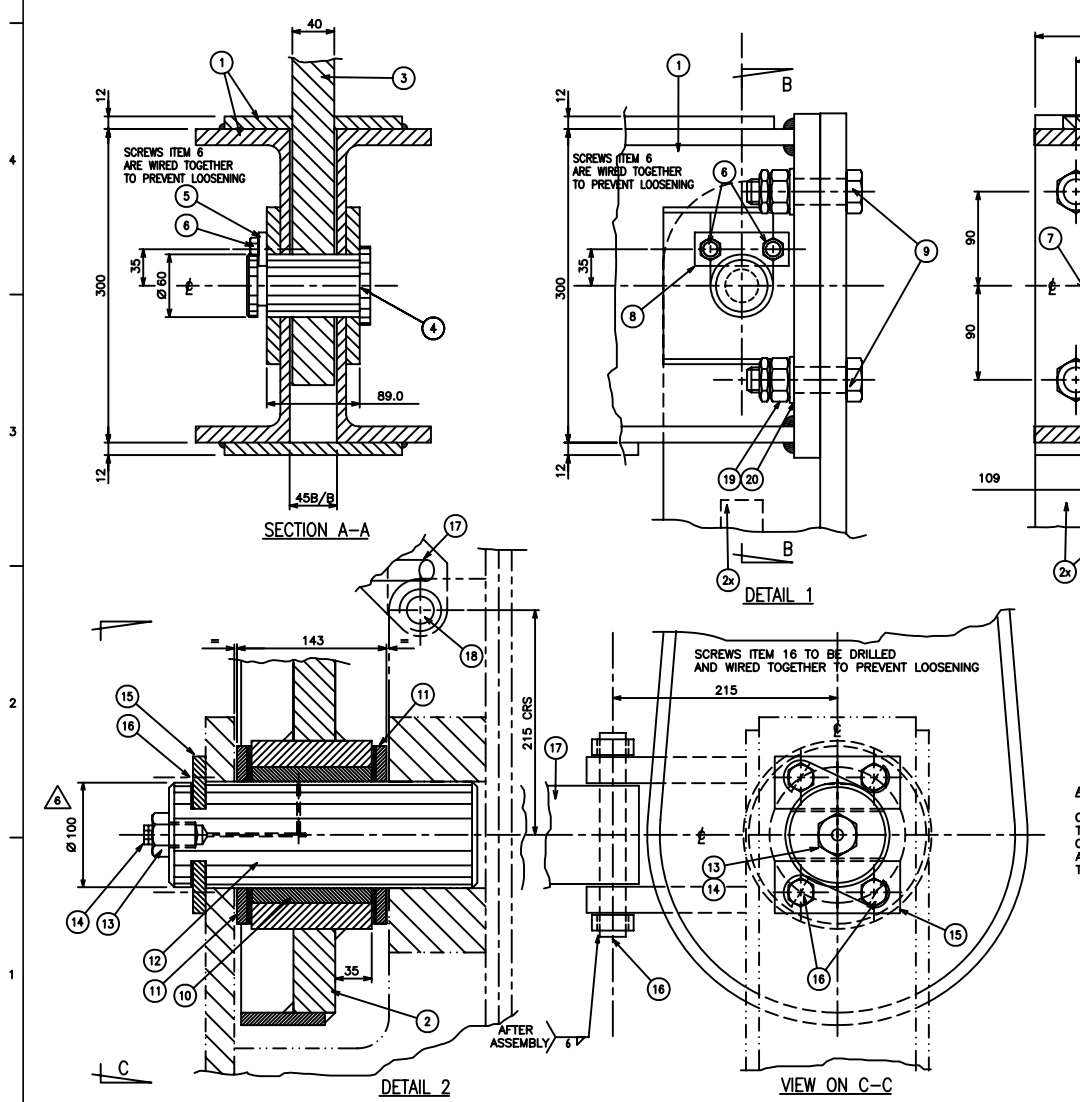
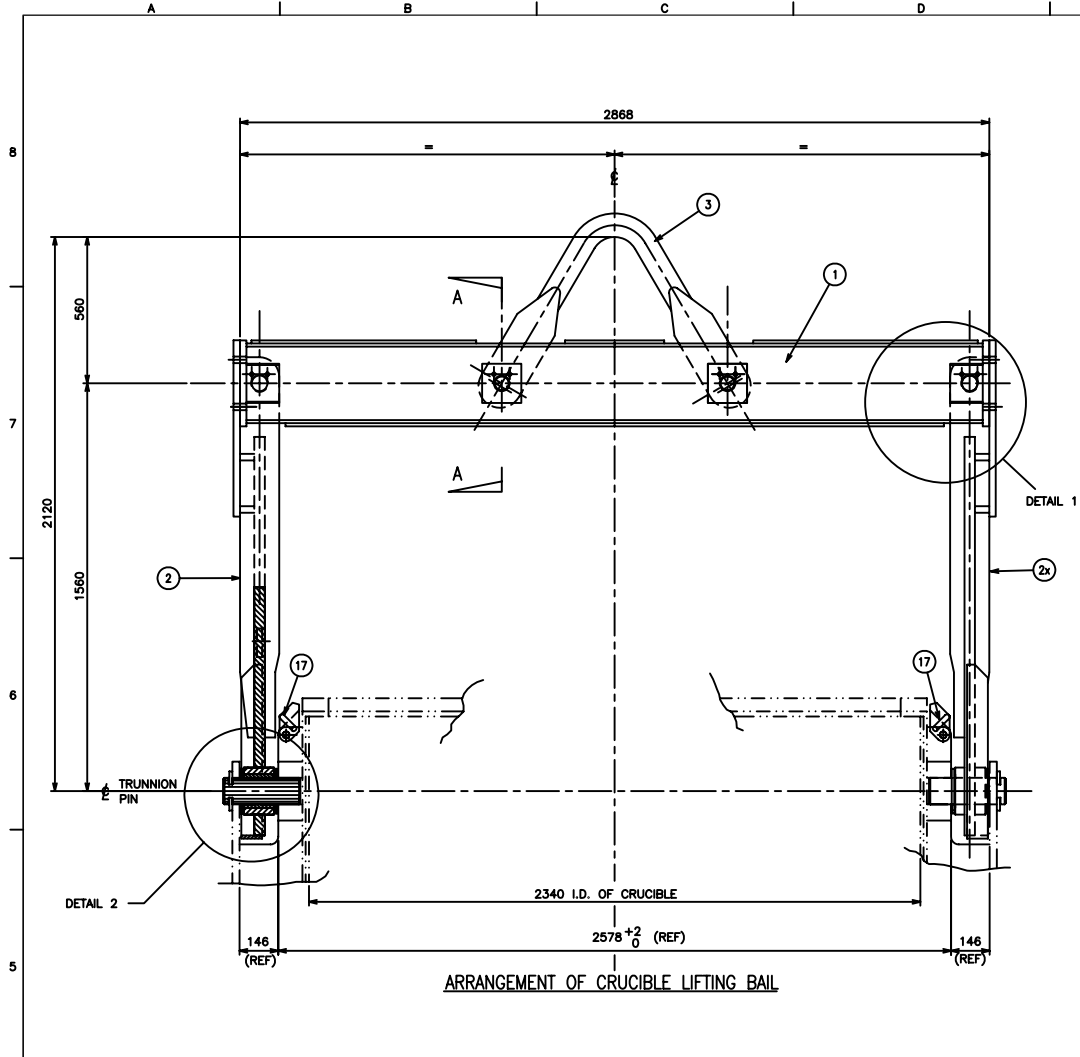
J.R.THOMPSON	15.11.02	7.5 TONNE CAPACITY CRUCIBLE
APPROVED BY	DATE	

N.KING	15.11.02	CRUCIBLE COVER AND BAIL DETAILS.
APPROVED BY	DATE	
M.CHATTERTON	15.11.02	

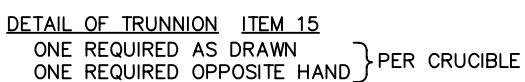
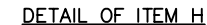
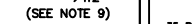
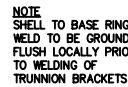
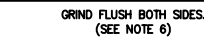
about of 1	W.CHATTERTON	13.11.02	
	DUBAL DRG.SCH.No.	DRG. No.	REV
		010735-5078	4

NOTE
HOLES TO BE DRILLED
USING JIG TO ENSURE
CORRECT ALIGNMENT

NOTE
BOLT MUST BE INSERTED
FROM THIS SIDE
AS SHOWN




DO NOT SCALE - IF IN DOUBT, ASK				
BILL OF MATERIAL				
ITEM No.	QTY	COL. A	DESCRIPTION	DRAWING PURCHASE OR STOCK No.
01	1	1	CRUCIBLE LIFTING BAIL	
		2	RAIL CROSS BEAM	
		1	P.F.C. 300x90x41KG/M x 2828Lg.	S275
		1	MS FLAT BAR 12x170x2520Lg.	
		1	C 1 390Lg.	
		1	C 1 860Lg.	
		2	MS PLATE 20x223x329	
		4	12x150x150	
		4	22x150x130	
02 & 02x	2	1	RAIL ARMS	
		1	MS PLATE 40x150x1455Lg.	S355JR
		1	40x340x1525Lg.	
		1	MS BOSS 130/180x115Lg.	
		1	MS PLATE 25x223x675Lg.	
		1	MS FLAT BAR 12x80x1524Lg.	080M40
		1	50x90x310Lg.	080M40
		1	MS PLATE 20x110x110	S355JR
		4	25x55x90	
03	1	1	RAIL YOE LOOP	DRG. 010735/5077
04	2	2	YOE LOOP PIN KEEP PLATE	DRG. 010735/5077
05	2	2	YOE LOOP PIN KEEP PLATE	DRG. 010735/5077
06	8	8	M12x1.75 HEX. HD. SCREW x 25 Lg.	Gr.8.8
07	2	2	RAIL ARM PIN	DRG. 010735/5077
08	2	2	RAIL ARM PIN KEEP PLATE	DRG. 010735/5077
09	8	8	M24x3 HEX. HD. PRECISION BOLT x 85Lg.	Gr.8.8
10	2	2	C/W NUT, LOCKNUT & WASHER	DRG. 010735/5077
11	4	4	BEARING PIN BUSH	DRG. 010735/5077
12	2	2	SETS OF SHIM COLLARS	DRG. 010735/5077
13	2	2	ADAPTER SCREW	DRG. 010735/5077
14	2	2	1/8" BSPT HEX. GREASE NIPPLE	
15	2	2	BEARING PIN KEEP PLATE	DRG. 010735/5077
16	8	8	M12x1.75 HEX. HD. SCREW x 35Lg.	Gr.8.8
17	4	4	RAIL STOP LOCK	DRG. 010735/5077
18	4	4	RAIL LOCK PIN	DRG. 010735/5077
ALL STEELWORK IS TO BS EN10025 & BS 970. BOLTS & SCREWS TO BS 3692.				
FOR GRIT BLASTING & PAINTING, SEE SPECIFICATION				
NOTES				
1. MATERIALS TO BE PREHEATED TO 94°C FOR WELDING OR FLAME CUTTING				
2. WELDING TO BE PERFORMED USING LOW HYDROGEN ELECTRODES TYPE E7015, E7016, E7018, E7028 OR ASTM A233				
3. ALL WELDS TO BE SUBJECTED TO MAGNAFLUX INSPECTION				
4. AFTER FABRICATION, STRESS RELIEVE BY HEATING TO 482°C THEN ALLOW TO AIR COOL				
5. DIAM. 60 BORE TO BE DRILLED AT 864 CRS. USING A JIG TO ENSURE CORRECT ALIGNMENT WITH YOE LOOP ITEM 3.				
6. CROSS BEAM & ARMS TO BE PRE-ASSEMBLED AND DIA. 60 HOLES TO BE LINE BORED THROUGH BOTH MEMBERS.				
7. ALL JOINTS MUST BE FREE OF RUST AND OTHER ADHERENTS				
8. THE BAIL IS TO BE HARD STAMPED WITH AN "SWL 20 TONNE" AND PROOF LOAD TESTED TO 25 TONNE.				
9. UPON FINAL ASSEMBLY OF BAIL ARM TO TRUNNIONS, A HIGH TEMPERATURE GREASE TO BE APPLIED VIA THE GREASE NIPPLES TO THE TRUNNION SHAFTS.				
THIS DRAWING TO BE READ IN CONJUNCTION WITH DRG. No. 010735 / 5077 (LIFTING BAIL DETAILS SHEET 2).				
REFERENCE DRAWINGS				
GENERAL ARRANGEMENT OF - 010735 / 5074.				
7.5 TONNE CRUCIBLE				
6	23.10.03	REVISED AS INDICATED	LD	MC
5	01.10.03	STOP BLOCKS AMENDED	LD	MC
4	18.09.03	REVISED AS INDICATED	LD	MC
3	20.06.03	ITEM 9 WAS TO LG NOW BS LG. LOCKNUT ADDED.	IF	MC
2	17.06.03	NOTE 8 REVISED.	IF	MC
1	13.03.03	ISSUED FOR CONSTRUCTION.	IF	MC
0	28.11.02	ISSUED FOR TENDER	IF	MC
A	14.11.02	ISSUED FOR REVIEW/COMMENT.	IF	MC
REV	DATE	DESCRIPTION	BY	APD
K HOME ENGINEERING LTD				
Allensway Thornaby Cleveland				
Phone 01642 785421				
Fax 01642 780721				
K.H.E. ACAD REF: 07355076.DWG				
KESTREL PROJECT				
Dubai Aluminium Co. Ltd.				
SCALE : 1:10, 7.5, 5, 2.5				
DRAWN BY T.MCDONNELL DATE 10.9.02				
CHECKED BY J.R. THOMPSON DATE 18.11.02				
APPROVED BY D. PEARSON DATE 19.11.02				
M. CHATTERTON DATE 19.11.02				
DUBAI DRG. SCH. No.				
TITLE AREA 5000				
7.5 TONNE CAPACITY CRUCIBLE				
LIFTING BAIL ARRANGEMENT & DETAILS (SHEET 1)				
DRG. No. 010735 / 5076				
REV 6				



REFERENCE DRAWINGS

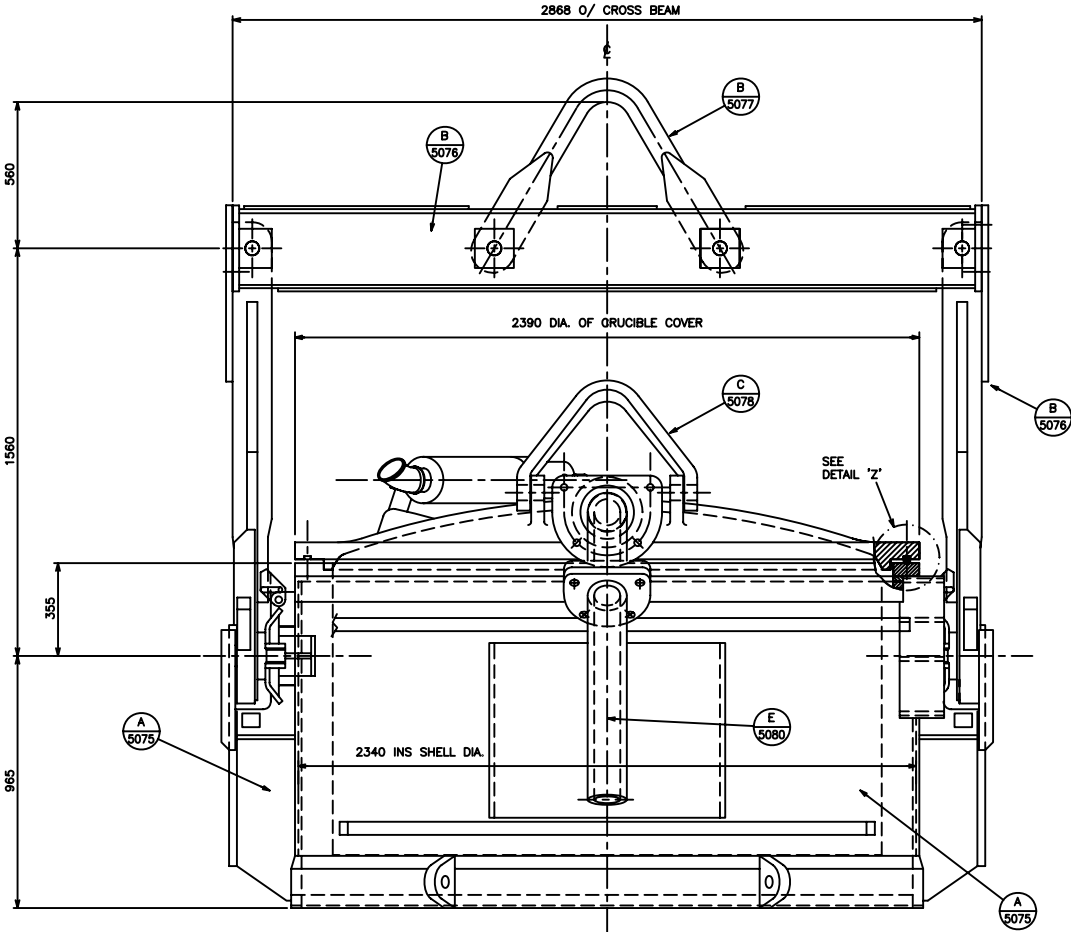
GENERAL ARRANGEMENT OF PROPOSED 7.5T TONNE CAPACITY CRUCIBLE	- 010735 / 5074
LOCATING PAD DETAILS	- 010735-5093
GENERAL ARRANGEMENT OF EXISTING 6 TONNE CAPACITY CRUCIBLE	- 940475-016

7	28.10.03	HOLE TOLERANCE CHANGED. WELD ADDED.	DR
6	23.10.03	HOLE DIA DECREASED FROM 102 TO 100. WELD DETAIL ADDED.	DR
5	18.09.03	HOLE DIA INCREASED FROM 100 TO 102	DR
4	20.06.03	ITEM 17 ADDED	IF
3	17.06.03	ITEM 16 140 LG WAS 120 LG	IF
2	18.05.03	HOLD No1, HOLD LIST REMOVED & REF DRG ADDED 010735-5093	IF
1	13.03.03	ISSUED FOR CONSTRUCTION.	IF
0	29.11.02	ISSUED FOR TENDER	IF
A	12.11.02	ISSUED FOR REVIEW/COMMENT.	IF
REV	DATE	DESCRIPTION	BY APP

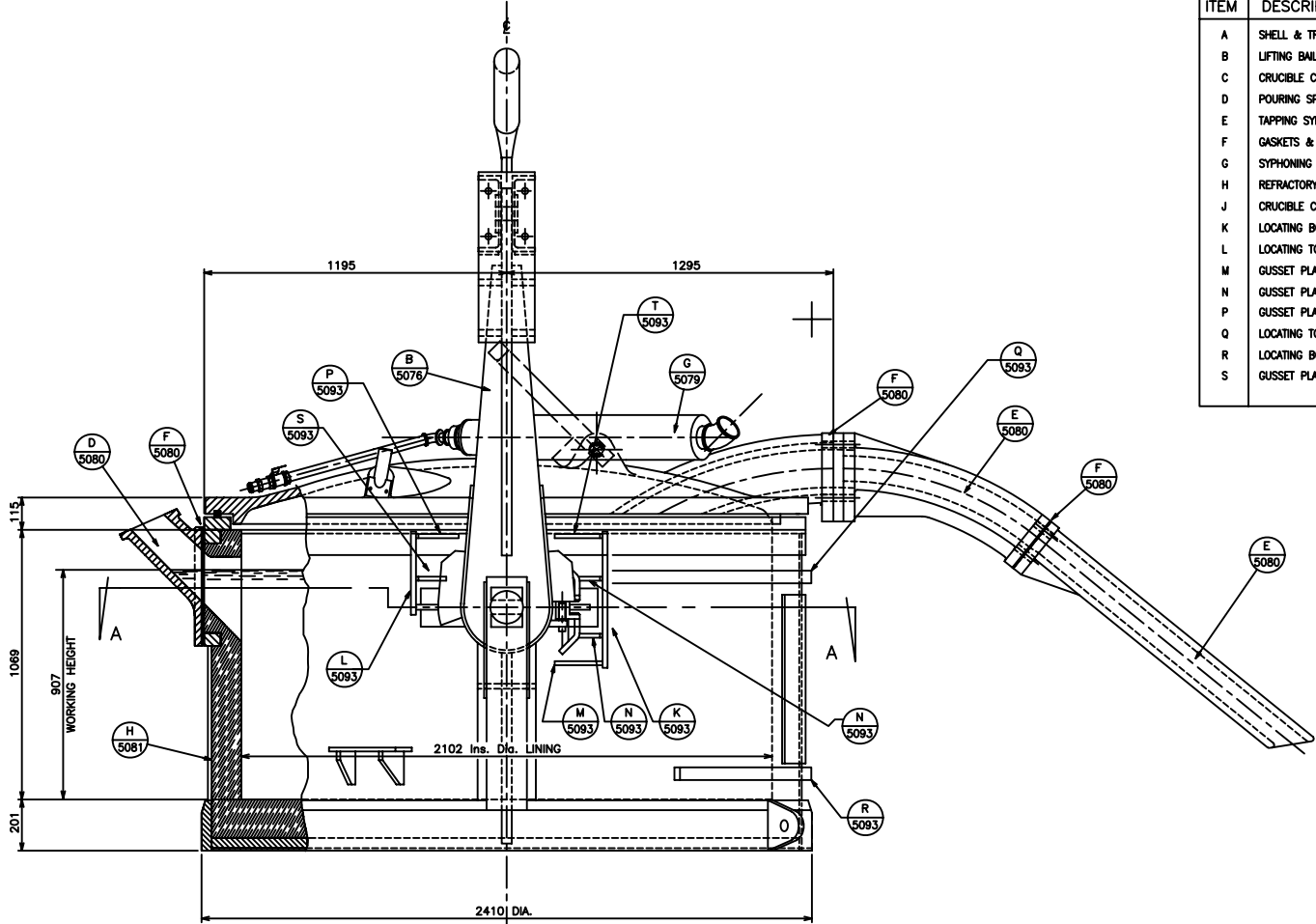
ACTION  GHT (Related and copyright is retained by the owner (DUBAL), which, used or otherwise without permission of the owner is prohibited)	K HOME ENGINEERING LTD Allensway Phone 01642 785421 Fax 01642 780721		Thornaby Cleveland TS17 9HA	
	K.H.E. ACAD REF:		07355075.DWG	
	KESTREL PROJECT Dubal Aluminium Co. Ltd.			
	SCALE : 1:10 DRAWN BY : CHECKED BY : J.R. THOMPSON APPROVED BY : D.PEARSON APPROVED BY : M.CHATTERTON		TITLE AREA 5000 7.5 TONNE CAPACITY CRUCIBLE SHELL FABRICATION DETAILS.	
	DATE 10.9.02 DATE 18.11.02 DATE 19.11.02 DATE 19.11.02		010735 / 5075	
	DUBAL DRG.SCH.No.		DRG. No.	
			9	

7.5 TONNES CAPACITY CRUCIBLE - DRAWING REFERENCE LIST

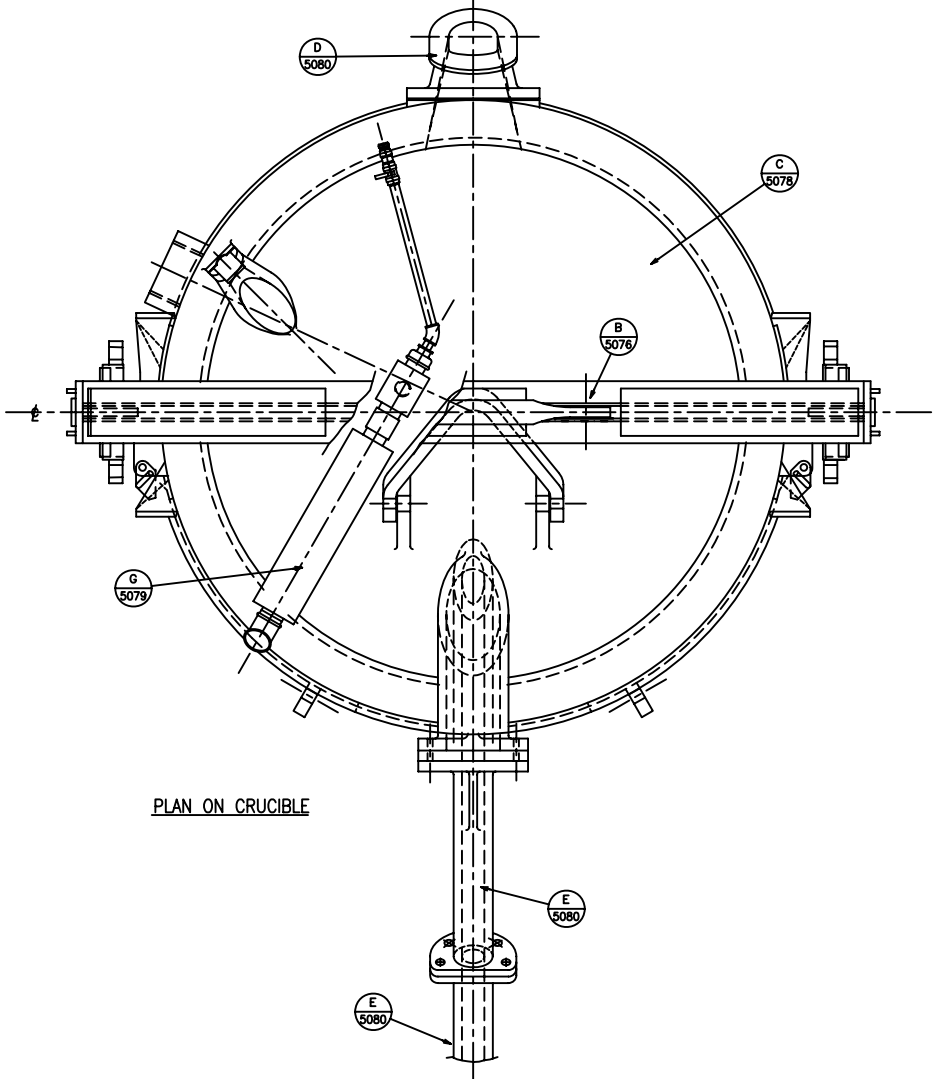
ITEM	DESCRIPTION	DRAWING No.
A	SHELL & TRUNNIONS	010735 / 5075
B	LIFTING BAIL	010735 / 5076 & 5077
C	CRUCIBLE COVER	010735 / 5078
D	POURING SPOUT	010735 / 5080
E	TAPPING SYPHON	010735 / 5080
F	GASKETS & BOLTS	010735 / 5080
G	SYPHONING EQUIPMENT	010735 / 5079
H	REFRACTORY LINING	010735 / 5081
J	CRUCIBLE COVER SEAL	010735 / 5078
K	LOCATING BOTTOM PLATE	010735 / 5083
L	LOCATING TOP PLATE	010735 / 5083
M	GUSSET PLATE	010735 / 5083
N	GUSSET PLATE	010735 / 5083
P	GUSSET PLATE	010735 / 5083
Q	LOCATING TOP RING	010735 / 5083
R	LOCATING BOTTOM RING	010735 / 5083
S	GUSSET PLATE	010735 / 5083



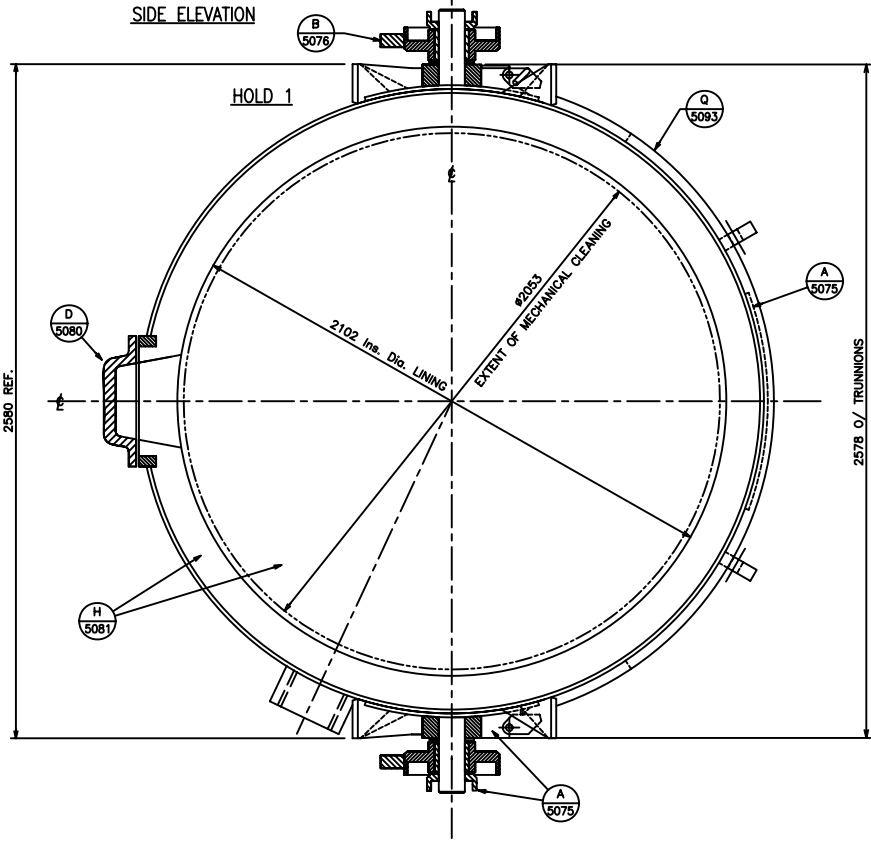
FRONT ELEVATION



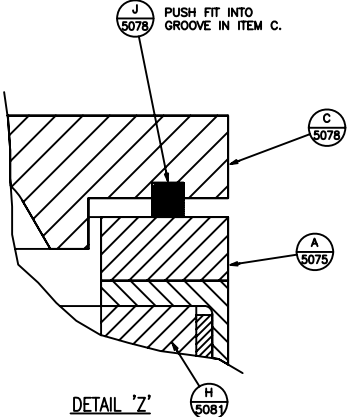
SIDE ELEVATION



PLAN ON CRUCIBLE



SECTIONAL PLAN A-A



DETAIL 'Z'

5	23.06.04	REFRACTORY LINING AMENDED	LD	MC
4	01.10.03	STOP BLOCKS AMENDED	LD	MC
3	19.05.03	HOLD No1 & HOLD LIST REMOVED.	IF	MC
2	13.03.03	ISSUED FOR CONSTRUCTION.	IF	MC
1	11.12.02	RE-ISSUED FOR TENDER.	LD	MC
0	02.12.02	ISSUED FOR TENDER.	IF	MC
A	12.11.02	ISSUED FOR REVIEW/COMMENTS	IF	MC
REV	DATE	DESCRIPTION	BY	APPD

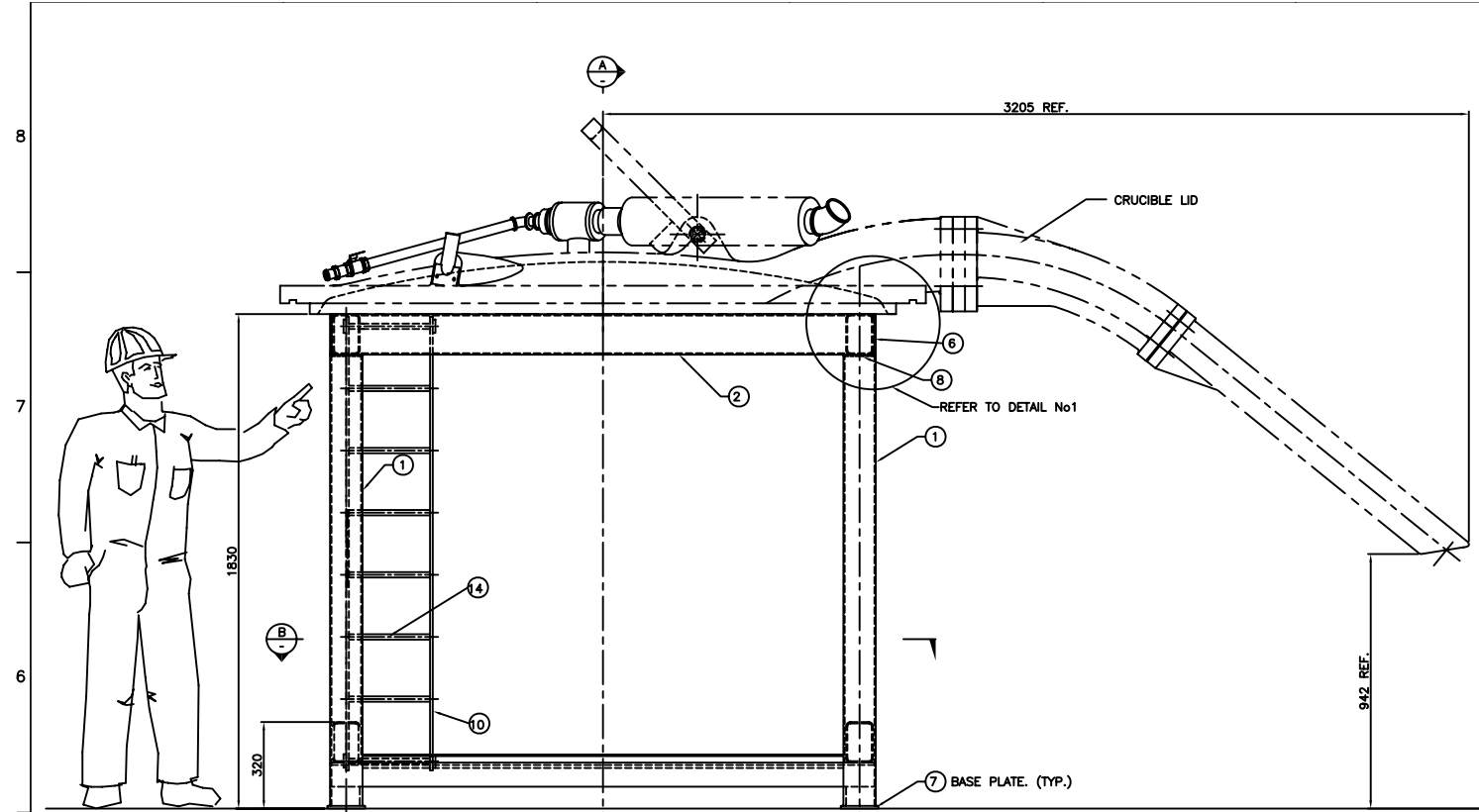
K HOME ENGINEERING LTD
Allensway Thornaby Cleveland
Phone 01642 785421
Fax 01642 780721 TS17 9HA

K.H.E. ACAD REF: 07355074.DWG

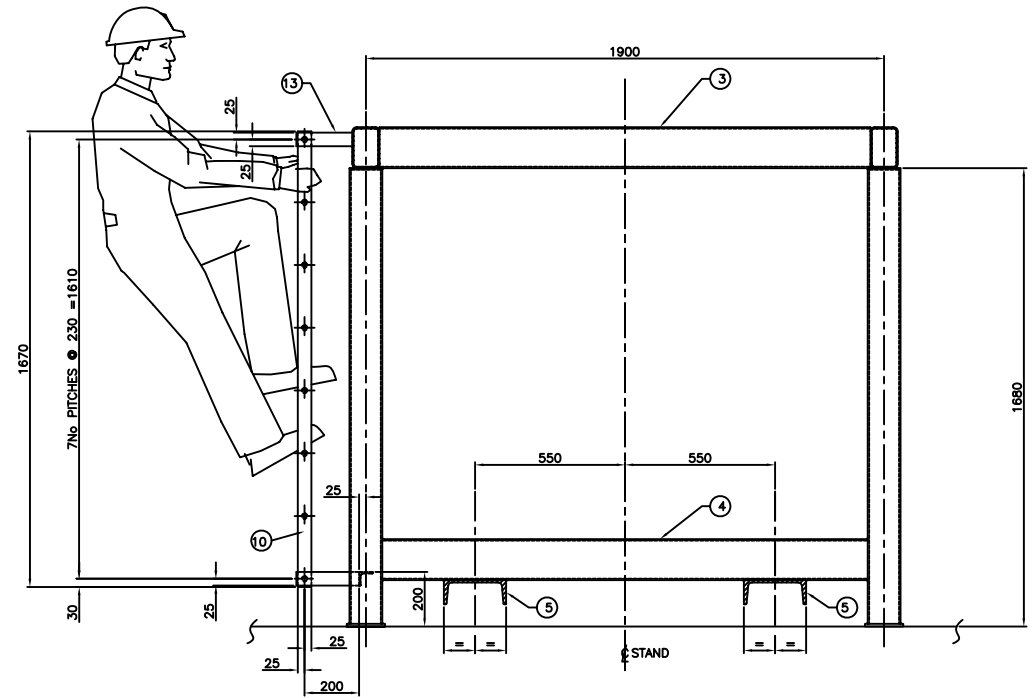
KESTREL PROJECT
Dubai Aluminium Co. Ltd.

PROJECTION	SCALE : 1:10	TITLE
COPYRIGHT	DRAWN BY T.McDONNELL	DATE 10.9.02
	CHECKED BY J.R.THOMPSON	DATE 18.11.02
	APPROVED BY D.PEARSON	DATE 19.11.02
	APPROVED BY M.CHATTERTON	DATE 19.11.02
	DUBAI DRG.SCH.No.	DRG. No. 010735 / 5074
		REV 5

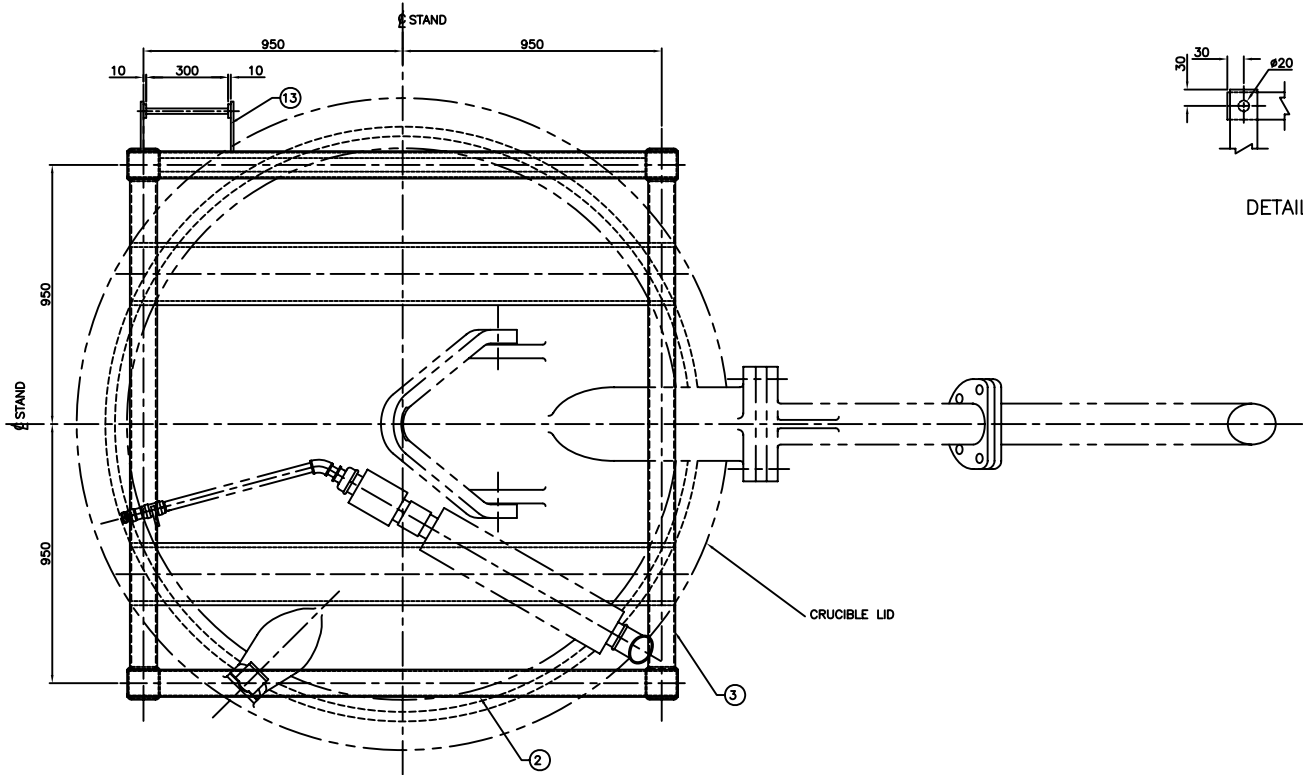
AREA 5000
7.5T CAPACITY CRUCIBLE
GENERAL ARRANGEMENT.



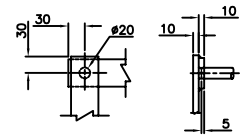
ELEVATION



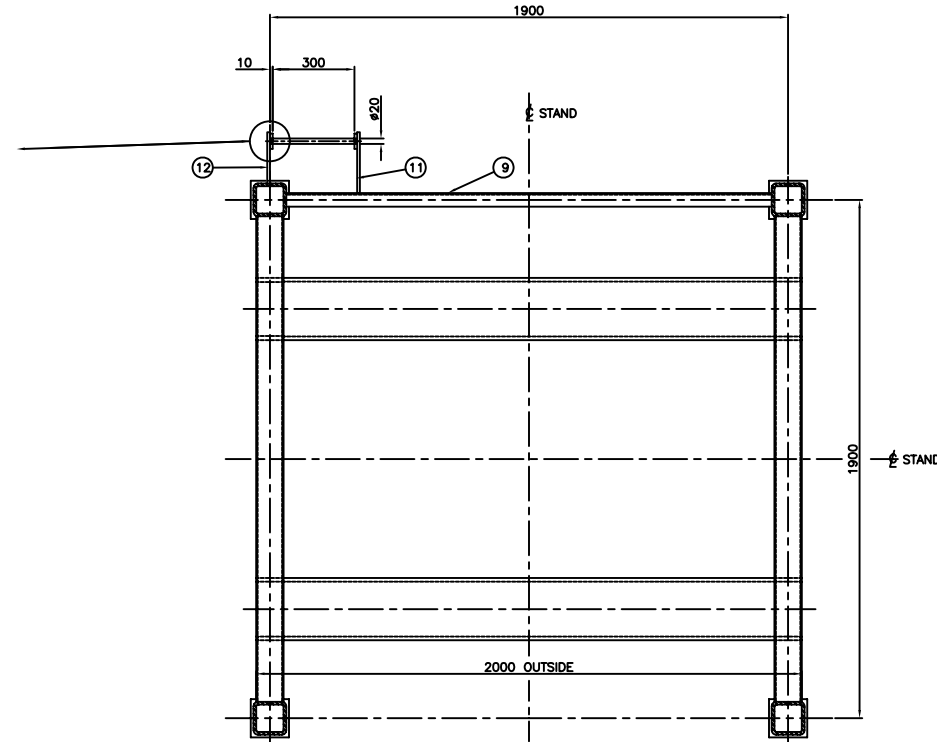
SECTION A



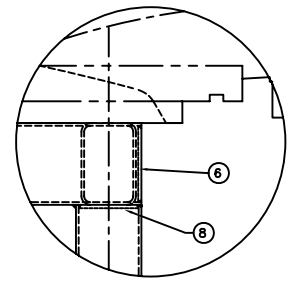
PLAN VIEW



DETAIL No2



SECTION B



DETAIL No1

DO NOT SCALE – IF IN DOUBT, ASK		
BILL OF MATERIAL		
ITEM No.	QTY. REQ'D	DESCRIPTION
1	4	120x120x5 S.H.S. x 1670 LG.
2	2	150x100x5 R.H.S. x 2020 LG.
3	2	150x100x5 R.H.S. x 1800 LG.
4	2	150x100x5 R.H.S. x 1780 LG.
5	2	230x90x32 P.F.C. x 2000 LG.
6	4	140x90x6 THK PLT
7	4	140x140x10 THK. PLT.
8	4	110x110x6 THK. PLT.
9	1	50x50x6 R.S.A. x 1780 LG
10	2	50x10 FLAT BAR x 1670 LG
11	1	50x10 FLAT BAR x 230 LG
12	1	50x10 FLAT BAR x 195 LG
13	2	50x10 FLAT BAR x 205 LG
14	8	#20 BLACK BAR x 310 LG

ABOVE QUANTITIES ARE FOR ONE UNIT
62No STANDS REQUIRED

- NOTES:
1. ALL WELDS TO BE 6mm C.F.W. (u.n.o.).
 2. ALL SURFACES ARE TO BE PROTECTED AGAINST CORROSION BY SAND BLASTING TO SA 2½ WITH SALT FREE ABRASIVE, THEN PAINTED AS FOLLOWS:
~ 1 COAT OF ZINC RICH EPOXY PRIMER
~ 2 COATS OF EPOXY H.B. M.I.O.
~ 1 COAT POLYURETHANE YELLOW

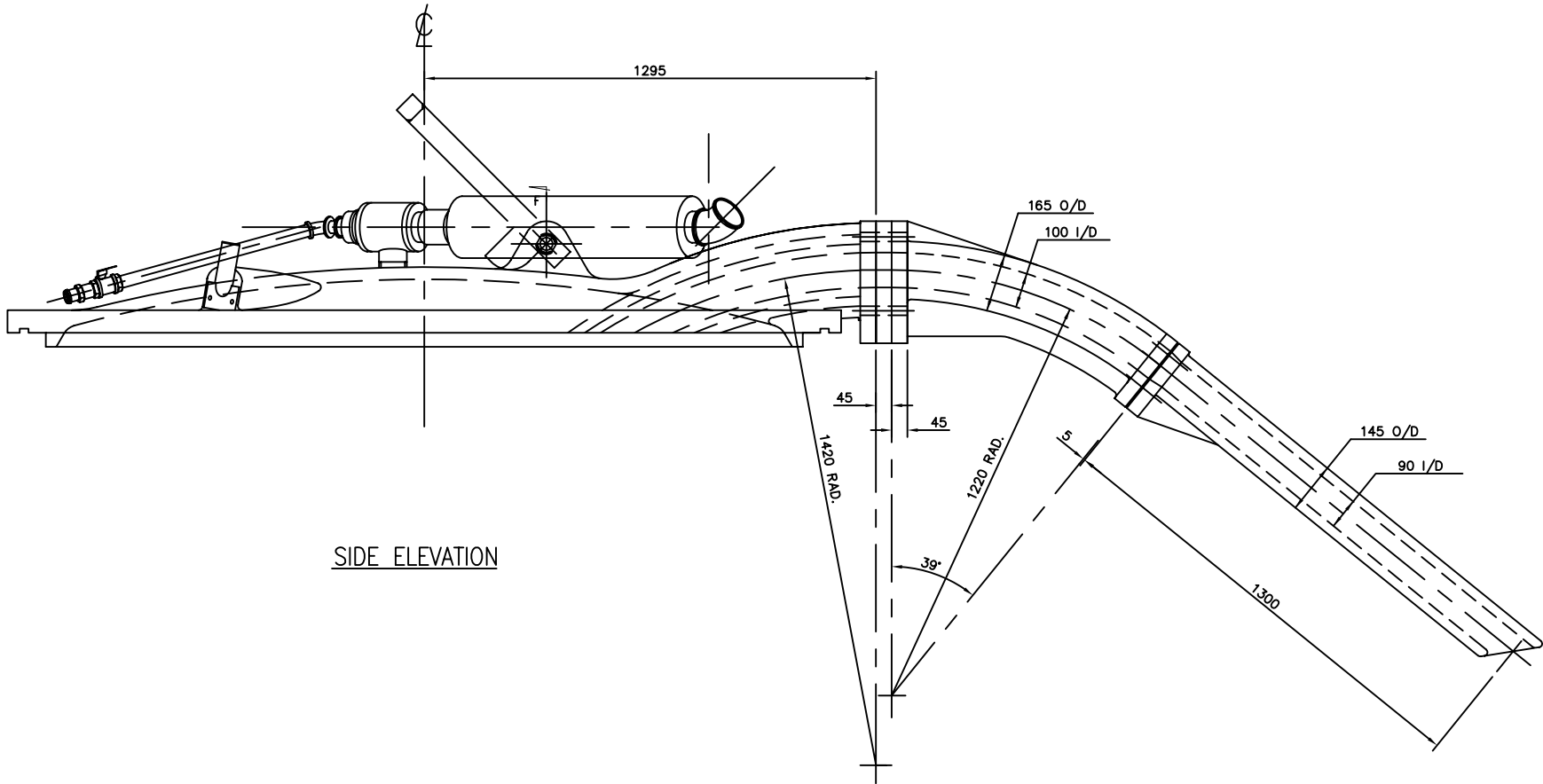
REV	DATE	DESCRIPTION	BY	APPD
4	2.9.04	FINAL ISSUE	BR	
K HOME ENGINEERING LTD				
Allensway Thornaby Cleveland				
Phone 01642 785421 TS17 9HA				
Fax 01642 780721				
K.H.E. ACAD REF: 07355115.DWG				
KESTREL PROJECT				
Dubai Aluminium Co. Ltd.				
SCALE : 1:10				
TITLE				
AREA 5000D				
CRUCIBLE AND SYPHON CLEANING				
CRUCIBLE LID SUPPORT STAND				
DRG. No. 010735-5115				
REV 4				

NOT
AS BUILT

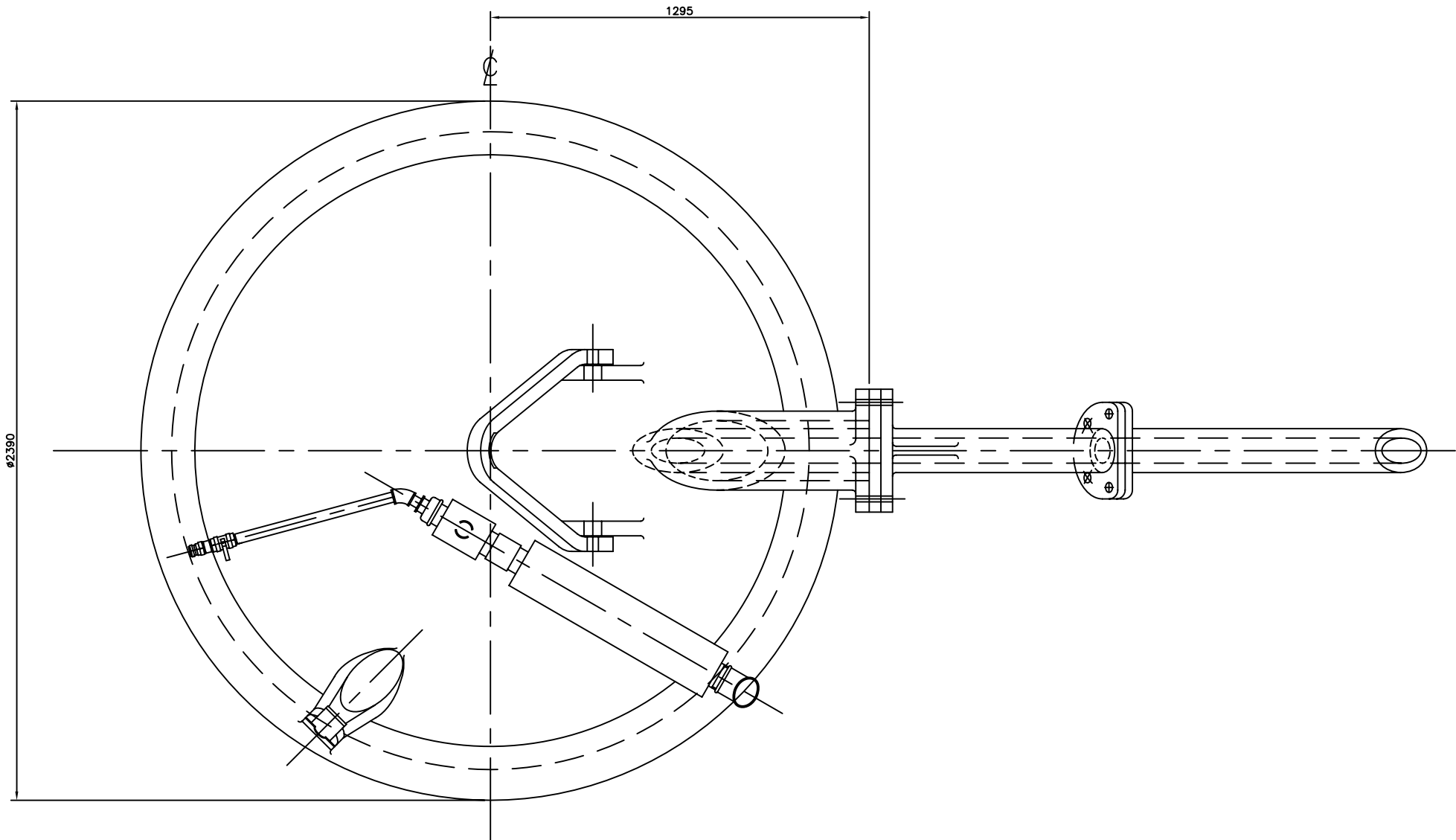
PROJECTION
COPYRIGHT
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DO NOT SCALE - IF IN DOUBT, ASK
REFERENCE DRAWINGS

GENERAL ARRANGEMENT OF - 010735 / 5074.
7.5 TONNE CRUCIBLE



SIDE ELEVATION



PLAN ON CRUCIBLE COVER


2	13.03.03	ISSUED FOR CONSTRUCTION.	IF NK MC
1	11.12.02	RE-ISSUED FOR TENDER	LD NK MC
0	02.12.02	ISSUED FOR TENDER	IF NK MC
A	15.11.02	ISSUED FOR REVIEW/COMMENT.	IF NK MC
REV.	DATE	DESCRIPTION	BY APPD

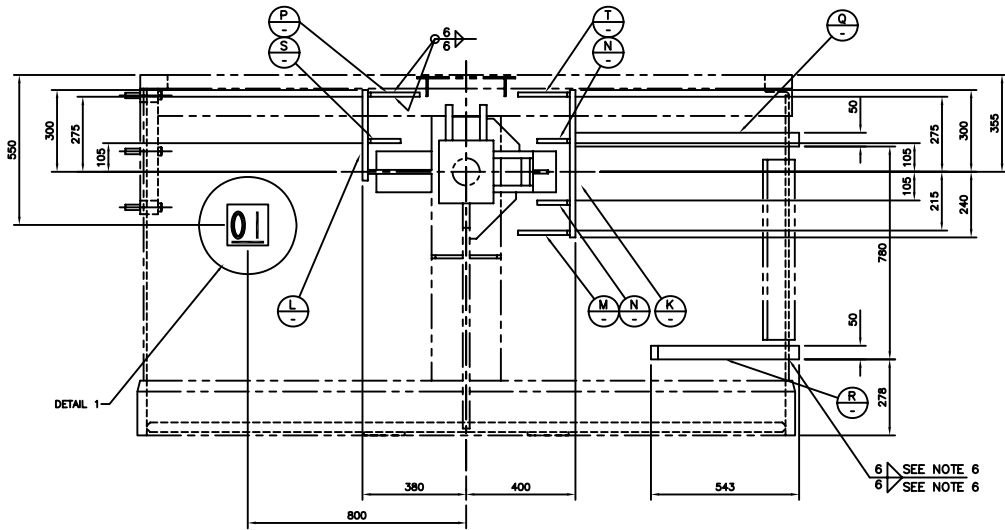
K HOME ENGINEERING LTD		
Allensway	Thornaby	Cleveland
Phone 01642 765421		
Fax 01642 760721		TS17 9HA

KHE ACAD REF:	073555094.DWG
---------------	---------------

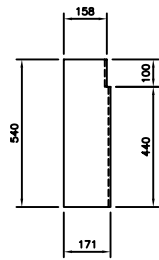
KESTREL PROJECT

Dubai Aluminium Co. Ltd.	دوبال
--------------------------	-------

PROJECTION <div></div>	SCALE : 1:10		TITLE AREA 5000 7.5 TONNE CAPACITY CRUCIBLE COVER AND SYPHON ARRANGEMENT
	DRAWN BY I.FRASER	DATE 14.11.02	
COPYRIGHT This drawing is confidential and legal title to and copyright in this drawing is and remains vested in Dubai Aluminium Company Limited (DUBAL). It must not be copied, used or disclosed to third parties without the prior written permission of DUBAL and must be returned upon request.	CHECKED BY J.R.THOMPSON	DATE 15.11.02	DRG. No. 010735-5094
	APPROVED BY D.PEARSOIN	DATE 19.11.02	
	APPROVED BY M.CHATTERTON	DATE 19.11.02	
	DUBAL DRG.SCH.No.		
		REV. 2	

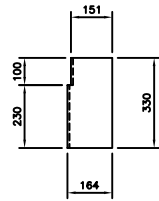


SIDE ELEVATION
CRUCIBLE RETAINING BRACKETS



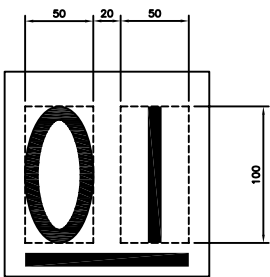
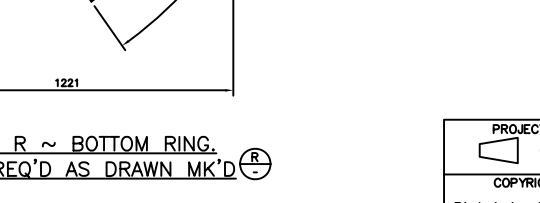
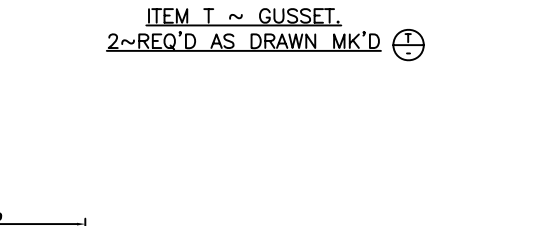
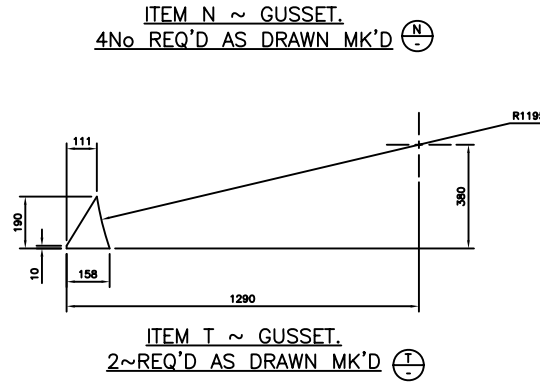
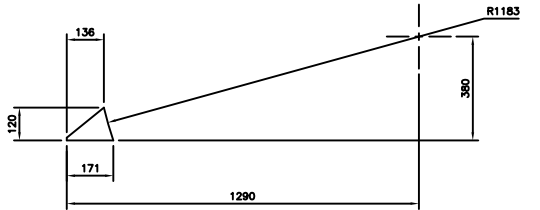
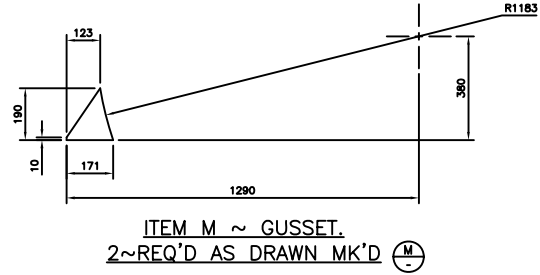
ELEVATION

PLAN VIEW.
ITEM K ~ BOTTOM PLATE.
1 ~ REQ'D AS DRAWN MK'D (K)
1 ~ REQ'D OPP. HAND MK'D (K)



ELEVATION

PLAN VIEW.
ITEM L ~ TOP PLATE.
1 ~ REQ'D AS DRAWN MK'D (L)
1 ~ REQ'D OPP. HAND MK'D (L)



EACH CRUCIBLE TO BE INDIVIDUALLY
NUMBERED FROM 01 TO 64 WITH LINES
OF WELD 10mm WIDE. WELDING
SPECIFICATIONS TO
BE FOLLOWED SEE NOTES.

BILL OF MATERIAL			
ITEM No.	No.OFF	DESCRIPTION	WT. (kgs)
K	1	BOTTOM PLATE ~ 170x20 THK. PLT. x 405 LG.	11
Kx	1	BOTTOM PLATE ~ 170x20 THK. PLT. x 405 LG.	11
L	1	TOP PLATE ~ 162x20 THK. PLT. x 345 LG.	9
Lx	1	TOP PLATE ~ 162x20 THK. PLT. x 345 LG.	9
M	2	GUSSET ~ 190x15 THK. PLT. x 171 LG.	1 (each)
N	4	GUSSET ~ 120x15 THK. PLT. x 171 LG.	2 (each)
P	2	GUSSET ~ 190x15 THK. PLT. x 151 LG.	1 (each)
Q	1	TOP RING ~ 38x50 THK. PLT. x 2980 LG.	45
R	1	BOTTOM RING ~ 38x50 THK. PLT. x 2307 LG.	34
S	2	GUSSET ~ 120x15 THK. PLT. x 164 LG.	1 (each)
T	2	GUSSET ~ 190x15 THK. PLT. x 158 LG.	1 (each)

- GENERAL NOTES!
- MATERIAL TO BE TO BS EN10025 OR OTHER INTERNATIONAL EQUIVALENT SUBJECT TO THE ENGINEERS APPROVAL.
 - MATERIALS TO BE PREHEATED TO 94°C FOR WELDING OR FLAME CUTTING
 - WELDING TO BE PERFORMED USING LOW HYDROGEN ELECTRODES TYPE E7015, E7016, E7018, E7028 OR ASTM A233
 - ALL WELDS TO BE SUBJECTED TO MAGNAFLUX INSPECTION
 - ALL PARTS TO BE CLEAN AND FREE FROM SHARP EDGES, BURRS ETC.
 - WELDING SHOULD BE CARRIED OUT IN ORDER TO MINIMIZE DISTORTION OBTAINED BY STITCH WELDING 50-100 & BACK STEP UNTIL CONTINUOUS WELD IS OBTAINED.

REFERENCE DRAWINGS.
THIS DRAWING TO BE READ IN CONJUNCTION WITH:-
010735-5074 ~ GENERAL ARRANGEMENT OF 7.5T CRUCIBLE.

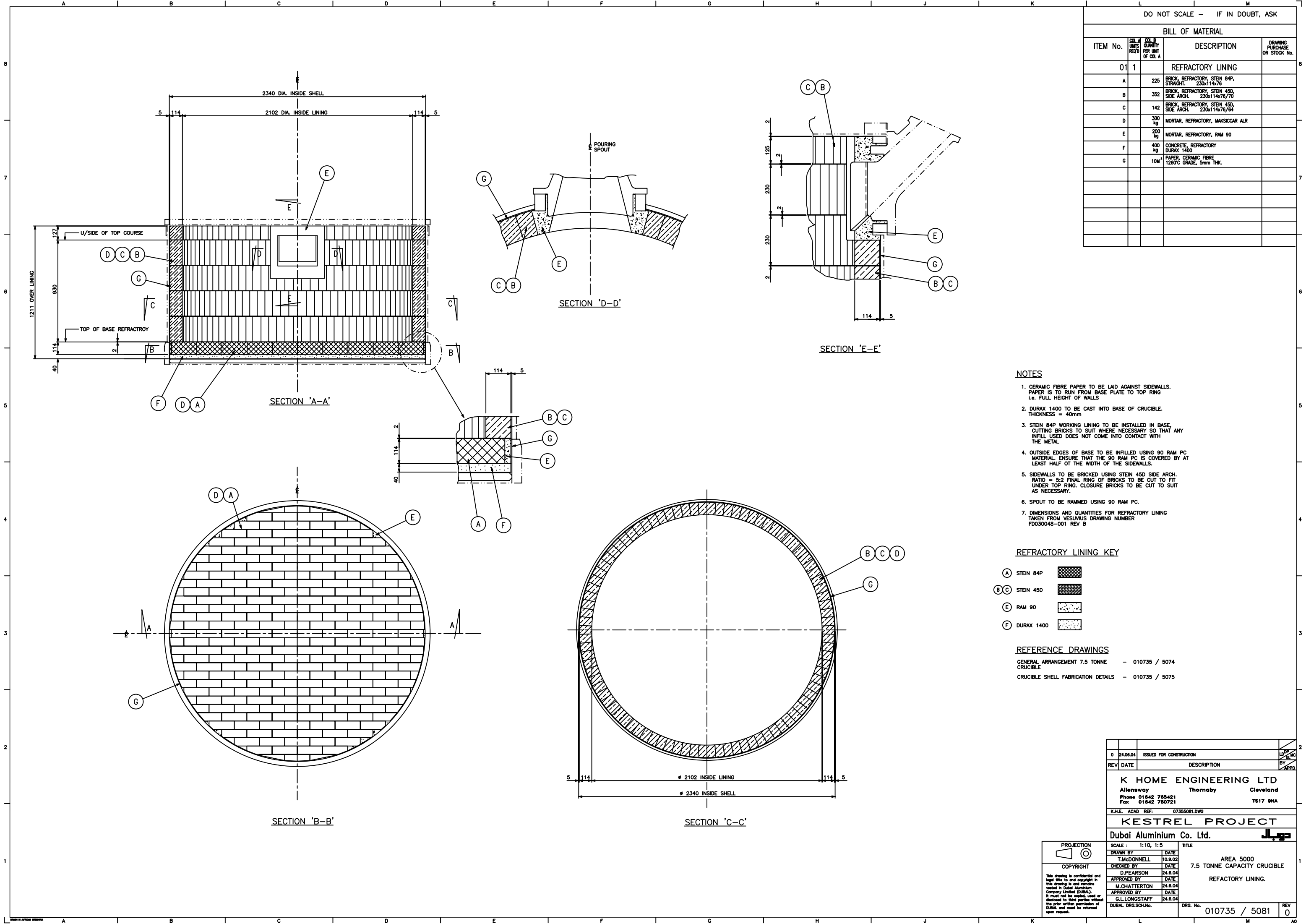
2	19.05.03	HOLD No1,HOLD LIST & REF DRG 010735-5094 REMOVED.	IF MK
1	13.03.03	ISSUED FOR CONSTRUCTION.	IF MK
0	28.11.02	ISSUED FOR TENDER.	IF MK
A	14.11.02	ISSUED FOR REVIEW/COMMENT.	IF MK
REV	DATE	DESCRIPTION	BY APPD

K HOME ENGINEERING LTD
Allensway Thornaby Cleveland
Phone 01642 785421
Fax 01642 780721 TS17 9HA

K.H.E. ACAD REF: 07355093.DWG
KESTREL PROJECT
Dubai Aluminium Co. Ltd. دبال

SCALE : 1:10
DRAWN BY T.McDONNELL DATE 7.11.02
CHECKED BY J.R.THOMPSON DATE 18.11.02
APPROVED BY D.PEARSON DATE 19.11.02
APPROVED BY M.CHATTERTON DATE 19.11.02
DUBAL DRG.SCH.No. DRG. No. 010735-5093
TITLE AREA 5000
7.5 TONNE CAPACITY CRUCIBLE
LOCATING PADS
DETAILS

PROJECTION
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DO NOT SCALE — IF IN DOUBT, ASK				
BILL OF MATERIAL				
ITEM No.	COL A UNITS REQD	COL B QUANTITY PER UNIT OF COL A	DESCRIPTION	DRAWING PURCHASE OR STOCK No.
01	1		REFRACTORY LINING	
A		225	BRICK, REFRACTORY, STEIN 84P, STRAIGHT. 230x114x76	
B		352	BRICK, REFRACTORY, STEIN 45D, SIDE ARCH. 230x114x76/70	
C		142	BRICK, REFRACTORY, STEIN 45D, SIDE ARCH. 230x114x76/64	
D		300 kg	MORTAR, REFRACTORY, MAKSIQAR ALR	
E		200 kg	MORTAR, REFRACTORY, RAM 90	
F		400 kg	CONCRETE, REFRACTORY DURAX 1400	
G		10M ²	PAPER, CERAMIC FIBRE 1200°C GRADE, 5mm THK.	

- NOTES**
- CERAMIC FIBRE PAPER TO BE LAID AGAINST SIDEWALLS. PAPER IS TO RUN FROM BASE PLATE TO TOP RING i.e. FULL HEIGHT OF WALLS
 - DURAX 1400 TO BE CAST INTO BASE OF CRUCIBLE. THICKNESS = 40mm
 - STEIN 84P WORKING LINING TO BE INSTALLED IN BASE. CUTTING BRICKS TO SUIT WHERE NECESSARY SO THAT ANY INFILL USED DOES NOT COME INTO CONTACT WITH THE METAL
 - OUTSIDE EDGES OF BASE TO BE INFILLED USING 90 RAM PC MATERIAL. ENSURE THAT THE 90 RAM PC IS COVERED BY AT LEAST HALF OF THE WIDTH OF THE SIDEWALLS.
 - SIDEWALLS TO BE BRICKED USING STEIN 45D SIDE ARCH. RATIO = 5:2 FINAL RING OF BRICKS TO BE CUT TO FIT UNDER TOP RING. CLOSURE BRICKS TO BE CUT TO SUIT AS NECESSARY.
 - SPOUT TO BE RAMMED USING 90 RAM PC.
 - DIMENSIONS AND QUANTITIES FOR REFRACTORY LINING TAKEN FROM VESUVIUS DRAWING NUMBER FD030048-001 REV B

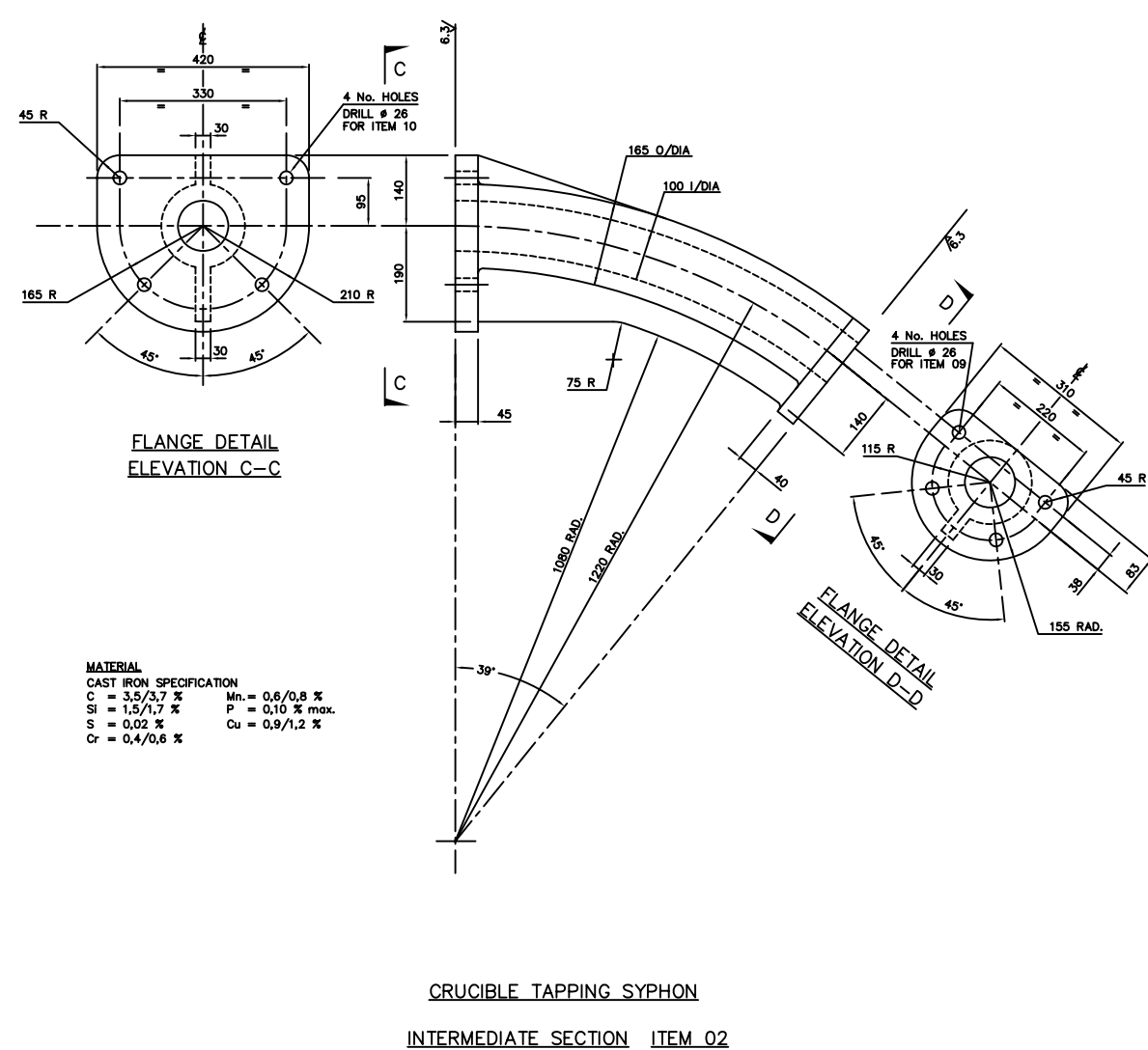
REFRACTORY LINING KEY

- (A) STEIN 84P
- (B/C) STEIN 45D
- (E) RAM 90
- (F) DURAX 1400

REFERENCE DRAWINGS

- GENERAL ARRANGEMENT 7.5 TONNE CRUCIBLE - 010735 / 5074
- CRUCIBLE SHELL FABRICATION DETAILS - 010735 / 5075

0	24.06.04	ISSUED FOR CONSTRUCTION	LDP
REV	DATE	DESCRIPTION	BY
K HOME ENGINEERING LTD Allensway Thornaby Cleveland Phone 01642 785421 Fax 01642 780721 TS17 9HA			
K.H.E. ACAD REF: 07355081.DWG			
KESTREL PROJECT			
Dubai Aluminium Co. Ltd.			
SCALE : 1:10, 1:5		TITLE	
DRAWN BY	DATE	AREA 5000 7.5 TONNE CAPACITY CRUCIBLE REFRACTORY LINING.	
T.McDONNELL	10.9.02		
CHECKED BY	DATE		
D.PEARSON	24.6.04		
APPROVED BY	DATE		
M.CHATTERTON	24.6.04	DRG. No. 010735 / 5081	
APPROVED BY	DATE		
G.L.LONGSTAFF	24.6.04	REV	0
DUBAL DRG.SCH.No.			



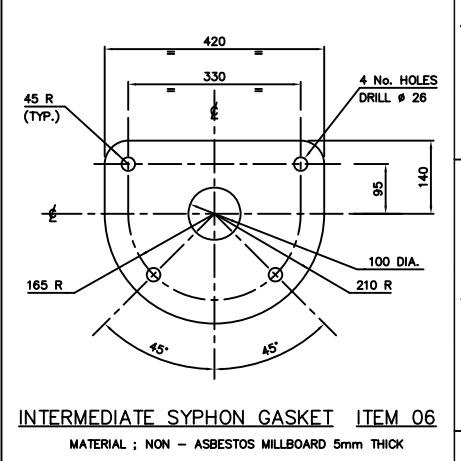
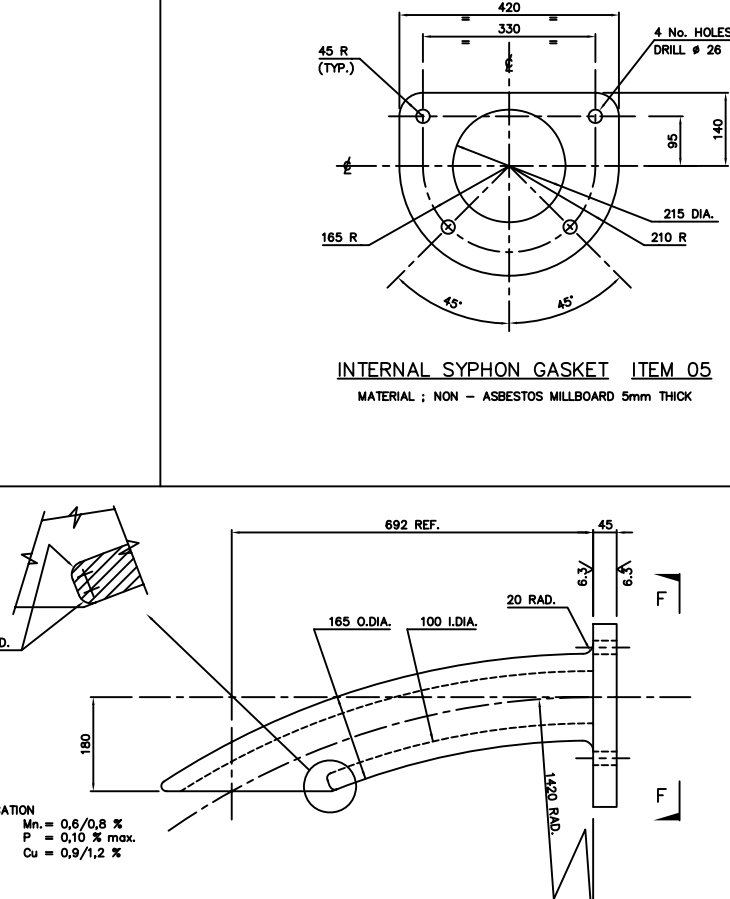
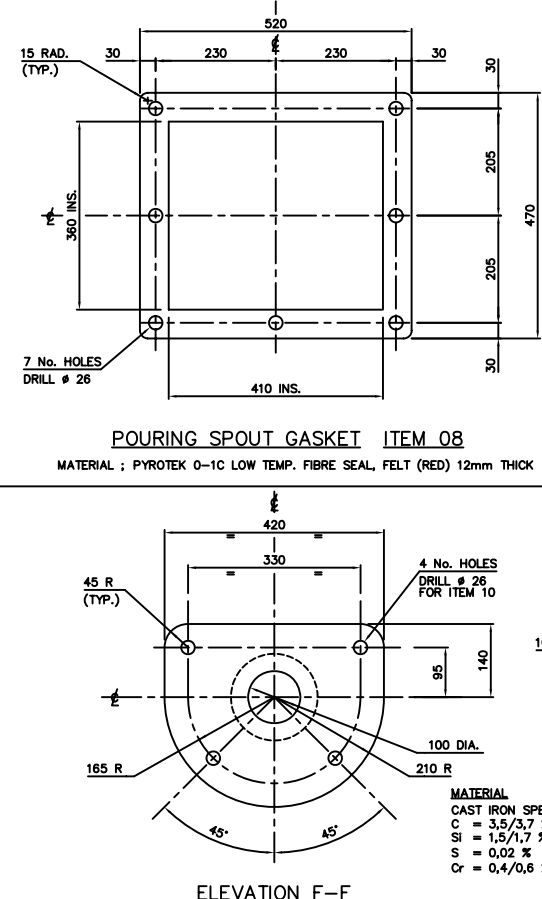
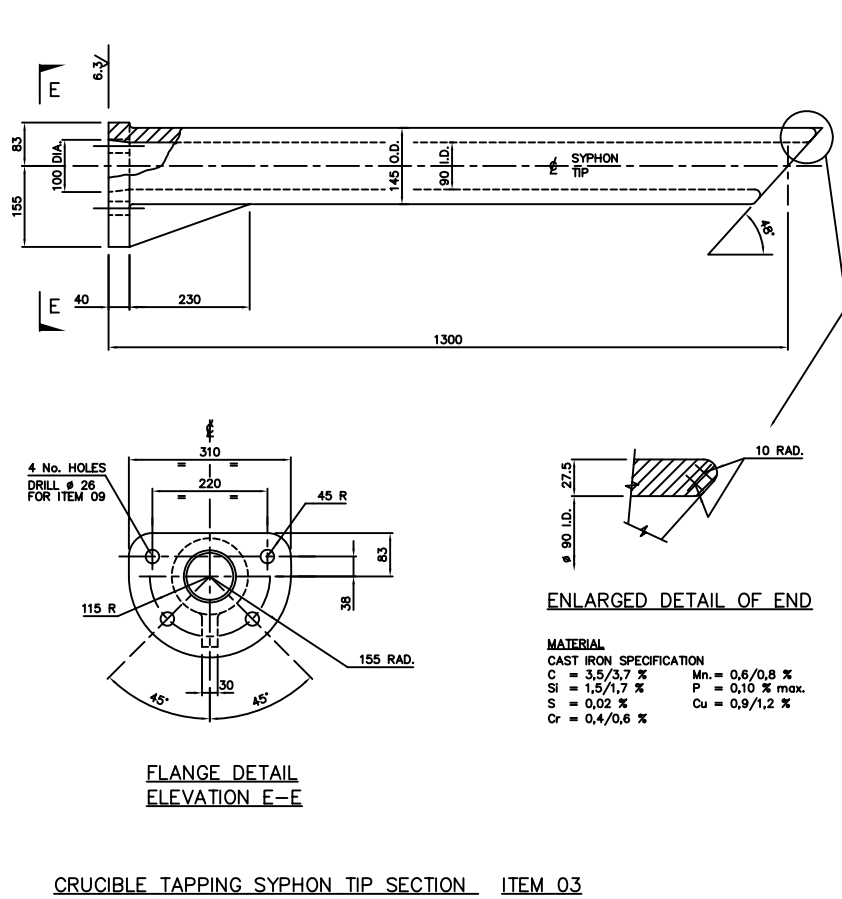
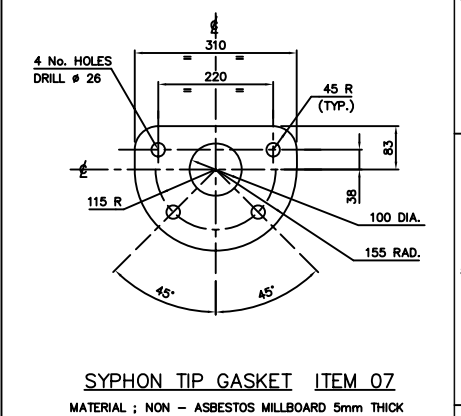
DO NOT SCALE — IF IN DOUBT, ASK			
BILL OF MATERIAL			
ITEM No.	QTY. UNITS REQ'D	COL. B QUANTITY OR USE A	DESCRIPTION
			DRIVING PURCHASE OR STOCK No.
			7.5 TONNE CAPACITY CRUCIBLE
01	1		CI TAPPING SYPHON INTERNAL SECTION FOR MATL SPEC SEE DETAILS
02	1		CI TAPPING SYPHON INTERMEDIATE SECTION FOR MATL SPEC SEE DETAILS
03	1		CI TAPPING SYPHON TIP SECTION FOR MATL SPEC SEE DETAILS
04	1		CI POURING SPOUT FOR MATL SPEC SEE DETAILS
05	1		GASKET INTERNAL SYPHON 5mm THK NON-ASBESTOS MILBOARD
06	1		GASKET INTERMEDIATE SYPHON 5mm THK NON-ASBESTOS MILBOARD
07	1		GASKET SYPHON TIP 5mm THK NON-ASBESTOS MILBOARD
08	1		GASKET POURING SPOUT 12mm THK FIBRE SEAL FELT (RED) PYROTEK 0-1°C LOW TEMP
09	4		M24 x 3 x 120 LG. HEX HD BOLT C/W NUT & WASHER Gr. 4.6
10	4		M24 x 3 x 180 LG. HEX HD BOLT C/W NUT & WASHER Gr. 4.6

NOTES

1. ALL ROUGH EDGES & CORNERS TO BE REMOVED.
2. TOLERANCES: LINEAR $\pm 1.5\text{mm}$, ANGULAR $\pm 1.0^\circ$.
3. DESIGNATED SURFACE FINISHES MAY BE ACHIEVED BY USE OF A COVER CORE.
4. ALL UNSPECIFIED RADII TO BE 10mm.
5. WHERE SURFACES ARE TO BE MACHINED DIMENSIONS ON THIS DRAWING ARE AFTER MACHINING.

REFERENCE DRAWINGS

GENERAL ASSEMBLY OF 7.5 TONNE CRUCIBLE - 010735 / 5074.



1	3.03.03.	ISSUED FOR CONSTRUCTION.	E-NC F-NC G-NC H-NC I-NC J-NC K-NC L-NC M-NC N-NC O-NC P-NC Q-NC R-NC S-NC T-NC U-NC V-NC W-NC X-NC Y-NC Z-NC
0	02.12.02	ISSUED FOR TENDER	F-NC G-NC H-NC I-NC J-NC K-NC L-NC M-NC N-NC O-NC P-NC Q-NC R-NC S-NC T-NC U-NC V-NC W-NC X-NC Y-NC Z-NC
A	14.11.02	ISSUED FOR COMMENT/REVIEW.	F-NC G-NC H-NC I-NC J-NC K-NC L-NC M-NC N-NC O-NC P-NC Q-NC R-NC S-NC T-NC U-NC V-NC W-NC X-NC Y-NC Z-NC
REV	DATE	DESCRIPTION	BY APPROVED
K HOME ENGINEERING LTD Allensway Thornaby Cleveland Phone 01642 785421 Fax 01642 7860721 TS17 9HA			
K.H.E. ACAD REF: 07355080.DWG			
KESTREL PROJECT			
Dubai Aluminium Co. Ltd.			دوبال
SCALE : 1:1, 1:2		TITLE	
DRAWN BY	DATE	AREA 5000 7.5 TONNE CAPACITY CRUCIBLE POURING SPOUT, TAPPING SYPHON & GASKET DETAILS.	
T.MCDONNELL	10.04.02		
CHECKED BY	DATE		
J.R.THOMPSON	18.11.02		
APPROVED BY	DATE		
D.PEARSON	19.11.02		
M.CHATTERTON	19.11.02		
DUBAL DRG.SCH.No.		DRG. No.	REV
		010735 / 5080	1