

# Technical Specifications

**00010 M5651016002**

**Material PO Text (Long Desc / Tech. Spec.)**

JETTING NOZZLES (EJN1 & EJN2), PART NO. 16 & 17, FOR BOTTOM ASH HOPPER( Dwg No 0360-162-PVM-B-048 )

**00020 M5657176007**

**Material PO Text (Long Desc / Tech. Spec.)**

SHAFT SLEEVE for MELCO Make CLINKER GRINDER ASSY: Part No:-07 : (Drg No:- 576-40/071-01, NTPC DRG NO. 0360-162-PVM-E-073-02)

**00040 M5657176022**

**Material PO Text (Long Desc / Tech. Spec.)**

CG DRIVE & NONDRIVE ROLLER ASSEMBLY, Roll- Mn Steel, (ASTM 128, MN-12-14 %, CASTING SHOP HARDENED TO 300 BHN AND WORK HARDENED TO 400 BHN AT SITE) , Shaft EN-8, NTPC DRG NO. 0360-162-PVM-E-073, SET CONSIST:  
CLINKER GRINDER roll(pt. no. 1)with drive and driven shaft(pt. No. 5 & 6 with fitted shaft sleeve( Pt. No. 7) as per drg 0360-162-pvm-e-073

**00070 M5651016009**

**Material PO Text (Long Desc / Tech. Spec.)**

INSPECTION WINDOW ASSEMBLY, AS PER NTPC DRG NO 360-162-PVM-B-048

**00130 M5651016026**

**Material PO Text (Long Desc / Tech. Spec.)**

WINDOW SPRAY NOZZLE ASSLY FOR BAH, NTPC DRG NO 360-162-PVM-B-048

**Signature & Stamp:**

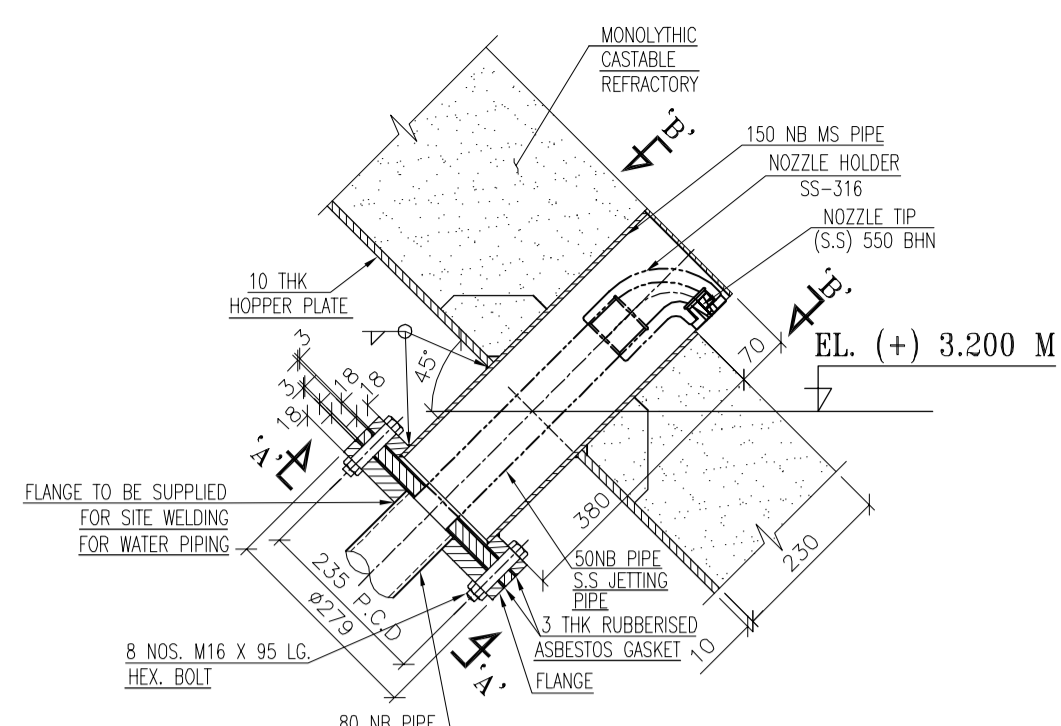
**Name of Supplier/Company:**

**GSTIN of Supplier/Company:**

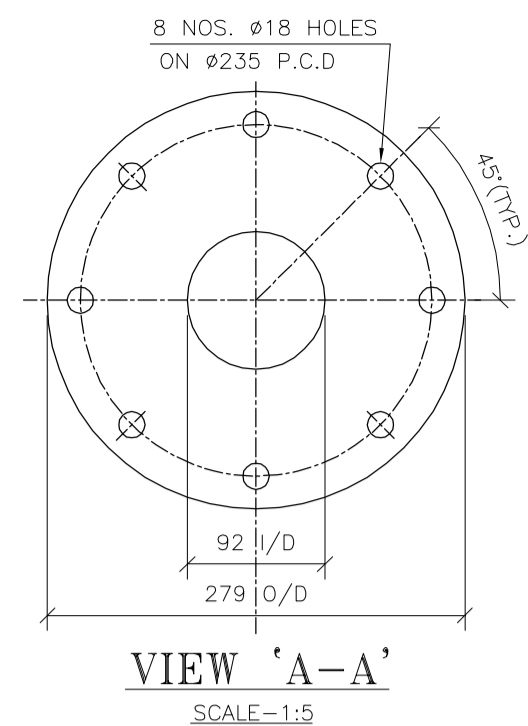
**Authorised person's name:**

**Authorised person's email id:**

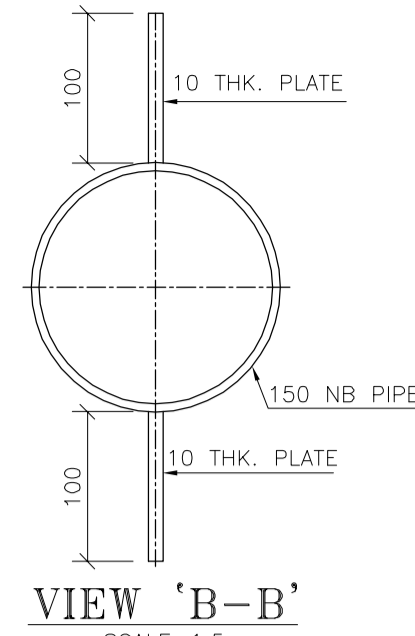
**Authorised person's Mob. No.:**



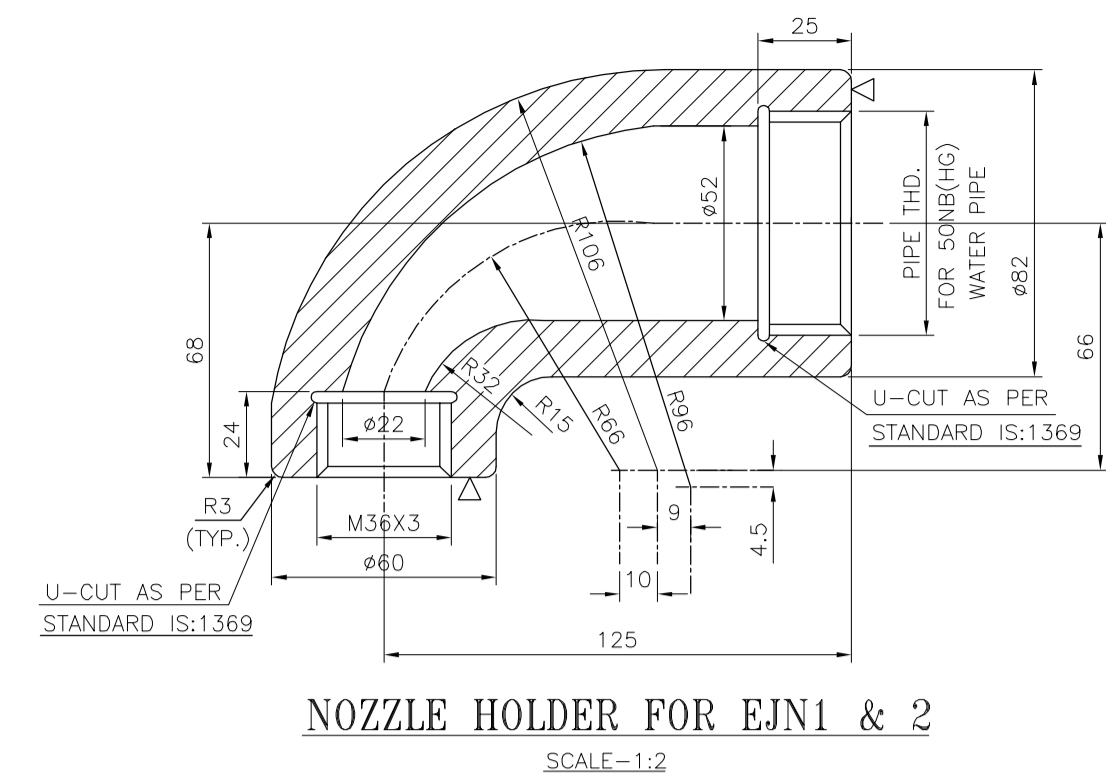
**MOUNTING DETAIL OF JETTING NOZZLE**  
**150NB PIPE SLEEVE (EJN1 & 2)**  
 REQUIRED QTY:- EJN1=8 & EJN2=16 Nos./HOPPER  
 SCALE-1:10 [PART NO. 16 & 17]



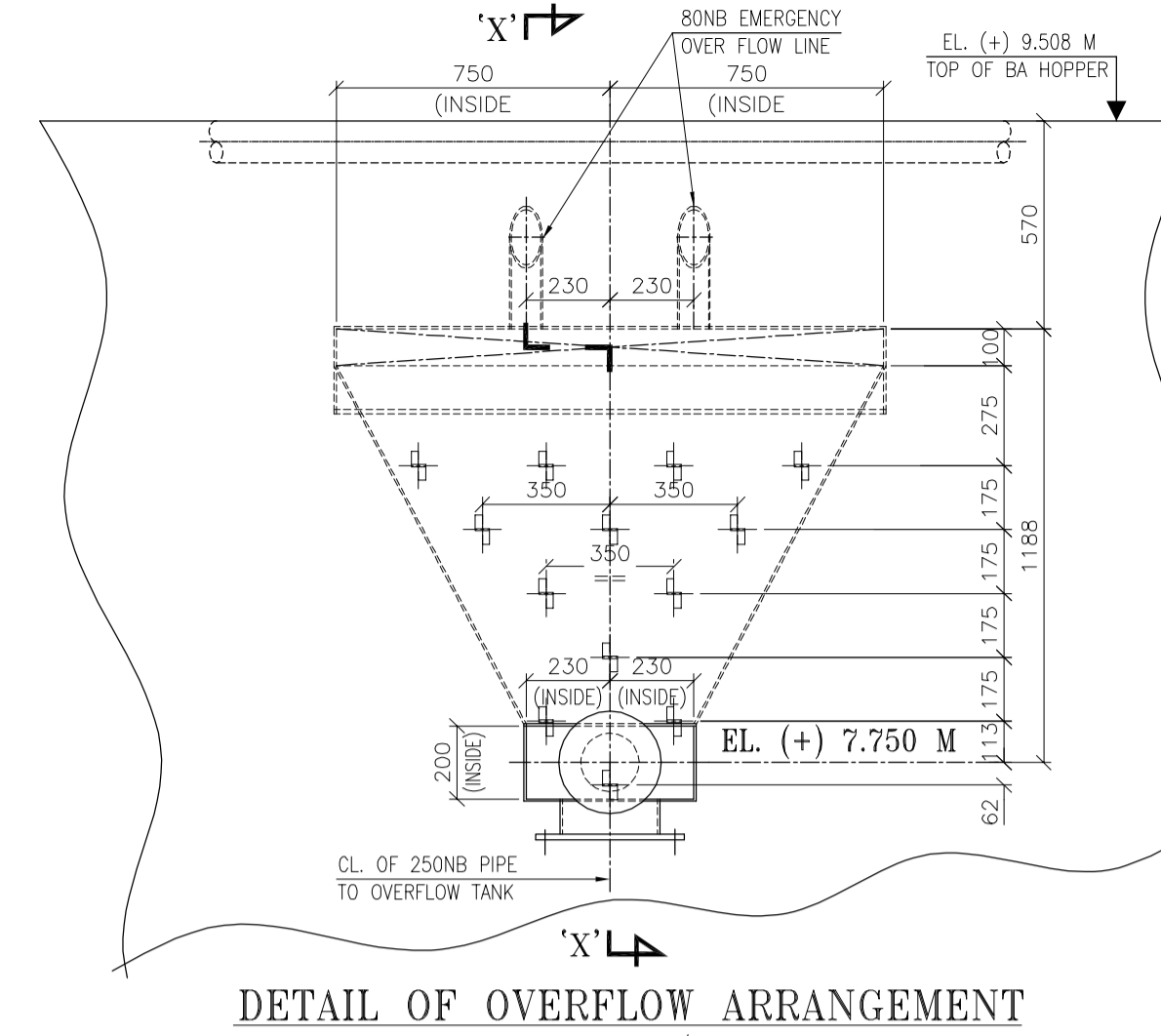
**VIEW 'A-A'**  
 SCALE-1:5



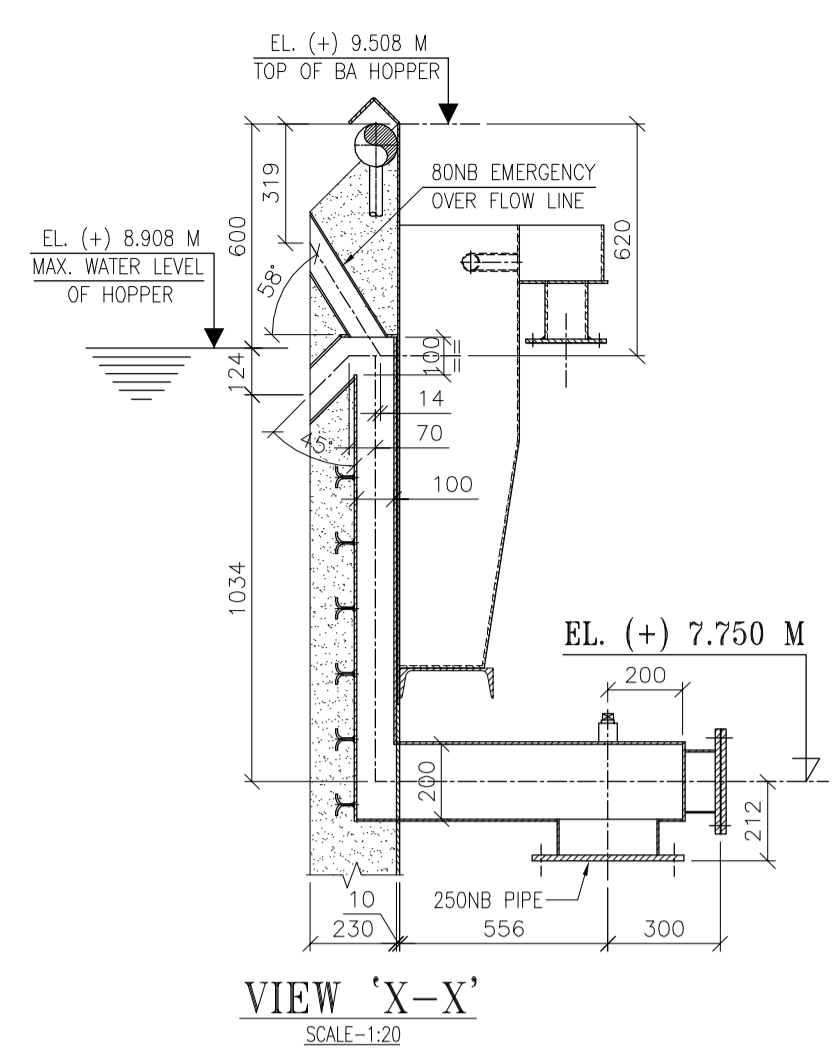
**VIEW 'B-B'**  
 SCALE-1:5



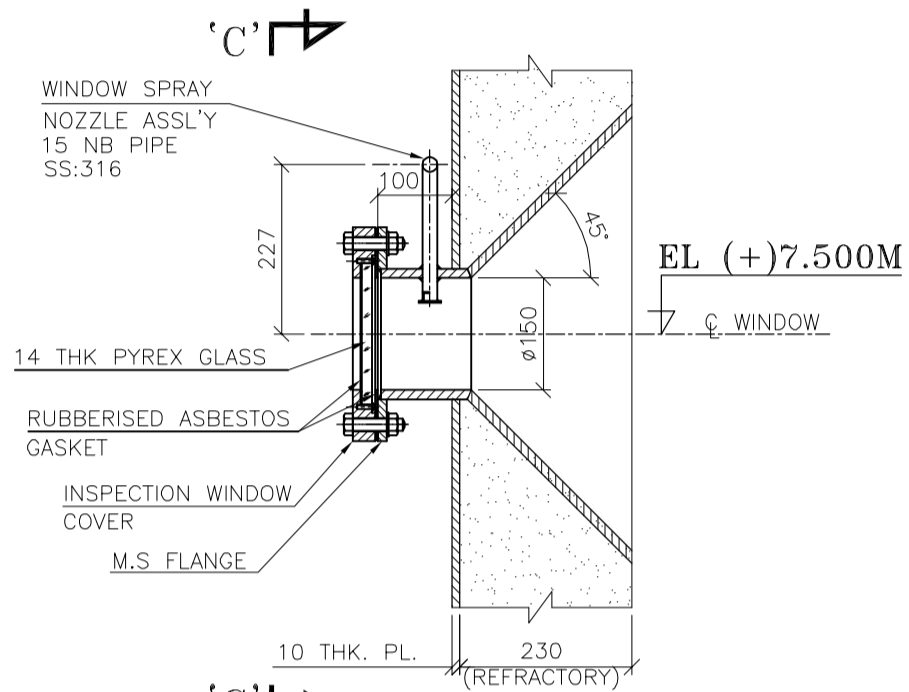
**NOZZLE HOLDER FOR EJN1 & 2**  
 SCALE-1:2



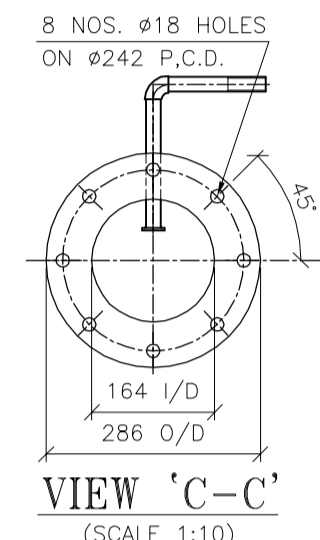
**DETAIL OF OVERFLOW ARRANGEMENT**  
 REQUIRED QTY:- 3 Nos./HOPPER  
 SCALE-1:20 [PART NO. 8]



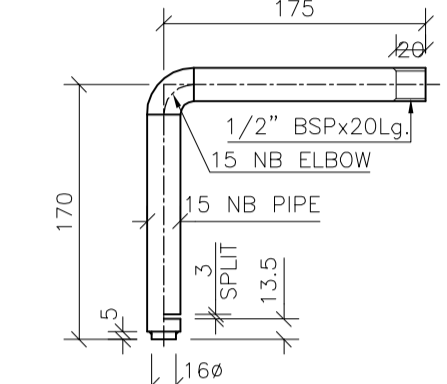
**VIEW 'X-X'**  
 SCALE-1:20



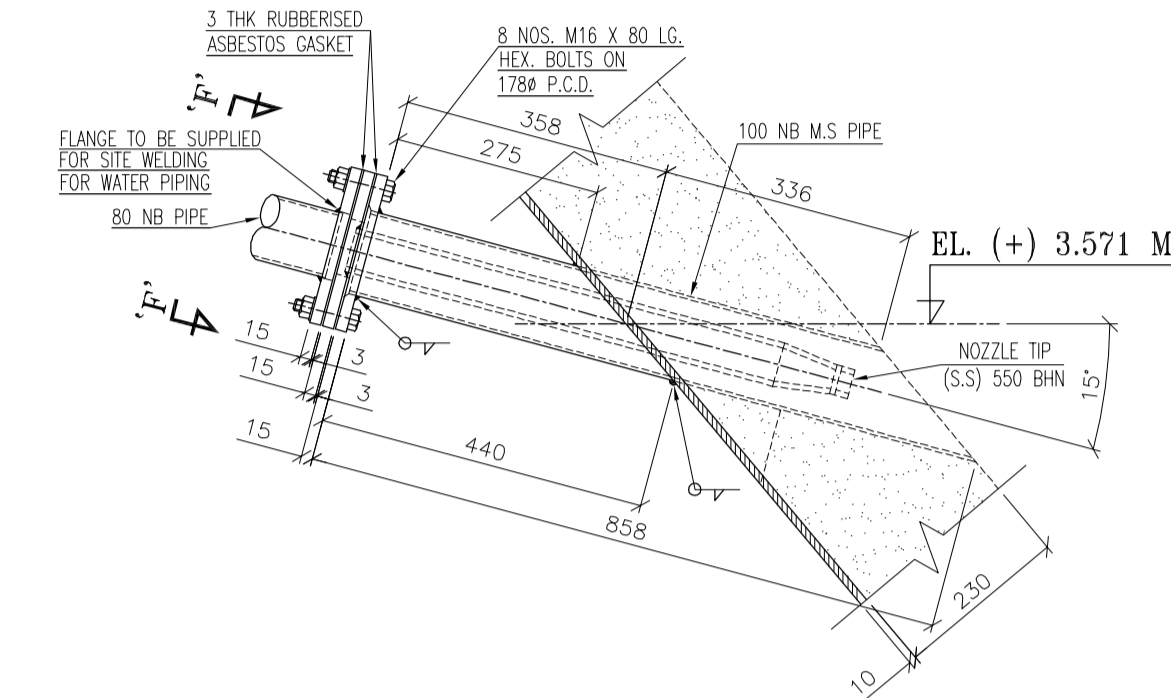
**INSPECTION WINDOW ASSEMBLY**  
 REQUIRED QTY:- 8 Nos./HOPPER  
 SCALE-1:10 [PART NO. 14]



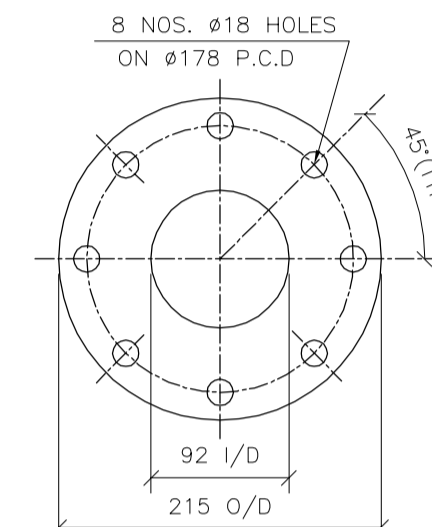
**VIEW 'C-C'**  
 SCALE-1:10



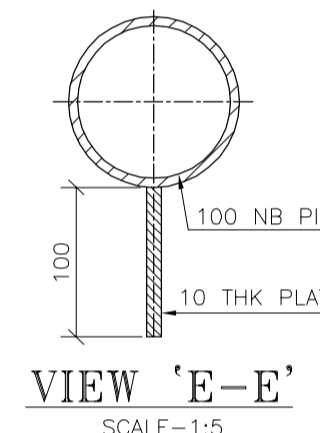
**DETAIL OF WINDOW SPRAY NOZZLE**  
 (MATERIAL:- SS-316)  
 SCALE-1:5



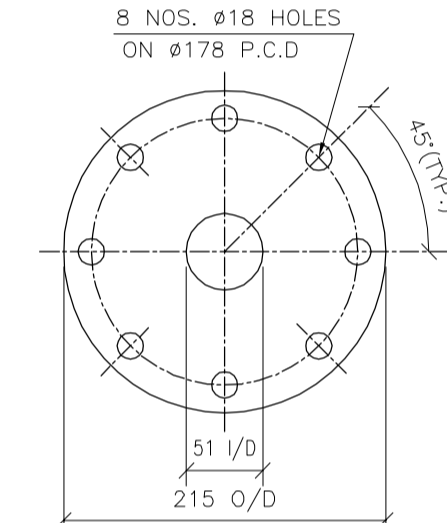
**MOUNTING DETAIL OF FEED GATE NOZZLE**  
**100NB PIPE SLEEVE (FGN1)**  
 REQUIRED QTY:- FGN-2nos/Gate =12 Nos./HOPPER  
 SCALE-1:10 [PART NO. 19]



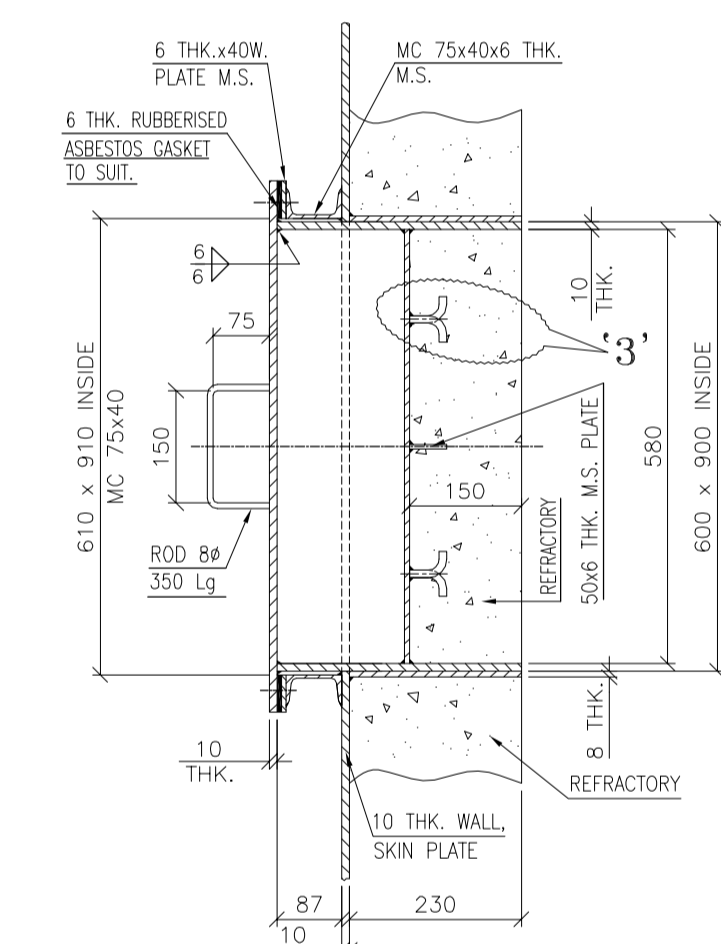
**VIEW 'F-F'**  
 SCALE-1:5



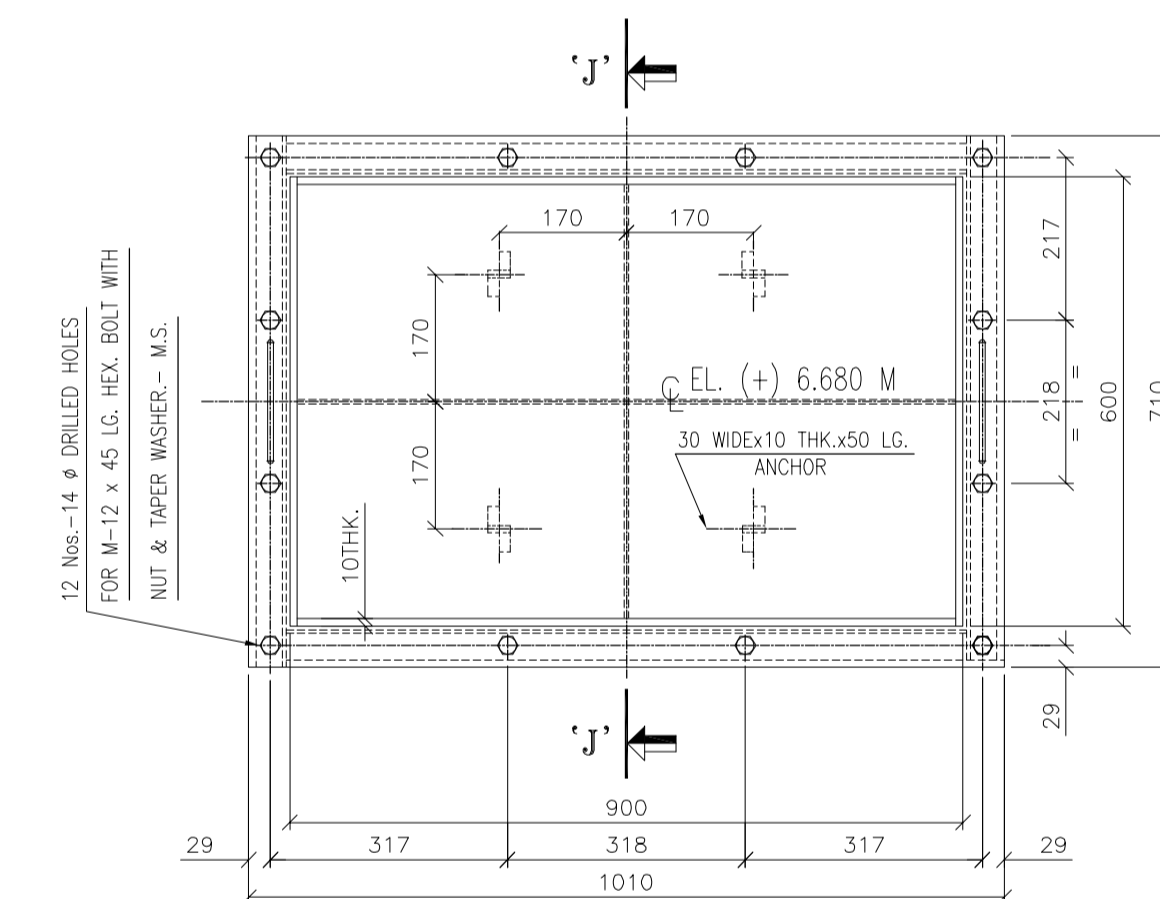
**VIEW 'E-E'**  
 SCALE-1:5



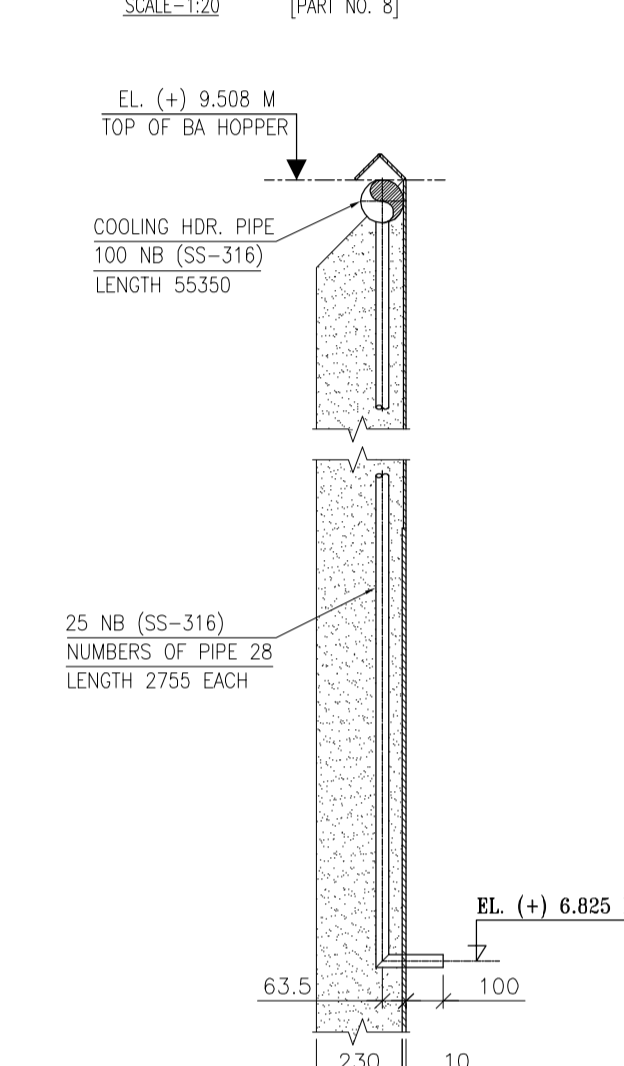
**VIEW 'D-D'**  
 SCALE-1:5



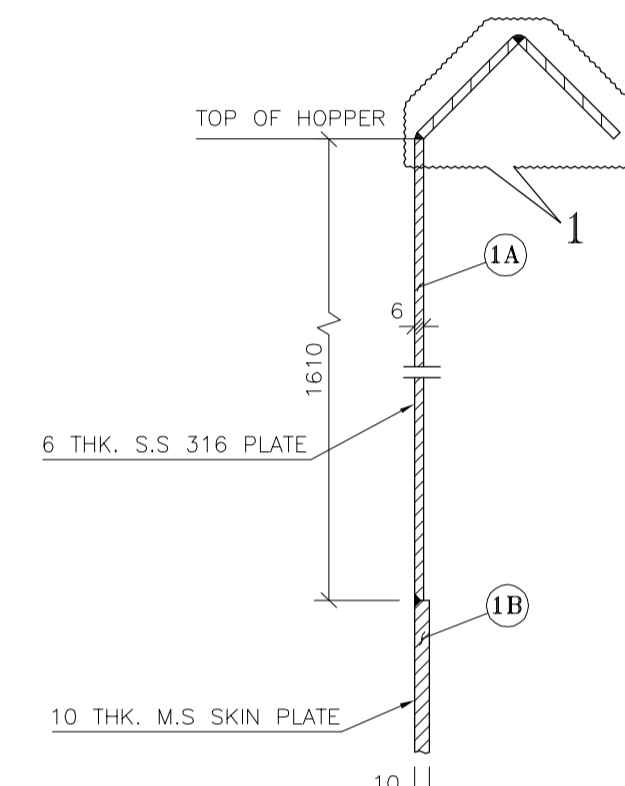
**SECTION 'J-J'**  
 SCALE-1:10



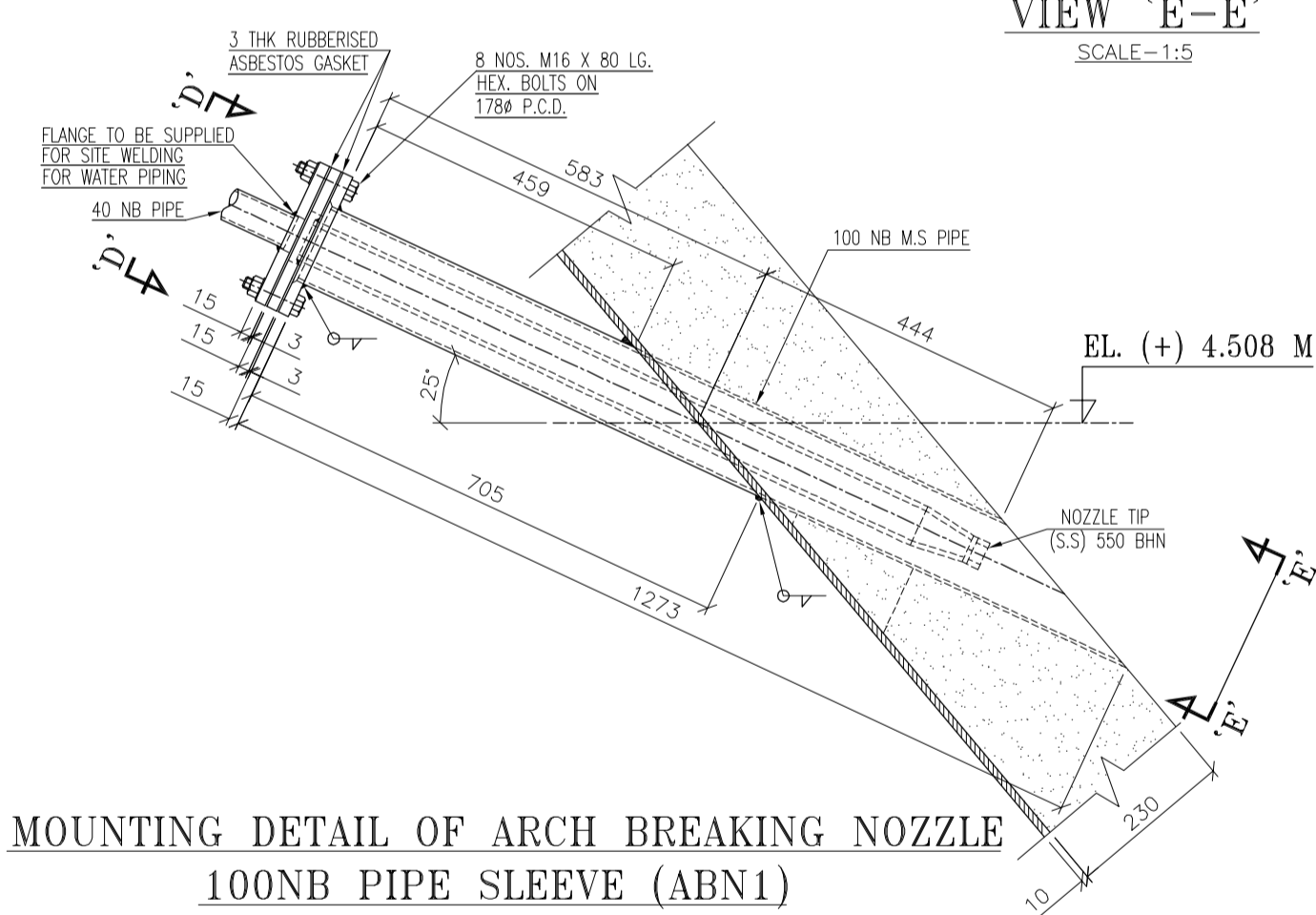
**ELEVATION**  
**ACCESS DOOR, [QTY. 3 NOS/HOPPER], (P.NO. 21)**  
 SCALE-1:10



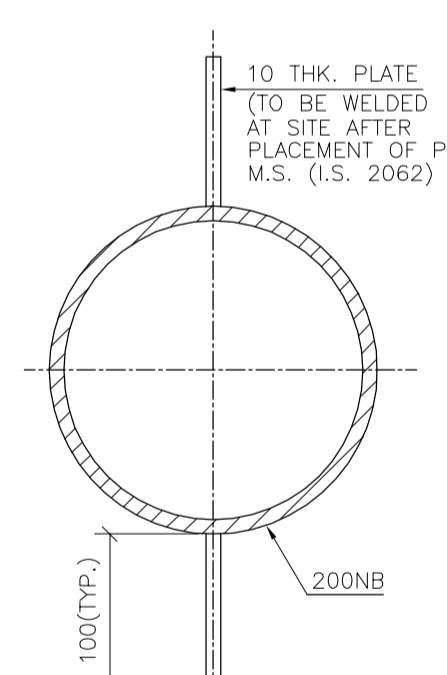
**REFRACTORY COOLING PIPE**  
 SCALE-1:20 [PART NO. 11]



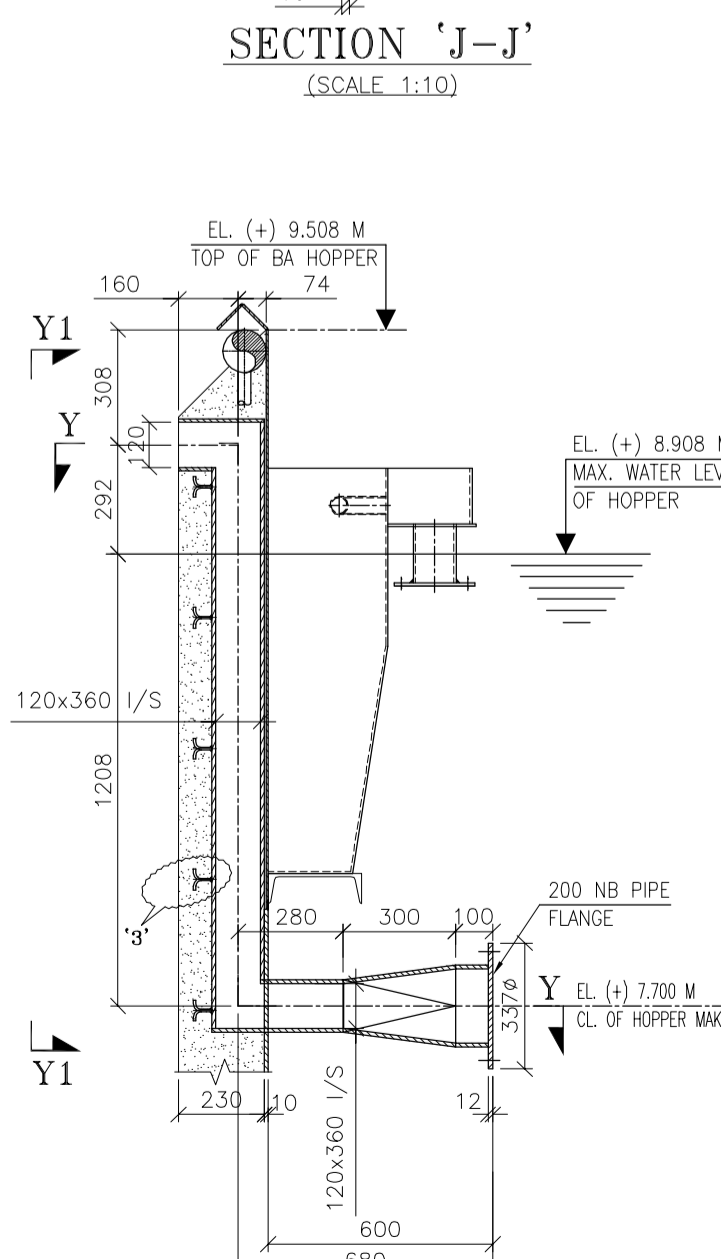
**ENLARGED DETAIL OF HOPPER PLATE SECTION**  
 SCALE-1:5



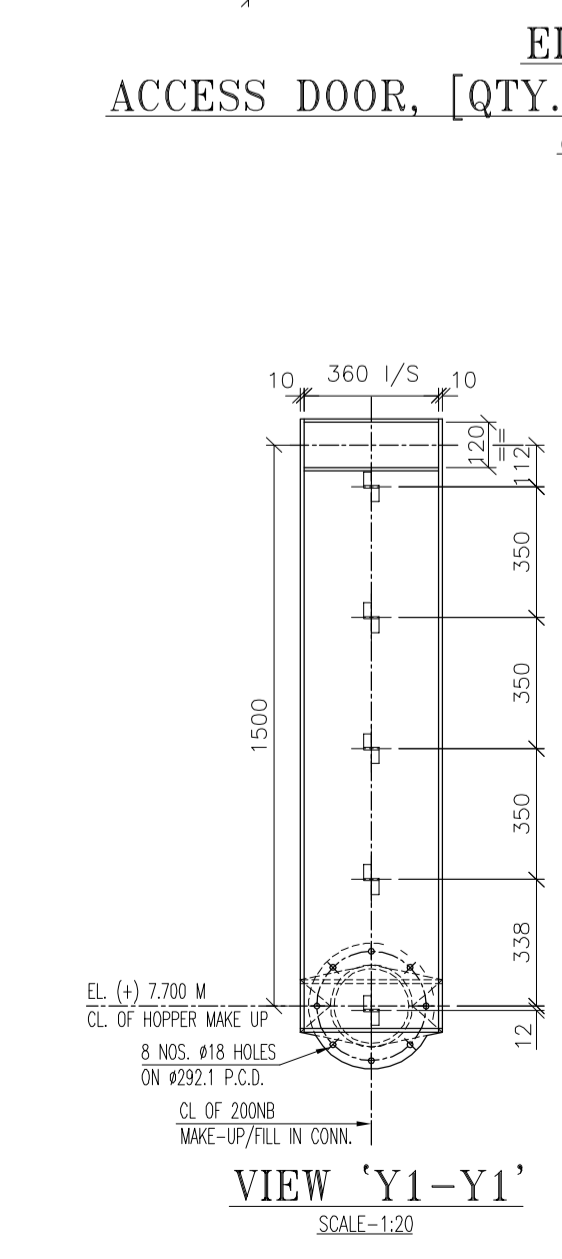
**MOUNTING DETAIL OF ARCH BREAKING NOZZLE**  
**100NB PIPE SLEEVE (ABN1)**  
 REQUIRED QTY:- ABN1=24/HOPPER  
 SCALE-1:10 [PART NO. 18]



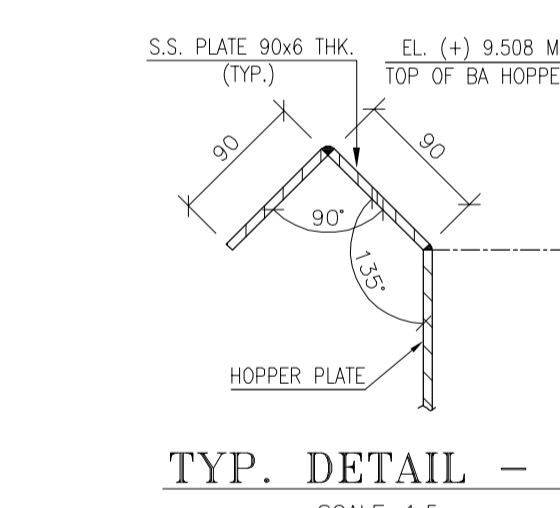
**VIEW 'H-H'**  
 (SHOWS PIPE SLEEVE STIFFENER)  
 SCALE-1:5



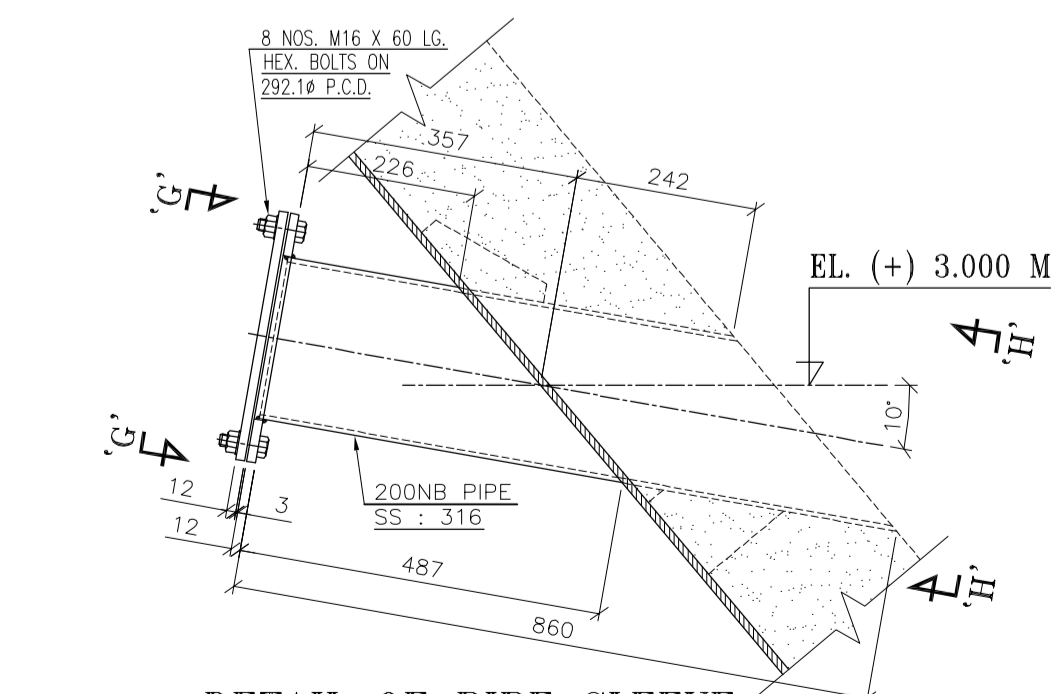
**HOPPER MAKEUP CONNECTION.[MS]**  
 REQUIRED QTY:- 3 Nos./HOPPER  
 SCALE-1:20 [PART NO. 9]



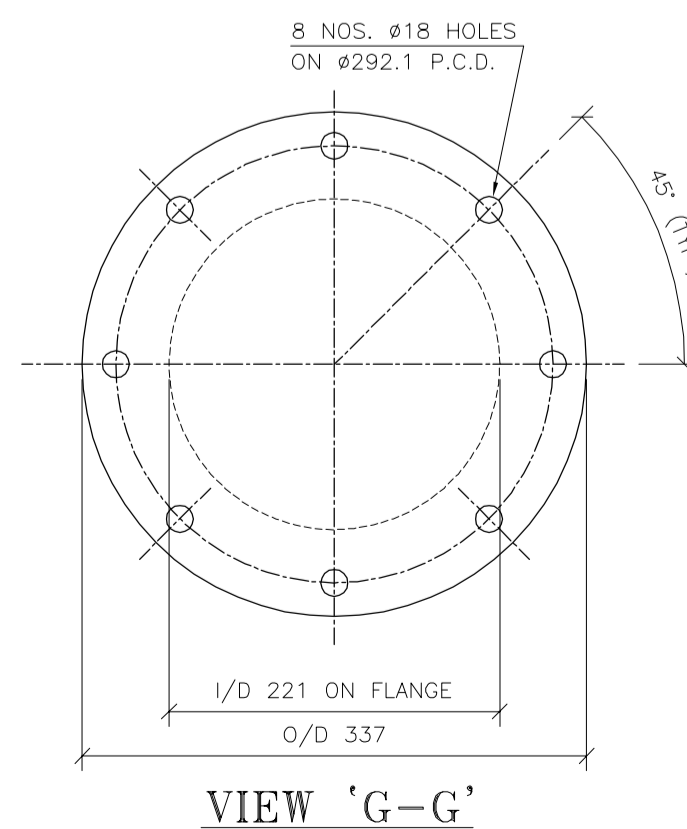
**ANCHOR DETAILS - '3'**  
 (FOR ACCESS DOOR, MAKE UP & OVERFLOW BOX)  
 (TOTAL NO:-66/HOPPER)  
 SCALE-1:5



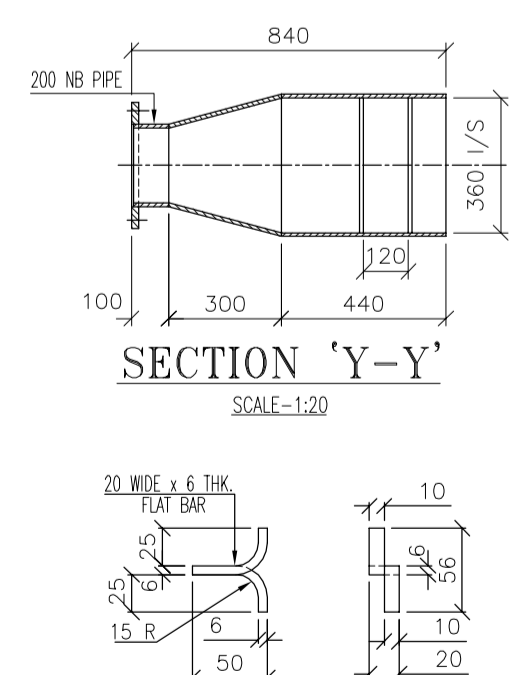
**TYP. DETAIL - 1**  
 SCALE-1:5



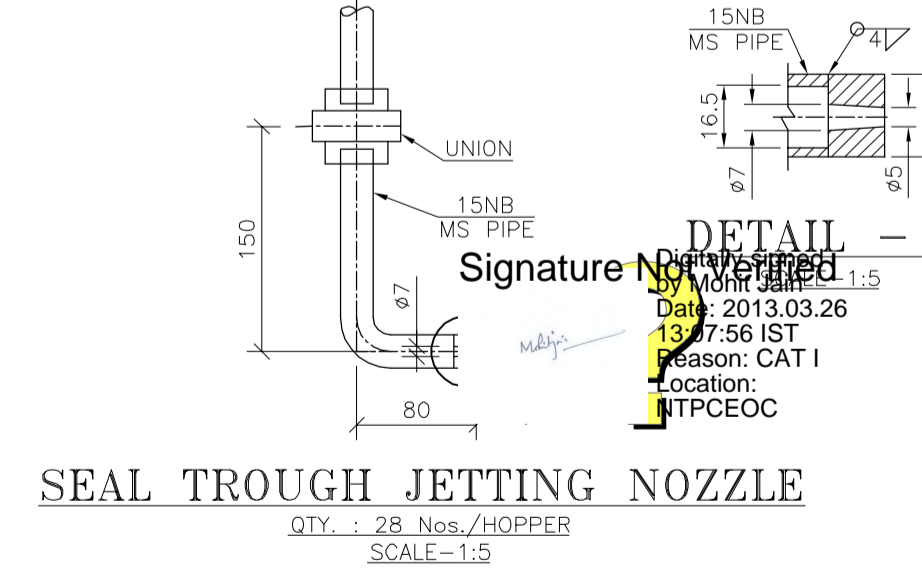
**DETAIL OF PIPE SLEEVE FOR POKE HOLE (PH)**  
 REQUIRED QTY:- 6 Nos./HOPPER  
 SCALE-1:10 [PART NO. 12]



**VIEW 'G-G'**  
 SCALE-1:5



**SECTION 'Y-Y'**  
 SCALE-1:20



**SEAL TROUGH JETTING NOZZLE**  
 QTY:- 28 Nos./HOPPER  
 SCALE-1:5

- NOTES:**
- ALL DIMENSIONS ARE IN MM AND ELEVATION IN METERS UNLESS OTHERWISE STATED.
  - EL(+).0.0M OF CORRESPONDS TO RL 113.0M

- REF. DRG. NO:-**
- GA OF BOTTOM ASH HOPPER (PLAN)
  - TSL DRG. NO. 576-06-01(SH-1 OF 5) NTPC DRG. NO. 0360-162-PVM-B-043
  - GA OF BOTTOM ASH HOPPER (BOTTOM PLAN)
  - TSL DRG. NO. 576-06-01(SH-2 OF 5) NTPC DRG. NO. 0360-162-PVM-B-043
  - GA OF BOTTOM ASH HOPPER (ELEVATION)
  - TSL DRG. NO. 576-06-01(SH-3 OF 5) NTPC DRG. NO. 0360-162-PVM-B-043
  - GA OF BOTTOM ASH HOPPER (SIDE VIEW)
  - TSL DRG. NO. 576-06-01(SH-4 OF 5) NTPC DRG. NO. 0360-162-PVM-B-043

CLIENT: **MEJA URJA NIGAM PVT. LTD.**  
 (A JOINT VENTURE COMPANY B/W NTPC LTD. & GOVT. OF UP/UPRVUNL)

PROJECT: **MEJA TPP, STAGE-I**  
 (2 X 660MW)

NOA NO. : **MUNPL/C&M/CONTRACTS/12-13/TC-NOA-0061 DTD 26.07.2012**

NTPC. DRG. NO. : **0360-162-PVM-B-048** [R1]

**TECPRO SYSTEMS LTD.**  
 (ASSTECH DIVISION)  
 KOLKATA PUNE

TITLE: **BOTTOM ASH HOPPER ACCESSORIES DETAIL**

DRAWN	Sanjay	CHKD.	GS	SCALE-	1:2.5,10,20
PROJENGR.	GS	DEPT.HEAD	DD	DATE	29.12.12
DRG.NO.	576-06-06	PLOT SCALE		JOB NO.	576
				COMP.FILE:	REV. NO.
				576-06-06	1

REV. NO.	DATE	DRN.	CHKD.	DESCRIPTION
R1	08.02.13	Sanjay	GS	REVISED AS PER NTPC'S COMMENTS DATED 29.01.13



**MEJA TPP (2 x 660 MW)**

Clarification/confirmation against submission of  
TSL drawing no.: 576-06-06, Rev. 1  
NTPC drawing No: 0360-162-PVM-B-048, Rev. 1

*TSL Submission / Clarification / confirmation against respective NTPC comments.*

**BOTTOM ASH HOPPER ACCESSORIES DETAILS**

**(NTPC DOCUMENT NUMBER: 0360-162-PVM-B-048, REV.-1)**

<b>SL NO</b>	<b>NTPC COMMENTS</b>	<b>TSL CLARIFICATION</b>
	<b><u>Comments on the Document</u></b>	
1.	As commented on GA of BA hopper=750	We have provided 900X600 access door as per contract spec. Part-B sub-section –III A-02, cl. no. 3.14.00.
2.	Mark elevation	Centerline elevation of the access door is already there in the drawing from rev.0 stage of the drawing.
3.	Check (EL.)	Checked & found in order.





**MEJA TPP (2 x 660 MW)**

**Clarification/confirmation against submission of  
TSL drawing no.: 576-40/071-01, Rev. 2  
NTPC drawing No: 0360-162-PVM-E-073, Rev. 2**


*TSL Submission / Clarification / confirmation against respective NTPC comments.*

**GENERAL ARRANGEMENT OF CLINKER GRINDER**

**(NTPC DOCUMENT NUMBER: 0360-162-PVM-E-073, REV.2)**

<b>SL NO</b>	<b>NTPC COMMENTS</b>	<b>TSL CLARIFICATION</b>
1.	Revise capacity considering eco ash as commented earlier.	Capacity revised as per Jet Pump sizing calculation considering eco ash.

QP approved for  
VSTPP IV AHP



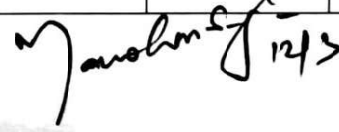
ENDORSEMENT SHEET FOR QP			
REFERENCE / STANDARD / FIELD QUALITY PLAN (RQP / <del>SQP</del> / RFQP / SFQP)			
TO BE FILLED IN BY SUPPLIER AT TIME OF SUBMISSION			To be filled in by NTPC
PROJECT NAME	MEJA THERMAL POWER PROJECT (2X660 MW)	<b>REVIEW &amp; ENDORSEMENT BY NTPC PROJECT SPECIFIC QP NUMBER ALLOTTED</b> QP NO.: 0360-162-QVM-Q-902  REV. NO.: 00    DATE: 14.02.2013 ** The RQP once endorsed for a particular contract shall remain valid even though the original QP may have expired or revised, unless / otherwise mutually agreed with the supplier. ① (TICK APPLICABLE) The QP is endorsed for this project without any change  The QP is endorsed for this project with changes as indicated.  <u>DISTRIBUTION OF ENDORSEMENT OF</u> A) RQP/SQP: 1. MAIN SUPPLIER (WITH A COPY OF QP) 2. MANUFACTURER 3. RIO 4. CQA-SPL 5. CQA-O/C  B) RFQP/SFQP: 1. MAIN SUPPLIER (with a copy of QP) 2. MANUFACTURER 3. NTPC FQA (with a copy of QP) 4. NTPC Erection (with a copy of QP) 5. CQA-SPL 6. CQA-O/C	
LOA NO.:	MUNPL/C&M/CONTRACTS/12-13/SC-COA-0060		
MAIN SUPPLIER	M/S. TECPRO SYSTEMS LIMITED (ASHTECH DIVISION)		
MANUFACTURER WORKS & ADDRESS	M/S. TECPRO SYSTEMS LIMITED (ASHTECH DIVISION), BHIWADI		
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE / SIZE /RATING etc.	ACCESSORIES FOR BOTTOM ASH HOPPER		
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	2250-162-QVM-Q-002 REV.00	Apprd	DT. 19.02.2010
<b>Confirmation by Main Supplier (TICK WHICHEVER APPLICABLE)</b>			
I. That the item/ component is identical to that considered for QP approval. OR.			
II. That there are minor changes in the item/ component with respect to that considered for QP approval, however the same do not affect the contents of QP. OR			
III. That there are minor changes in the item/ component with respect to that considered for QP approval, however the same affect the QP slightly, as indicated below / in attached sheet.			
<p style="text-align: center;">Signature Not Verified By Mohit Jaiswal Date: 2013/03/04 16:47:15 IST Reason: CMT 1 Location: NTPCEOC</p>			
TECPRO SYSTEMS LIMITED (ASHTECH DIV) SIGN.: (Main Supplier)    DATE: 14.02.2013		NTPC (Reviewed / Approved by/ Date & Seal)	




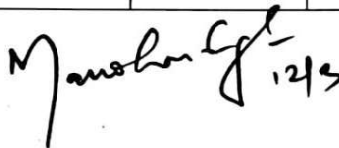
FORMAT NO.: QS-01-QAI-P-10/ F5-R1

1/1

ENGG. DIV./ QA&I

*Manshu Singh*  
12/3

Sr. No.	COMPONENT / OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QNTM. OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M / C	N			D	M	C	N		
<b>I RAW MATERIAL</b>														
1.1	PLATES & STRUCTURALS FOR	Dimensional Conformity Chemical Mechanical	MA MA MA	Measurement Chemical Mechanical	100% 1/Lot 1/Lot	-- -- --	Approved / Manufacturing Drawing / IS 2062	Approved / Manufacturing Drawing / IS 2062	-- Lab TC/* Lab TC/*	-- √ √	P P P	-- V V	-- V V	*MFG. TC
1.2	CI CASTINGS	Surface Defects Dimensional Conformity Mechanical Hardness	MA MA MA MA	Visual Measurement Tensile Hardness	100% 100% 1/Heat 1/Heat	-- -- -- --	Approved / Manufacturing Drawing / IS 210 FG 260	Approved / Manufacturing Drawing / IS 210 FG 260	-- -- Lab TC/* IR	-- -- √ √	P P P P	-- -- V V	-- -- V V	* Foundry TC
1.3	ALLOY CI CASTINGS	Surface Defects Dimensional Conformity Hardness	MA MA MA	Visual Measurement Mechanical	100% 1/Heat 1/Heat	-- -- --	Approved / Mfg. Drg. / TATL STD.	Approved / Mfg. Drg. / TATL STD.	-- COC IR	-- √ √	P P P	-- V V	-- V V	
1.4	NOZZLE TIPS	Dimensional Chemical Hardness	MA MA MA	Measurement Chemical Hardness	100% 1/Lot 10% R	-- -- --	Approved / Manufacturing Drawing	Approved / Manufacturing Drawing	IR Lab TC IR	-- √ √	P P P	-- V V	-- V V	For Ceramic Lined Nozzles Chemical for Body for Ceramic Hardness TATL COC will be submitted.
<b>II INPROCESS INSPECTION</b>														
2.1	Machining of components, Castings	Surface defects Dimensional Conformity	MA MA	Visual Measurement	100% 100%	-- --	Manufacturing Drawing	Manufacturing Drawing	-- --	-- --	P P	-- --	-- --	
2.2	Welder Qualification	PQR, WPQ, WPS	CR	Qualification	100%	Verify	Approved WPS & ASME SEC IX	ASME SEC IX	WPS, PQR, WPQ	√	P	W	W	Refer Note 2
2.3	Fabricated Components - Marking, Cutting, Edge preparation, Tacking	Surface defects Dimensional Conformity	MA MA	Visual Measurement	100% 100%	-- --	Manufacturing Drawing	Manufacturing Drawing	-- --	-- --	P P	-- --	-- --	
2.4	Welding	Visual DPT on Root Run of Butt DPT on final weld of Butt weld & Fillet Weld	MA MA MA	Visual DP test DP test	100% 100% 10% R	-- -- --	Manufacturing Drawing/ ASTM E 165	Mfg. Drawing/ No significant defects	IR IR IR	√ √ √	P P P	V V V	V V V	
<div style="display: flex; justify-content: space-between;"> <div style="width: 20%;">  <p>TATL SIGNATURE</p> </div> <div style="width: 50%;"> <p><b>LEGEND:</b> *RECORDS IDENTIFIED WITH "√" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. ** M : MANUFACTURER / SUB-SUPPLIER C. MAIN SUPPLIER, N: NTPC INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION AS APPROPRIATE. "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"</p> </div> <div style="width: 20%; text-align: center;">  <p>FOR NTPC USE</p> </div> </div>														
DOC No: 2250-162-QVM-Q-002 R0														
REVIEWED BY:  12/3 APPROVED BY: _____ APPROVAL SEAL: _____														




	<b>MANUFACTURERS NAME &amp; ADDRESS</b>			<b>MANUFACTURING QUALITY PLAN</b>			PROJECT: VINDHYACHAL SUPER THERMAL POWER PROJECT - STAGE IV (2X500 MW)							
	TECPRO ASHTECH LIMITED, PLOT NO. A-98, RICCO IND. AREA, BHIWADI, ALWAR - 301 019 RAJASTHAN			ITEM:	ACCESSORIES FOR BOTTOM ASH HOPPER			CUSTOMER : NTPC LTD.						
				QAP No.	2250-162-QVM-Q-002			PACKAGE : ASH HANDLING SYSTEM						
				REV. No.	00			LOA NO: CS-2250-162-2-FC-NOA-5423 Dtd: 19.11.2009						
DATE				19.01.2010			MAIN SUPPLIER: TECPRO ASHTECH LIMITED							
Sr. No. 1.	COMPONENT / OPERATION 2.	CHARACTERISTICS 3.	CLASS 4.	TYPE OF CHECK 5.	QNTM. OF CHECK 6.		REFERENCE DOCUMENT 7.	ACCEPTANCE NORMS 8.	FORMAT OF RECORD 9.		AGENCY 10.			REMARKS 11.
					M	C / N				D	M	C	N	
2.5	Assembly of Components	Dimensional Conformity	MA	Measurement	100%	--	Manufacturing Drawing	Manufacturing Drawing	--	-	P	-	-	
<b>III FINAL INSPECTION</b>														
3.1	ACCESSORIES FOR BAH	Completeness Dimensional	MA MA	Visual Measurement	100% 100%	-- --	Approved Drawing	Approved Drawing	IR IR	√ √	P P	V V	V V	MDCC on The Basis of Review of TATL IR.
3.2	Review of QA DOC									√	V		V	
<b>Notes:</b> 1. All materials shall be as per approved drawing. 2. NTPC approved WPS. Welders Qualified by NTPC to be deployed. If welders are already qualified by NTPC/BHEL/DVCL/LOYD/TATL then Welder qualification records shall be verified in place of witness.														
 TATL SIGNATURE		<b>LEGEND:</b> *RECORDS IDENTIFIED WITH "√" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. ** M : MANUFACTURER / SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION AS APPROPRIATE. "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"					 FOR NTPC USE		DOC No: 2250-162-QVM-Q-002 R0					
							REVIEWED BY	APPROVED BY	APPROVAL SEAL					
														

QP approved for  
VSTPP-IV AHP

ENDORSEMENT SHEET FOR QP		
REFERENCE / STANDARD / FIELD QUALITY PLAN (RQP / SQP/RFQP/SFQP)		
TO BE FILLED IN BY SUPPLIER AT TIME OF SUBMISSION		To be filled in by NTPC
PROJECT NAME	MEJA THERMAL POWER PROJECT (2X660 MW)	<b>REVIEW &amp; ENDORSEMENT BY NTPC PROJECT SPECIFIC QP NUMBER ALLOTTED</b> QP NO.: 0360-162-QVM-Q-906  REV. NO.: 00 DATE: 15.02.2013 ** The RQP once endorsed for a particular contract shall remain valid even though the original QP may have expired or revised, unless / otherwise mutually agreed with the supplier. ①
LOA NO.:	MUNPL/C&M/CONTARCTS/12-13/SC-COA-0060	
MAIN SUPPLIER	M/S. TECPRO SYSTEMS LIMITED (ASHTECH DIVISION)	
MANUFACTURER WORKS & ADDRESS	M/S. TECPRO SYSTEMS LIMITED (ASHTECH DIVISION), BHIWADI	
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE / SIZE /RATING etc.	CLINCKER GRINDER WITHOUT DRIVE UNIT	
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	2250-162-QVM-Q-005 REV.00	Apprd DT. 17.02.2010  Confirmation by Main Supplier (TICK WHICHEVER APPLICABLE) I. That the item/ component is identical to that considered for QP approval. OR. II. That there are minor changes in the item/ component with respect to that considered for QP approval, however the same do not affect the contents of QP. OR III. That there are minor changes in the item/ component with respect to that considered for QP approval, however the same affect the QP slightly, as indicated below / in attached sheet.
Note: Welding not allowed on Castings		(TICK APPLICABLE)  The QP is endorsed for this project without any change  The QP is endorsed for this project with changes as indicated.  <b>DISTRIBUTION OF ENDORSEMENT OF</b> A) RQP/SQP: 1. MAIN SUPPLIER (WITH A COPY OF QP) 2. MANUFACTURER 3. RIO 4. CQA-SPL 5. CQA-O/C  B) RFQP/SFQP: 1. MAIN SUPPLIER (with a copy of QP) 2. MANUFACTURER 3. NTPC FQA (with a copy of QP) Digitally signed by Mohit Jain Date: 2013.03.04 16:47:53 IST Reason: CAT I Location: NTPCEOC
 TECPRO SYSTEMS LIMITED (ASHTECH DIV) SIGN.: (Main Supplier) DATE: 15.02.2013		Signature Not Verified NTPC (Reviewed /Approved by/ Date & Seal)  Manoj Sg - 12/3 ENGG. DIV./ QA&I

FORMAT NO.: QS-01-QAI-P-10/ F5-R1

1/1

Sr. No.	COMPONENT / OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QNTM. OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY		REMARKS																																																																		
					M	N			D	M	C	N																																																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="4" style="text-align: center;">  </td> <td colspan="3">MANUFACTURERS NAME &amp; ADDRESS</td> <td colspan="4">MANUFACTURING QUALITY PLAN</td> <td colspan="6">PROJECT: VINDHYACHAL SUPER THERMAL POWER PROJECT - STAGE IV (2X500 MW)</td> </tr> <tr> <td colspan="3">TECPRO ASHTECH LIMITED, PLOT NO. A-98, RICCO IND. AREA, BHIWADI, ALWAR - 301 019 RAJASTHAN</td> <td>ITEM:</td> <td colspan="3">CLINKER GRINDER WITHOUT DRIVE UNIT</td> <td colspan="6">CUSTOMER : NTPC LTD.</td> </tr> <tr> <td colspan="3"></td> <td>QAP No.</td> <td colspan="3">2250-162-QVM-Q-005</td> <td colspan="6">PACKAGE : ASH HANDLING SYSTEM</td> </tr> <tr> <td colspan="3"></td> <td>REV. No.</td> <td colspan="3">00</td> <td colspan="6">LOA NO: CS-2250-162-2-FC-NOA-5423 Dtd: 19.11.2009</td> </tr> <tr> <td colspan="3"></td> <td>DATE</td> <td colspan="3">19.01.2010</td> <td colspan="6">MAIN SUPPLIER: TECPRO ASHTECH LIMITED</td> </tr> </table>															MANUFACTURERS NAME & ADDRESS			MANUFACTURING QUALITY PLAN				PROJECT: VINDHYACHAL SUPER THERMAL POWER PROJECT - STAGE IV (2X500 MW)						TECPRO ASHTECH LIMITED, PLOT NO. A-98, RICCO IND. AREA, BHIWADI, ALWAR - 301 019 RAJASTHAN			ITEM:	CLINKER GRINDER WITHOUT DRIVE UNIT			CUSTOMER : NTPC LTD.									QAP No.	2250-162-QVM-Q-005			PACKAGE : ASH HANDLING SYSTEM									REV. No.	00			LOA NO: CS-2250-162-2-FC-NOA-5423 Dtd: 19.11.2009									DATE	19.01.2010			MAIN SUPPLIER: TECPRO ASHTECH LIMITED					
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<b>I RAW MATERIAL</b>																																																																															
1.1	PLATES & STRUCTURALS FOR BODY	Dimensional Conformity Chemical Mechanical	MA MA MA	Measurement Chemical Mechanical	100% 1/Lot 1/Lot	-- -- --	Approved / Manufacturing Drawing / IS 226	Approved / Manufacturing Drawing / IS 226	Lab TC / Lab TC /	√ √	P P	- V	- V	* MFG. TC																																																																	
1.2	SHAFT	Dimensional Conformity Chemical Mechanical Internal Defects	MA MA MA MA	Measurement Chemical Mechanical UT>Ø50mm	100% 1/Lot 1/Lot 100%	-- -- -- --	Approved / Mfg. Drg. / BS970 EN8 / ASTM A388 #	Approved / Mfg. Drg. / SS304 / EN8 / ASTM A388 #	Lab TC Lab TC IR	√ √ √	P P P	- V V	- V V	REFER NOTE 2																																																																	
1.3	ROLLS & teeth Manganese Steel Casting (12-14% Mn)	Surface Defects Dimensional Conformity Chemical Hardness Bend test	MA MA MA MA MA	Visual Measurement Chemical Hardness Bend Test	100% 100% 1/Heat 1/Heat 1/Heat	-- -- -- -- --	Approved / Manufacturing Drg. / ASTM A 128	Approved / Manufacturing Drg. / ASTM A 128	Lab TC / IR IR	√ √ √	P P P	- V V	- V V	* Foundry TC																																																																	
1.4	CI CASTINGS Shaft Seal Housing, Drive Gear, Gland Follower	Surface Defects Dimensional Conformity Mechanical Hardness	MA MA MA MA	Visual Measurement Tensile Hardness	100% 100% 1/Heat 10%R	-- -- -- --	Approved / Manufacturing Drawing / IS 210 FG 260	Approved / Manufacturing Drawing / IS 210 FG 260	Lab TC / IR	√ √	P P	- V	- V	* Foundry TC																																																																	
1.5	MN. STEEL CASTINGS (12-14% Mn) Wear Plates	Surface Defects Dimensional Conformity Chemical Bend Test Hardness	MA MA MA MA MA	Visual Measurement Chemical Mechanical Hardness	100% 100% 1/Heat 1/Heat 1/Heat	-- -- -- -- --	Approved / Manufacturing Drg. / IS 276	Approved / Manufacturing Drg. / IS 276	IR Lab TC / Lab TC / IR	√ √ √ √	P P P P	- V V V	- V V V	* Foundry TC																																																																	
1.6	Shaft Sleeve	Dimensional Conformity Chemical Hardness	MA MA MA	Measurement Chemical Hardness	100% 1/Lot 1 / Lot	-- -- --	Approved / Mfg. Drg. / AISI 410	Approved / Mfg. Drg. / AISI 410	Lab TC IR	√ √	P P	- V	- V																																																																		
1.7	Bearings	Make, Model, Type	MA	Verification	100%	--	Approved/ Manufacturing Drg.	Approved/ Manufacturing Drg.	TATL IR	√	P	V	V	Make: SKF / FAG / NTN only.																																																																	
1.8	Roller Chain Sprocket	Surface Defects Dimensional Hardness	MA MA MA	Visual Measurement Hardness	100% 25% 25%	-- -- --	Approved / Manufacturing Drawing	Approved / Manufacturing Drawing	IR	√ √	P P	- V	- V																																																																		





**LEGEND:** \*RECORDS IDENTIFIED WITH "√" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION.  
 \*\* M : MANUFACTURER / SUB-SUPPLIER  
 C: MAIN SUPPLIER, N: NTPC  
 INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION AS APPROPRIATE. "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"






DOC No: 2250-162-QVM-Q-005 R0			
FOR NTPC USE	REVIEWED BY	APPROVED BY	APPROVAL SEAL

*Manoj 213*

Sr. No. 1.	COMPONENT / OPERATION 2.	CHARACTERISTICS 3.	CLASS 4.	TYPE OF CHECK 5.	QNTM. OF CHECK 6.		REFERENCE DOCUMENT 7.	ACCEPTANCE NORMS 8.	FORMAT OF RECORD 9.				AGENCY 10.	REMARKS 11.					
					M	C			D	M	C	N							
<b>II INPROCESS INSPECTION</b>																			
2.1	Machining of components, Castings	Surface defects Dimensional Conformity	MA MA	Visual Measurement	100% 100%	-- --	Manufacturing Drawing	Manufacturing Drawing	-- --	- -	P P	- -	- -						
2.2	Welder Qualification	PQR, WPG, WPS	CR	Qualification	100%	Verify	Approved WPS & ASME SEC IX	ASME SEC IX	WPS, PQR, WPG	√	P	W	W	Refer Note 4					
2.3	Body – Marking, Cutting, Edge preparation, Tacking	Surface defects Dimensional Conformity	MA MA	Visual Measurement	100% 100%	-- --	Manufacturing Drawing	Manufacturing Drawing	-- --	- -	P P	- -	- -						
2.4	Welding of Body	Visual DPT on Root Run of Butt Weld DPT on final weld of Butt weld & Fillet Weld	MA MA MA	Visual DP test DP test	100% 100% 10% R	-- -- --	Manufacturing Drawing/ ASTM E 165	Mfg. Drawing/ No linear indications	IR IR IR	√ √ √	P P P	V V V	V V V						
2.5	Roll with Shaft Assembly	Work Hardening of Roll at Shop Dimensional Conformity Hardness of Roll DPT on Final Weld of Roll Shaft assembly DPT on Keyway of Shaft	MA MA MA CR MA	Mechanical Measurement Hardness DP Test DP Test	100% 100% 100% 100% 100%	-- -- 10% 10% 10%	Approved / Manufacturing Drawing / ASTM E 165	Approved / Manufacturing Drawing / No linear indications	IR -- IR IR	√ - √ √	P P P P	V V W V	V V V V						
2.6	Wear Plates	Surface Defects Dimensional Hardness	MA MA MA	Visual Measurement Hardness	100% 100% 100%	-- -- 10%	Approved / Manufacturing Drawing	Approved / Manufacturing Drawing	IR IR IR	√ √ √	P P P	V V W	V V V						
		 <b>TATL</b> SIGNATURE					<b>LEGEND: *RECORDS IDENTIFIED WITH "√" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION.</b> ** M : MANUFACTURER / SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION AS APPROPRIATE. "CHP" NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"					 FOR NTPC USE				DOC No: 2250-162-QVM-Q-005 R0 REVIEWED BY APPROVED BY APPROVAL SEAL			

*Manohar* 12/3

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					M	C			D	M	C	N					
<b>III FINAL INSPECTION</b>																	
3.1	Assembly of CLINKER GRINDER	Completeness Dimensional Alignment & Free Movement	MA MA MA	Visual Measurement Visual	100% 100% 100%	100%		Approved drawing	Approved drawing / No undue Sound	TATL IR TATL IR TATL IR	√ √ √	P P P	W W W	W W W	REFER NOTE 6		
3.2	No Load Test with Shop Drive Unit arrangement for 6 Hours*	Operational Temperature rise (Bearing)	MA MA	Smoothness Temp. Rise	100% 100%			Approved Drawing	Approved Drawing	TATL IR TATL IR	√ √	P P	W W	W W			
3.3	Review of QA DOC										√	V	V	V			
<b>Notes:</b> 1. All materials shall be as per approved drawing. 2. # When Backwall echo is set to 100 % of FSH in sound area: Defect echo not to exceed 20 % of FSH. Max. Backwall echo loss permissible is 20 % of FSH. 3. Hardness of Roll is to be checked after Shop Hardening. 4. NTPC approved WPS. Welders Qualified by NTPC to be deployed. If welders are already qualified by NTPC/BHEL/NPC/BNQ/LOYD/ATL then Welder qualification records shall be verified in place of witness. <u>Welding of Roll to Shaft is similar type of weld (using MS inserts)</u> 5. All Fillet Weld will have 10% at random DPT and Butt welds will have 100% DPT. 6. NTPC will witness movement for 30 min. after internal check by TATL.																	
 TATL SIGNATURE			<b>LEGEND:</b> *RECORDS IDENTIFIED WITH "√" SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. ** M : MANUFACTURER / SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC INDICATE "P" PERFORM "W" WITNESS AND "V" VERIFICATION AS APPROPRIATE. *CHP* NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"					 FOR NTPC USE		DOC No: 2250-162-QVM-Q-005 R0		REVIEWED BY		APPROVED BY		APPROVAL SEAL	
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