

Tender Document No : BCPL/DIB/C&P/C/2012/073/R/MB
Tender for : PROCUREMENT OF MOLECULAR SIEVES / INERT BALLS
FOR PROPYLENE DRYER OF POLYPROPYLENE UNIT OF
BCPL-LEPETKATA, DIBRUGARH, ASSAM, INDIA

Annexure II

**PROCESS DATA SHEET
&
TYPICAL DRAWING OF THE
EQUIPMENTS**

Signature of Bidder:

NOZZLES AND CONNECTIONS (नोजल व कनेक्शन)

MARK	QTY	NOM. DIA	SCH./THK.	FLANGES			PROJECTION	PAD	SERVICE
मार्क	कम (प्रति)	डायमिटर	थिक्नेस	CLASS	TYPE	FACING	NOTE-4	WAT	सर्विस
B	1	50.8 ID	16.7	300	LWN	RF	1000	-	UTILITY CONNECTION + BF
D	1	50.8 ID	16.7	300	LWN	RF	SEE DRG.	-	DRAIN + BF
E	1	350 ID/150	NOTE-20/XXS	300	SRWN	RF	SEE DRG.	-	PRODUCT OUTLET (NOTE-25)
F	1	152.4 ID	NOTE-20	300	SRWN	RF	SEE DRG.	-	FEED FROM PROPYLENE PUMP
HH 1-2	2	203.2 ID	NOTE-20	300	SRWN	RF	#	-	HANDHOLE+BF (NOTE-23 & 24)
LI-2	2	50.8 ID	16.7	300	LWN	RF	1000	-	LEVEL TRANSMITTER
MH 1-2	2	50.8 ID	NOTE-20	300	SRWN	RF	#	-	MANHOLE+BF+DAVIT (NOTE-23)
T1	1	50.8 ID	16.7	300	LWN	RF	1000	-	TEMPERATURE INDICATOR
T2-3	2	50.8 ID	16.7	300	LWN	RF	1000	-	TEMPERATURE (SPARE)+BF
U	1	50.8 ID	16.7	300	LWN	RF	1000	-	ANALYZER CONNECTION
V	1	50.8 ID	16.7	300	LWN	RF	SEE DRG.	-	VENT+BF
L3	1	50	XXS	300	WN	RF	SEE DRG.	-	LEVEL TRANSMITTER
# PROJECTION TO BE DECIDED BY FABRICATOR BASED ON REINFORCEMENT CALCULATIONS.									
NO PIPING/PLATFORM & LADDER SHALL BE SUPPORTED FROM THIS EQUIPMENT									

- 21 VESSEL SHALL BE SUPPLIED WITH ALL INTERNALS IN "AS ASSEMBLED" CONDITION. TEMPORARY SUPPORT (IF REQUIRED) FOR TRANSPORTATION SHALL BE PROVIDED.
- 22 HARDNESS OF BASE MATERIAL, WELD & HAZ SHALL NOT EXCEED 200 BHN (REFER CL. 4.5 OF SPEC. 6-12-0002).
- 23 RETAINING PLATE TO BE PROVIDED FOR NOZZLE HH1 & MH2.
- 24 2 Nos. HANDLES SHALL BE PROVIDED ON BLIND FLANGE.
- BLIND FLANGE THICKNESS SHALL BE SUITABLE INCREASED TO TAKE CARE OF REINFORCEMENT CALCULATION OF NOZZLE E. REINFORCEMENT PADS ARE NOT ALLOWED. CALCULATION SHALL BE SUBMITTED FOR EIL REVIEW.
- ALL NOZZLE TO SHELL/HEAD FILLET WELDS AND BRACKET TO SHELL SHALL BE GROUND SMOOTH TO OBTAIN CONCAVE PROFILE, FOLLOWED BY DP/MP TEST.

LICENSOR'S SPECIFICATION

लाइसेन्सर स्पेसिफिकेशन

LICENSOR'S STANDARD

लाइसेन्सर स्टैंडर्ड

FOUNDATION LOADING DATA (OPERATING CONDITION)

फाउन्डेशन लोडिंग डेटा (ऑपरेटिंग कन्डिशन)

TYPE	MAX. MOMENT AT BASE (M) (kgm)	MAX. SHEAR FORCE AT BASE (H) (kg)
SEISMIC (DBE)	-	-
SEISMIC (MCE)	-	-
WIND	-	-

GENERAL NOTES (जनरल नोट्स)

UNLESS STATED OTHERWISE

- 1 ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
- 2 ALL ANCHOR BOLT HOLES TO STRADDLE N/S CENTRELINE.
- 3 NORTH DIRECTION WHEREVER SHOWN IS WITH RESPECT TO PLAIN VIEW.
- 4 (A) FOR NOZZLES ON SHELL PROJECTIONS ARE REFERRED FROM VESSEL CENTER LINE TO FLANGE CONTACT FACE.
- 4 (B) FOR NOZZLES ON HEAD PROJECTIONS ARE REFERRED FROM HEAD T.L. TO FLANGE CONTACT FACE.
- 5 THE INDICATED THICKNESS IS THE MINIMUM ACCEPTABLE AFTER CONSTRUCTION.
- 6 FLANGE GASKET FACE SHALL HAVE 125 AARN FINISH.
- 7 DIMENSIONS OF FLANGES SHALL BE AS PER ASME B16.5 UNLESS OTHERWISE SPECIFIED.
- 8 ID OF WELD NECK FLANGES SHALL MATCH WITH CORRESPONDING ID OF NOZZLE PIPE/SHELL.
- 9 NOZZLE 50NB & BELOW SHALL BE STIFFENED WITH 2 Nos. 40x6 THK. FLAT AT 90° APART.
- 10 SURFACE CLEANING/PRIMER SHALL BE AS PER JOB SPEC. 6907-0642-PT-007.
- 11 ALL INTERNALS SHALL BE SIZED SO AS TO PASS THROUGH THE MANHOLE.
- 12 SUPPORT GRID TO BE DESIGNED TO CARRY:
- a) BED=7.0m BED HEIGHT WITH APPROX. 10000 Kg MOLECULAR SIEVE.
- b) 0.6 Kg/cm² PRESSURE DROP ACROSS THE BED DURING NORMAL OPERATION (UP FLOW).
- c) 2x0.20m BED OF INERT BALLS AT 1500 Kg/m³.
- d) WEIGHT OF UPPER HOLD DOWN GRATINGS.
- SUPPORT GRID TO HAVE MINIMUM 80% OPEN AREA. ALL CALCULATION TO BE SUBMITTED TO EIL FOR APPROVAL.
- 13 20 MESH SS 304 SCREEN TO BE PROVIDED. HOLES IN SCREEN TO BE SMALL ENOUGH TO WITHHOLD MOLECULAR SIEVE PELLETS.
- 14 HOLD DOWN GRATINGS TO HAVE MINIMUM 80% OPEN AREA. GRATING OPENINGS SHALL BE SELECTED SUCH THAT CERAMIC BALLS CAN NOT PASS EITHER DURING NORMAL OPERATION OR REGENERATION. VENDOR TO PROVIDE 20 MESH SS304 SCREEN BETWEEN CERAMIC BALLS AND GRATING.
- 15 ALL PRESSURE RETAINING MATERIALS, WELDS & HAZ SHALL BE IMPACT TESTED. PLATES SHALL BE IMPACT TESTED AT (-) 62° C.
- 16 OPERATING CONDITIONS
- | | INLET TEMP.
(°C) | INLET PRESSURE
(kg/cm ² g) |
|-----------------------|---------------------|--|
| DRYING PROPYLENE | 40 | 38 |
| REGENERATION NITROGEN | 290 | 4 |
| COOLING NITROGEN | 40 | 4 |
- 17 DESIGN CONDITIONS:
- DESIGN PRESSURE= 44 Kg/cm²g
- DESIGN TEMPERATURE= 65/-48°C
- REGENERATION PRESSURE= 6 Kg/cm²g
- REGENERATION TEMPERATURE= 305°C
- 18 FOR INTERNAL : TOTAL CORROSION ALLOWANCE SHALL BE CONSIDERED AS 6mm.
- 19 INTERNAL SUPPORTS FOR THE BED/GRID ETC. SHALL BE INTEGRAL TO THE VESSEL.
- 20 (a) VENDOR TO SUBMIT DESIGN CALCULATIONS FOR SR NOZZLES AS PER CODE. VENDOR TO ALSO CONSIDER PIPING LOADS FOR NOZZLE 'E' & 'F' AS PER DOCUMENT NO. 6907-7-12-0038. EXCESS AREA AVAILABLE IN SHELL/HEAD SHALL NOT TO BE CONSIDERED FOR THE REINFORCEMENT DESIGN.
- (b) ALL SELF REINFORCED INTEGRALLY FORGED NOZZLES SHALL HAVE SMOOTH RADIUS AT CORNERS AS PER FIG. AD 613.1 OF ASME SEC. VIII DIV.2 (2004 EDITION) AND SHALL BE AS PER FIG. UW 16.1 (g) OF ASME SEC. VIII DIV.1. IN ADDITION LIP SHALL BE PROVIDED.

SPECIFICATIONS (स्पेसिफिकेशन)

☒ DENOTES APPLICABILITY	
☒ GENERAL SPEC. FOR PRESSURE VESSELS	6-12-0001
☒ SUPP. SPEC. FOR CS VESSELS	6-12-0002
☒ STD. SPEC. FOR BQCS PLATES	6-12-0011
☒ JOB SPEC. FOR SHOP & FIELD PAINTING	6907-0642-PT-007
☒ PIPING LOADS	6907-7-12-0038
STANDARDS (स्टैंडर्ड्स)	
☒ VESSEL TOLERANCES	7-12-0001
SUPPORT FOR HORIZONTAL VESSEL	7-12-0002
WOODEN FILLERS FOR SADDLE SUPPORT	7-12-0003
SKIRT BASE DETAILS	7-12-0004
SKIRT OPENING DETAILS	7-12-0005
ANGLE LEG SUPPORT	7-12-0006
PIPE LEG SUPPORT	7-12-0007
☒ BRACKET SUPPORT FOR VERTICAL VESSEL	7-12-0008
MANHOLE WITH HINGED COVER	7-12-0009
☒ MANHOLE WITH DAVIT	7-12-0010
☒ LADDER RUNGS FOR MANHOLE/DEMISTER	7-12-0011
☒ RETAINING PLATE	7-12-0012
☒ NOZZLE REINFORCEMENT AND PROJECTION	7-12-0013
PAD NOZZLES FOR VESSELS	7-12-0014
☒ STANDARD BOLT HOLE ORIENTATION	7-12-0015
ALLOY LINER DETAILS	7-12-0016
SIGHT GLASSES FOR PRESSURE VESSELS (FOR GUIDANCE)	7-12-0017
INTERNAL FLANGES	7-12-0018
VORTEX BREAKERS	7-12-0019
INLET DEFLECTOR BAFFLE	7-12-0020
SUPPORT RING AND BOLTING BAR (FOR GUIDANCE)	7-12-0021
SUPPORT RING SIZES FOR PACKED TOWERS	7-12-0022
PIPE DAVIT	7-12-0023
☒ LIFTING LUG TOP HEAD TYPE	7-12-0024
☒ FIRE PROOFING AND INSULATION SUPPORTS	7-12-0025
☒ EARTHING LUG	7-12-0026
☒ NAME PLATE	7-12-0027
☒ MANUFACTURER NAME PLATE	7-12-0028
☒ BRACKET FOR NAME PLATE	7-12-0029
NAME PLATE FOR SMALL EQUIPMENT	7-12-0030
DETAILS OF FORGED NOZZLES	7-12-0031
☒ SUPPORTS FOR INTERNAL FEED PIPE (FOR GUIDANCE)	7-12-0032
HOT INSULATION SUPPORT FOR HORIZONTAL VESSEL	7-12-0033
PIPE DAVIT SUPPORT FOR COLD INS. VESSELS	7-12-0034
TYP. DETAILS OF WIRE MESH DEMISTER SUPPORTS	7-12-0036
☒ S.R. NOZZLE NECK	7-12-0037

REFERENCE DRAWING

☒ NOZZLE ORIENTATIONS	6907-118-16-43-4-SK-N-036
LADDERS/PLATFORM CLEATS	NA
PIPE SUPPORT CLEATS	NA
TRAY SUPPORT AND BOLTING BARS	NA
DEMISTER DATA SHEET	NA

HOLD UPS (होल्ड अप्स)

☒ NOZZLE ORIENTATIONS	SIZE OF NOZZLES
☒ NOZZLE ELEVATION B, HH1-2, T3 & U	PIPE SUPPORT CLEATS
SUPPORT ELEVATION	LADDER/PLATFORM CLEATS
	TRAY SUPPORT/BOLTING BARS
	PIPE DAVIT

DESIGN DATA (डिजाइन डेटा)

CODE	ASME SEC VIII DIV. 1 2007+ADD.
WORKING PRESSURE (kg/cm ² g)	INT. NOTE-16 EXT.
DESIGN PRESSURE (kg/cm ² g)	INT. NOTE-17 EXT.
WORKING TEMPERATURE (°C)	NOTE-16
DESIGN TEMPERATURE (°C)	NOTE-17
MDMT (°C)	-48
CORROSION ALLOWANCE (MM)	3
TYPE OF HEAD	TORISPHERICAL
JOINT EFFICIENCY	SHELL 1 HEAD 1
RADIOGRAPHY	SHELL FULL HEAD SINGLE PIECE
POST WELD HEAT TREATMENT	YES, COMPLETE VESSEL (NOTE-22)
HEAT TREATMENT	HEAD AS PER SPEC.
OPERATING MEDIUM	PROPYLENE
SP. GRAVITY	0.478
WIND SPECIFICATION	IS 875
SEISMIC	IS 1893/SITE SPECTRA
CAPACITY (m ³)	17.1
PAINTING/CLEANING	AS PER SPEC. (REFER NOTE-10)
INSULATION THICKNESS (mm)	75 ☒ HOT ☐ COLD
FIRE PROOFING	☐ YES ☒ NO
HYDROSTATIC TEST (kg/cm ² g)	HORIZONTAL VERTICAL (AT TOP)
PRESSURE (NEW & COLD)	57.2
INSPECTION BY	☒ EIL ☐ CIB ☐ LLOYDS
MATERIAL OF CONSTRUCTION (मैटीरियल ऑफ कन्स्ट्रक्शन)	
(AS PER ASME / IS OR EQUIVALENT)	
SHELL	SA 537 CL.1+SA 20 S5*
REINFORCEMENT PAD	-
HEADS	SA 537 CL.1+SA 20 S5*
SHELL FLANGES	-
NOZZLE FLANGES/LWN NOZZLES/SRN	SA 350 GR. 1F3
NOZZLE NECK UPTO 250 NB	-
NOZZLE NECK ABOVE 250 NB	-
PIPE FITTINGS	SA 420 GR. WPL 3
GASKET EXTERNAL	SPIRAL WOUND GASKET WITH SS 304 METAL
GASKET INTERNAL	WINDING AND GRAFOIL FILLER MATERIAL WITH CS OUTER & INNER RING AS PER ASME B 16.20
EXTERNAL STUDS/BOLTS/NUTS	-
INTERNAL STUDS/BOLTS/NUTS	SA 320 GR.17/SA 194 GR.4
SKIRT/ SUPPORT	SS 304
SKIRT/ SUPPORT BASE	SA 537 CL.1+SA 20 S5*
INTERNAL PARTS (WELDED)	SA 537 CL.1+SA 20 S5*
INTERNAL PARTS (BOLTED)	SA 333 GR.3/SA 537 CL.1+SA 20 S5*
CLIPS & ATTACHMENTS (EXTERNAL) DIRECTLY WELDED	SA 537 CL.1+SA 20 S5*
CLIPS & ATTACHMENTS (EXTERNAL) WELDED OVER PAD	SA 537 CL.1+SA 20 S5*
PAD FOR EXTERNAL ATTACHMENTS	SA 537 CL.1+SA 20 S5*
PIPE	SA 333 GR.3
HOLD DOWN GRATING/SUPPORT GRID	SS 304

* IMPACT TESTED (NOTE-15)

STATUTORY REGULATIONS (सांविधिक विनियम)

INDIA : BOILER REGULATIONS (IBR)

DEPARTMENT OF EXPLOSIVES, NAGPUR (PESO)

APPROXIMATE WEIGHT (kgs) (PER ITEM) (अनुमानित वजन)

ERECTION	18600	OPERATING	38000
HYDROTEST (SHOP)	35700	HYDROTEST (FIELD)	38000
NUMBER OF ITEMS : TWO			

TO BE FINALISED BY VENDOR BASED ON REINFORCEMENT CALCULATIONS

150 NB SCH. XXS 90° LR ELBOW

350 NB NOZZLE WITH BLIND FLG. (NOTE-25)

4 Nos. SUPPORT FLATS 40x20 THK BOLTED TO INT. PIPE (NOZZLE-E) USING M24 BOLTS

T.L.

W.L.

HOLD

2 Nos. LIFTING LUGS AT 180° APART

REGENERATION FEED DISTRIBUTOR

L1

MH1

▽ 9050

▽ 8300

▽ 8100

▽ 8650

U

DETAIL-A

REGENERATION FEED DISTRIBUTOR 20 THK. (SEE DETAIL)

HOLD DOWN GRATING (NOTE 13,14,18 & 19)

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

6.25φ HOLES AT 90° INTERVAL

4 Nos. BRACKETS EQUISPACED

▽ 7900

T3

DETAIL-A

▽ 7650

U

▽ 6000

DETAIL-A

CATALYST (SUPPLIED BY OTHERS)

HH1

▽ 5600

HH2

T2

▽ 4400

T1

MH2

▽ 1500

HH2

L2

34 THK.

1500 ID

TYLER 20 SCREEN (NOTE-13)

W.L.

20 THK. BAFFLE PLATE (HOLD)

▽ 1400

F

D

9200 TL TO TL

▽ 1600 N. PLATE

▽ 1100

▽ 900

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.

▽ 0.00

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

625#

625#

625#

625#

625#

34 THK. (MIN.)

ICR = 1200

IKR = 250 (TYP.)

IN. PROJECTION TO BE ALLOWED. PROJECTION CAN BE INCREASED BY VENDOR BASED ON REINFORCEMENT CAL.

THIS AREA TO BE PROVIDED WITH 20φ HOLES ON 150φ CIRCULAR PERFORATIONS TO BE PROVIDED DOWNWARDS

REGENERATION FEED DISTRIBUTOR

CERAMIC INERT BALLS (SUPPLIED BY OTHERS)

SUPPORT GRID (NOTE 12,18 & 19)

DETAIL-A

▽ 650

HH2

L2

▽ 450

T.L.