

| | | |
|--------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------|
| MONITORING INSTRUCTION FOR INSPECTION | | Issue No. 01 Rev. No. 01 |
| | | Date of Issue 06.01.22 |
| PLASTIC CONTAINER (120mm FSAPDS MK-II) | | HEPF/QA/SC/H/005 |
| Rev no | Amendment | Date |
| 1 | Spec amended to JSS 9330-03 : 2014 and drawing amended to H OMA 120 2 130 1 | 06.01.22 |

DRAWING NO. : HEPF Drg. H OMA 120 2 130 1
 RAW MATERIAL : 1. FOR SL.NO. 1,2,3&5 - HIGH DENSITY POLYETHYLENE TO SPEC JSS 9330-03 : 2014 (TYPE 2) IN ORANGE COLOUR .
 2. FOR SL. No.6 (GASKET) - NEOPRENE RUBBER TO SPEC IND/ME/678(PROV).
 3. FOR SL. No 4 (CUSHION PADS) - SPONGE RUBBER TO SPEC: IND/ME/645
 END USE : 120mm FSAPDS MK-II

TABLE A. INSPECTION CHECK TO BE CARRIED OUT ON RECEIPT AT HEPF.

| SL. NO. | CHARACTERISTICS | SPECIFICATION / REQUIREMENT | SAMPLE SIZE |
|---------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| 1 | WORKMANSHIP (VISUAL) | The parts shall be free from damages, bubbles, surface imperfections, porosity, voids due to dust inclusions & other obvious defects likely to impair their usefulness or life | 100% |
| 2 | DIMENSIONS | As per drawing | 10% |
| 3 | TEST REPORT | Verification of TC supplied by firm as per 1. JSS 9330-03:2014 CLAUSE 7.4 test requirements (a) Chemical Requirements (b) Physical Requirements 2. Neoprene rubber to spec IND/ME/678(PROV). 3. Sponge Rubber To Spec: IND/ME/645(PROV). | Two samples/ Lot or batch |
| 4 | DROP TEST | As per specification JSG 0102 | Random sample 1%/ Lot or batch |
| 5 | PACKING | Packing slip indicating source code, material grade, lot no. and qty. | 100% |

TABLE B. FOLLOWING INSPECTION DOCUMENTS MUST BE ENCLOSED ALONG WITH EACH SUPPLY OF FINISHED PRODUCT.

| SL. NO. | INSPECTION DOCUMENTS |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Dimensional inspection report from supplier.(Random sample 100%) |
| 2 | Test reports from NABL ACCREDITED / GOVT. APPROVED / P.S.U LAB for tests mentioned Table no. A. |
| 3 | Packing slip details |
| 4 | Guarantee / warranty certificate |
| 5 | In addition to the above soft copies of all the certificates shall be sent to e-mail id's. hepfqa.ofb@ofb.gov.in , mmhepf.ofb@ofb.gov.in |
| NOTE | Explicit deviation(s) if any such as typographical error, values, numeric, other parameter, etc is/are found in monitoring instruction of the above stores, the relevant standard conforming to the concerned specifications shall be referred to confirm the parameter |

[Signature]
24/01/22
SREENIVASA RAO BODALA
DGM / PM
MEMBER / MI COMMITTEE

[Signature]
24/01/2022
JAGVIMAL PHOGAAT
WM / ASSY(USER SECTION)
MEMBER / MI COMMITTEE

[Signature]
25/01/22
T.PRABHU
JT.GM / Q & A
CHAIRMAN / MI COMMITTEE

[Signature]
SEINUNNOM JOSEPH KIPGEN
DGM / QA
MEMBER / MI COMMITTEE

| | |
|------------------------------------|-------------------------------|
| ISSUED BY STANDARD CELL | |
| <i>[Signature]</i> | |
| DATE: 15/Jan | SIGNATURE: <i>[Signature]</i> |

7.4 **Test Requirements.** Samples taken from any portion of the batch/lot/consignment of material shall conform to clause 3 and in addition shall conform to the test requirements shown in the following tables :-

(a) **Chemical Requirements.**

| Sl. No. | Characteristic | Passing Standard | | | Test Method |
|---------|-----------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|----------------------------|
| | | (Low Density) | (Linear Low Density) | (High Density) | |
| (a) | Ash, % by mass | Max. 0.05 | 0.5 | 0.05 | IS 1060 (Part 1) Method 11 |
| (b) | pH of water extract | Min. 5 Max. 8 | 5 8 | 5 8 | IS 1060 (Part 1) Method 10 |
| (c) | Water soluble matter, % by mass | Max. 0.2 | 0.2 | 0.2 | Appendix 'A' |
| (d) | Water soluble chlorides calculated as Sodium Chloride, % by mass | Max. 0.05 | 0.05 | 0.05 | IS 1060 (Part 2) Method 17 |
| (e) | Water soluble sulphates, calculated as anhydrous Sodium sulphate, % by mass | Max. 0.1 | 0.1 | 0.1 | IS 1060 (Part 2) Method 18 |
| (f) | Solubility in Toluene at 80 °C ± 1 °C | Soluble | Partially Soluble | Insoluble | Appendix 'B' |
| (g) | Extractable matter in Toluene at 25 °C ± 1 °C, % by mass | Max. 6.0 | 6.0 | --- | Appendix 'C' |
| (h) | Solubility in Ethyl acetate, Acetone at 25 °C ± 1 °C | Insoluble | Insoluble | Insoluble | Appendix 'D' |
| (j) | Effect of organic solvents | Resistant below 60 °C | Resistant below 60 °C | Resistant below 80 °C | Appendix 'E' |

(b) Physical Requirements.

| Sl. No. | Characteristic | | Passing Standard | | | | | Test Method |
|---------|----------------------------------------------------------------|--------------|--------------------|----------------|----------------------|---------------------|----------------|--------------------------------------------------|
| | | | (Low Density Type) | | (Linear Low Density) | (High Density Type) | | |
| | | | 1 | 2 | | 1 | 2 | |
| (a) | Melt flow index | | -- | 2 ± 20 % | 2 ± 20 % | -- | 8 ± 20 % | ASTM - D 1238 |
| (b) | Density g/ml | Min. Max. | 0.910 0.925 | 0.918 0.922 | 0.916 0.920 | 0.941 0.965 | 0.955 0.959 | BS 2782 Pt 6 Method No. 620 A : 1991 |
| (c) | Yield stress, MPa | Min. | 7 | 12 | 20 | 21 | 23 | BS 2782 Pt 3 Method 320 A : 1976 (1986) |
| (d) | Elongation% at yield | Min. | 90 | 560 | 500 | 15 | 10 | -- do -- |
| (e) | Impact strength (Notched) in mJ/mm ² | Min. | -- | -- | -- | -- | 2.7 | ASTM - D 256 Method A |
| *(f) | Melting temperature, °C | Min. Max. | 98 115 | 98 115 | 122 124 | 128 133 | 128 133 | -- |
| *(g) | Tensile modulus in MPa | Min. | 98 | 98 | 350 | 530 | 530 | ASTM - D - 638 |
| *(h) | Heat deflection temperature at 4.6 kg/cm ² load, °C | Min. | 60 | 60 | 68 | 83 | 83 | ASTM - D - 648 |

Note.

(i) The tests mentioned at Sl. No. (f), (g) & (h) are for information only. The limits for the same will be finalized after generation of date.

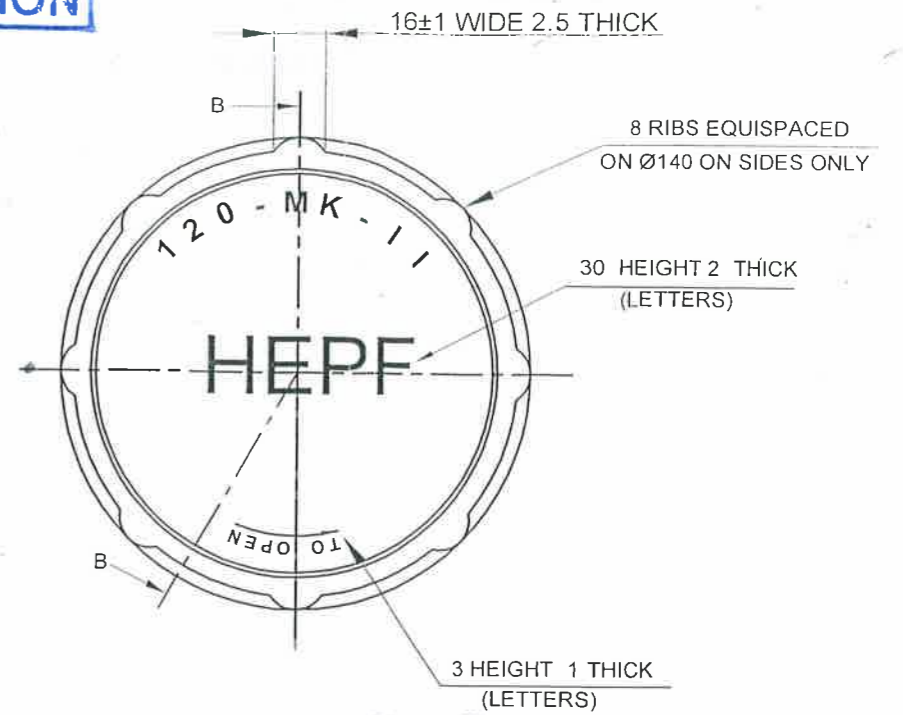
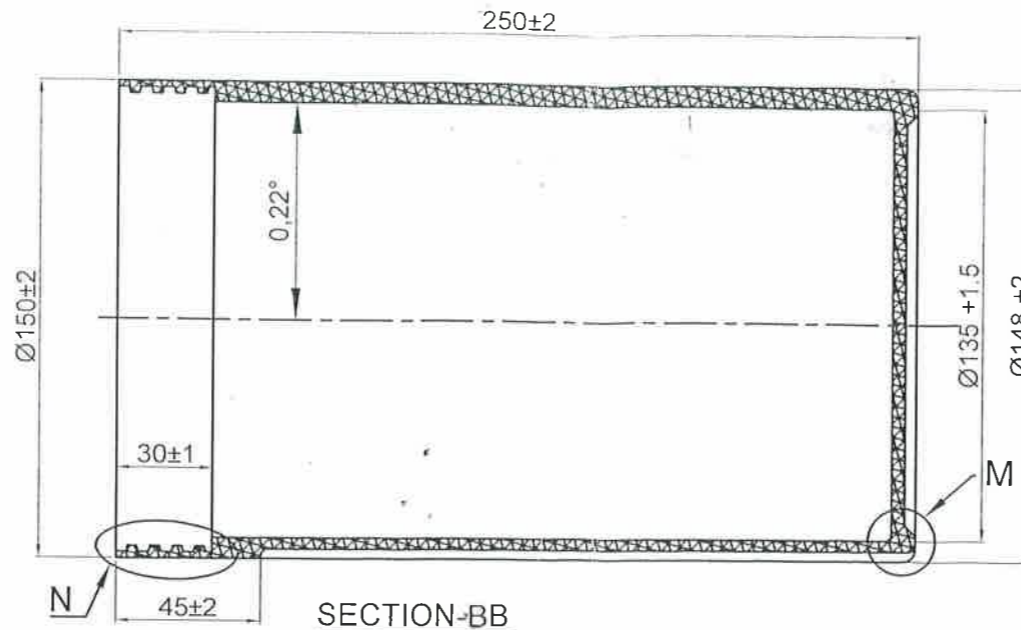
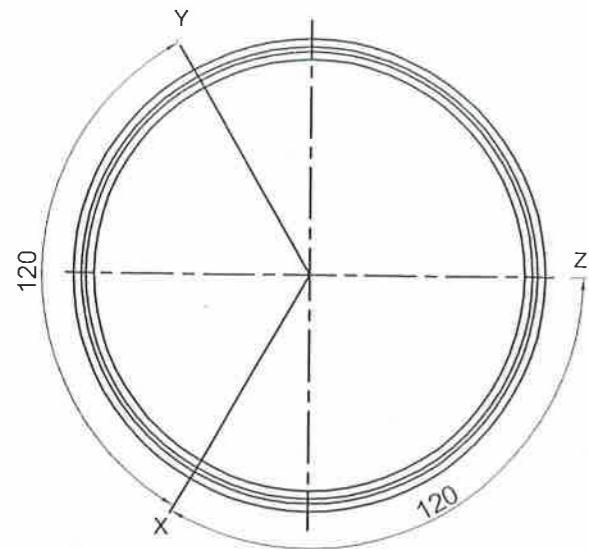
(ii) The width of specimen for yield stress and elongation should be 6 mm and rate of traverse of the machine while testing should be 50 mm / minute.

DRG: No
H OMA 120 2 130 1

REV

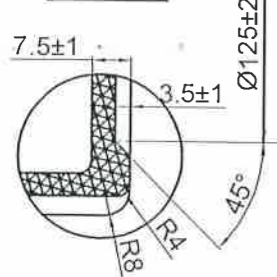
① LID

TRADE ACTION

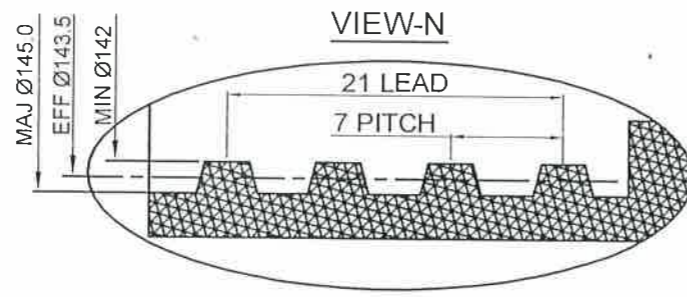


3 START RH THREAD SHOWING AT XYZ

VIEW-M

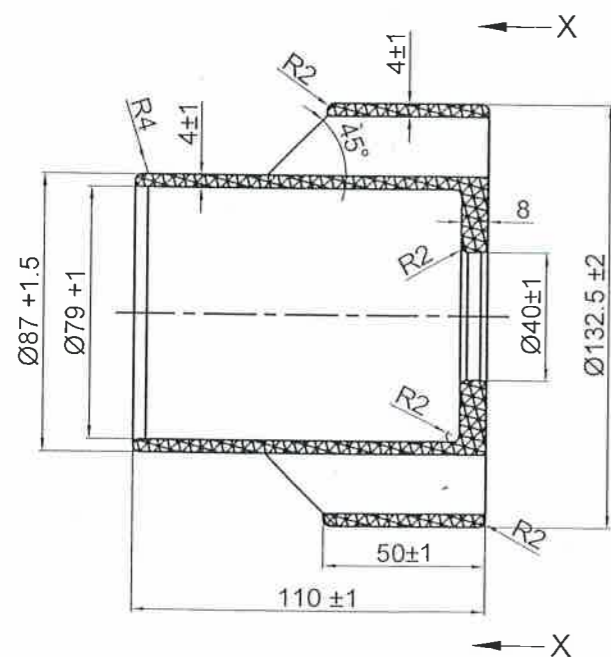


VIEW-N

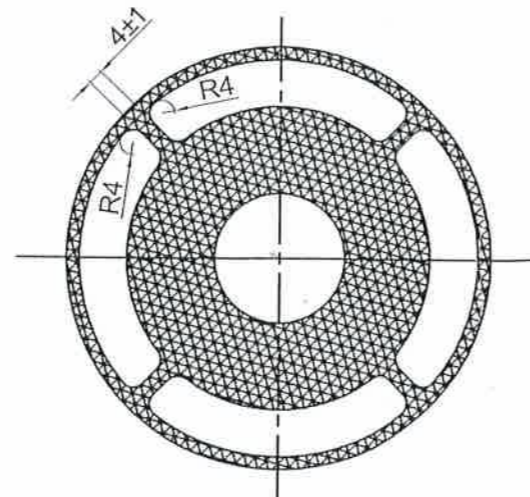


ABRUPT START OF PERFECT THD.
3 START RH THREAD.

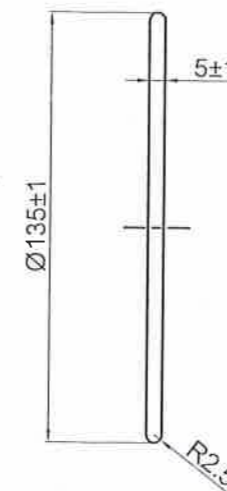
⑤ SLEEVE BOTTOM



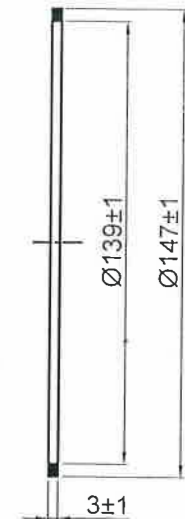
SECTION AT XX



④ CUSHION PADS



⑥ GASKET



ISSUED BY
STANDARD CELL
No: 210/96
DATE: 2/5/17
SIGNATURE:

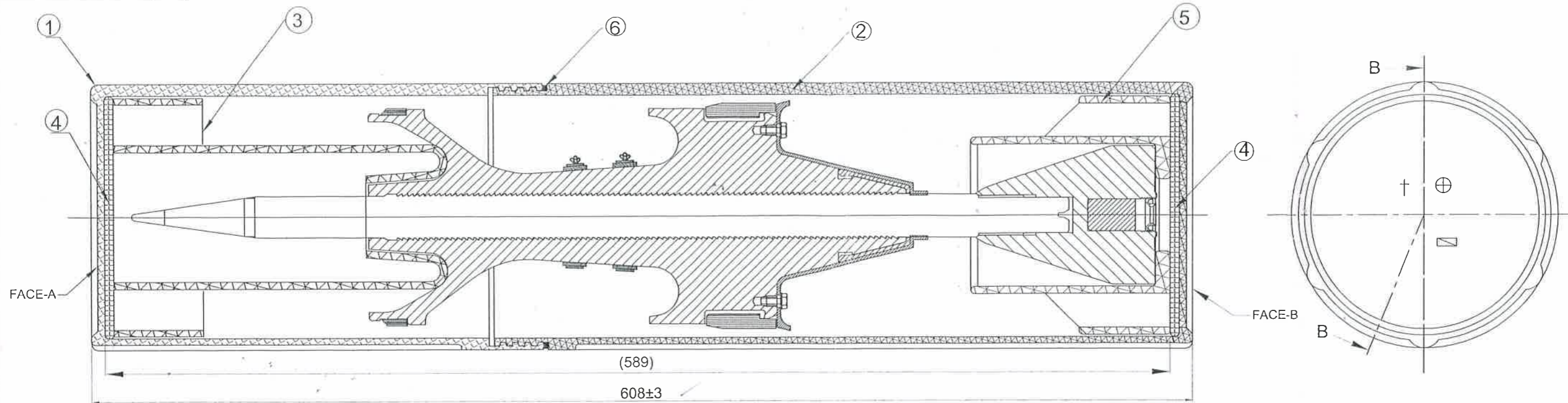
ALL DIMENSIONS ARE IN mm
REMOVE ALL SHARP EDGES

| | | | |
|--------------------|--------------------------------------|----------|---------------------|
| MATERIAL | | | LATEST REFERENCE :- |
| HEAT TREAT/GROUND | | | DRAWN |
| SURFACE TREAT | 1 | 03.01.22 | CHECKD. USER SEC |
| SUR. FINISH/COAT | | | CHECKD. HOS SC |
| EST.MASS PRO/FINAL | | | APPRD. |
| | TITLE : CONTAINER FOR 120mm MK-II | | DATE 10.04.17 |
| | HEAVY ALLOY PENETRATOR PROJECT | | SCALE 1:10 |
| | TIRUCHIRAPALLI | | SECTION SC |
| | DRG. NO: H OMA 120 2 130 1 | | SHEET 2 OF 3 |
| | | | REV |

DRG: No
H OMA 120 2 130 1

REV

TRADE ACTION



NOTES:

SECTION-BB

1. MATERIAL (FOR ITEM 1, 2, 3 & 5)

HIGH DENSITY POLYETHYLENE TO SPEC.. JSS 9330-03:2014 ORANGE COLOUR.

2. HARDNESS (FOR ITEM NO. 4): CLASS 'C2' 51 TO 55 NOT TO EXCEED HIGH LIMIT

3. ITEM NO. 6 TO BE FREE FROM FLASH ON SURFACE. PRESERVED IN TALC DUST.

TO BE APPLIED WITH SILICON GREASE BEFORE ASSEMBLY.

4. CONTAINER WITH SHOT SHALL CONFORM TO SPEC.. FOR DROP TEST-JSG 0102.

5. ITEM NO. 4 TO BE PASTED INSIDE BOTTOM OF THE ITEM NOS. 1 & 2 RESPECTIVELY

6. DRAFT ANGLE 0.25° UNLESS OTHERWISE SPECIFIED FOR MOULDING PURPOSE

7. ALL SHARP EDGES TO BE ROUNDED OFF WITH R1

8. **MARKING :-**

"HEPF" AS SHOWN IN ITEM NO 1 (TO BE EMBOSSED IN 20 SIZE & 2 THICK AT FACE 'A')

FOLLOWING DETAILS ARE TO BE EMBOSSED IN FACE 'B' OF ITEM NO. 2

⊕ YEAR OF MANUFACTURING

+ 120mm FSAPDS MK-II

☐ MANUFACTURE'S INITIAL

TO BE EMBOSSED IN
SIZE 8mm X 1.2mm THICKNESS

9. THE PLASTIC CONTAINER SHOULD BE DESIGNED SUCH THAT, FINAL SHOT ASSEMBLY PACKED ALONG WITH TOP & BOTTOM SLEEVES USING 0.5mm THICK POLYURETHANE BAG SHOULD FREELY ENTER THE BODY & LID WHILE ASSEMBLING

ISSUED BY
STANDARD CELL
M/s Sub: 2 0396 Kt: 15/1/22
DATE: 15/1/22
SIGNATURE

| SL.NO | DESCRIPTION | MATERIAL | QTY |
|-------|---------------|-------------------------------------------|-----|
| 6 | GASKET | NEOPRENE RUBBER TO SPEC: IND/ME/678(PROV) | 1 |
| 5 | SLEEVE BOTTOM | NOTE - 1 | 1 |
| 4 | CUSHION PADS | SPONGE RUBBER TO SPEC: IND/ME/645 | 2 |
| 3 | SLEEVE TOP | NOTE - 1 | 1 |
| 2 | BODY | NOTE - 1 | 1 |
| 1 | LID | NOTE - 1 | 1 |

ALL DIMENSIONS ARE IN mm
REMOVE ALL SHARP EDGES

| MATERIAL | HEAT TREAT/GROUND | SURFACE TREAT | SUR. FINISH/COAT | EST.MASS PRO/FINAL | ISSUE | ALTERATIONS | DATE | LATEST REFERENCE :- |
|----------------------------------------------------------------------------------------------------------------|-------------------|---------------|------------------|--------------------|-------|---------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -- | -- | -- | -- | -- | 1 | Dims & Tol amended for moulding & OFB emblem removed. Note 9 added. | 03.01.22 | |
| <p>TITLE : CONTAINER FOR 120mm MK-II HEAVY ALLOY PENETRATOR PROJECT TIRUCHIRAPALLI</p> | | | | | | | | <p>DRAWN: [Signature] CHECKD. USER SEC: [Signature] CHECKD. HOS SC: [Signature] APPRD.: [Signature] DATE: 10.11.17 SCALE: NTS SECTION: SC</p> |
| <p>DRG. NO: H OMA 120 2 130 1</p> | | | | | | | | <p>REV: 1</p> |

SHEET
1 OF 3

DRG: No
H OMA 120 2 130 1

REV
1

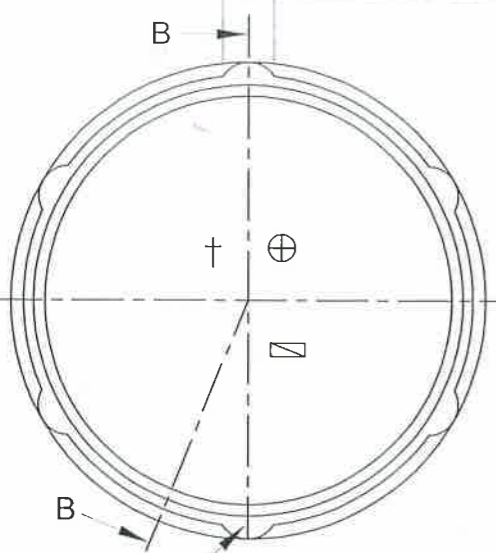
② BODY

TRADE ACTION

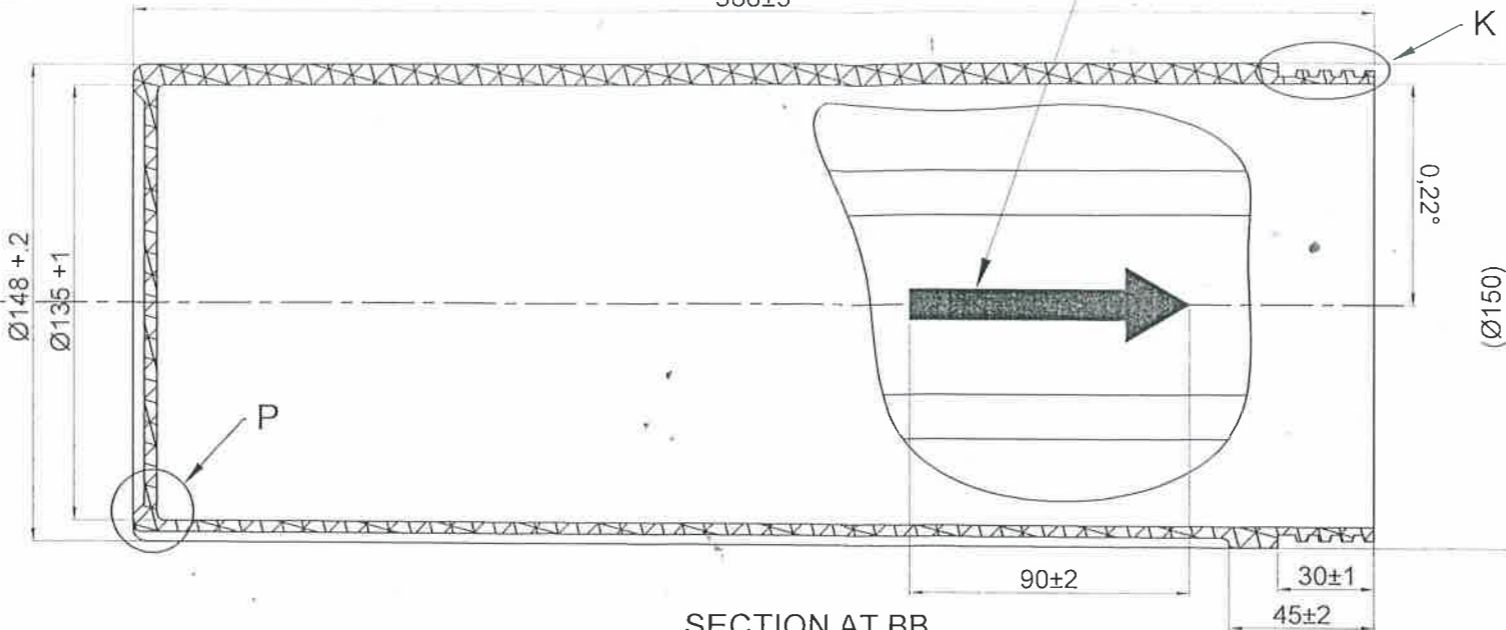
3 NOS OF UPRIGHT SYMBOLS EQUISPACED
Depth of the arrow not more than 0.25mm

12±1 WIDE 2.5 THICK

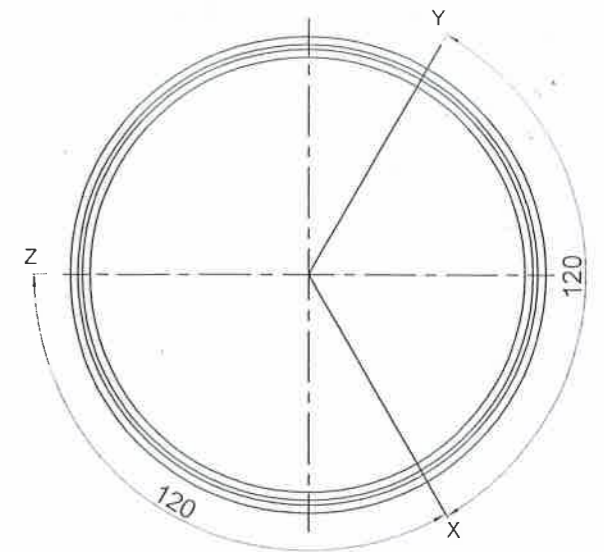
386±3



6 RIBS EQUI-SPACED
ROUNDED OFF ON Ø142 ON SIDES AND THE BOTTOM

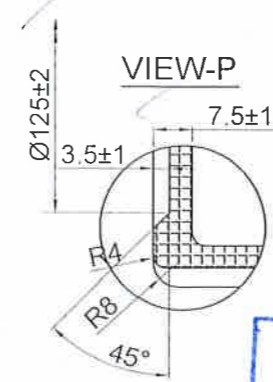
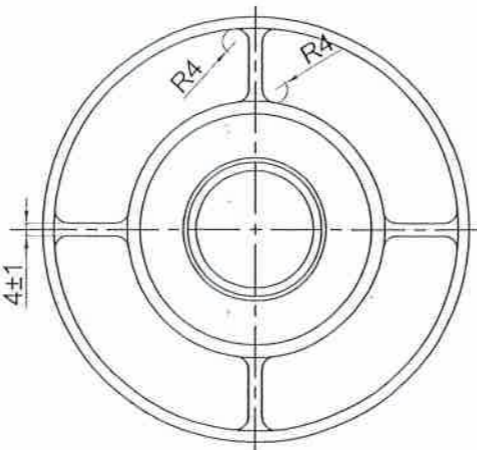
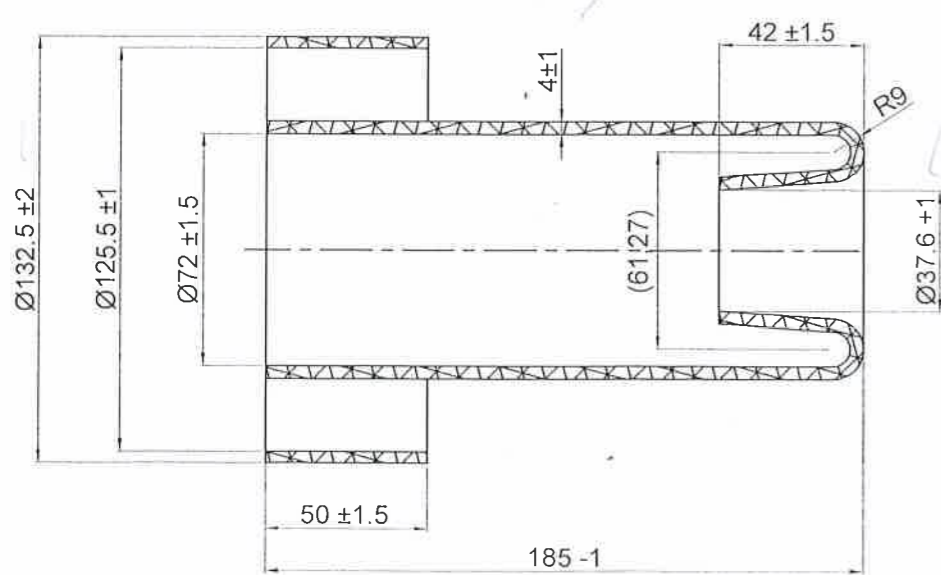


SECTION AT BB

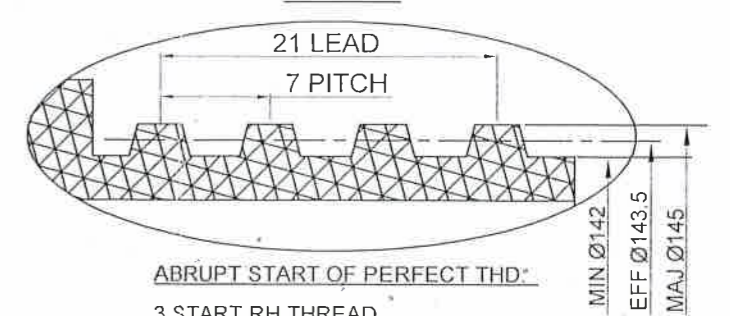


3 START RH THREAD SHOWING AT XYZ

③ SLEEVE TOP



VIEW-P



VIEW-K

ISSUED BY
STANDARD CELL
MRB No: 20396 Date: 15/11/20
DATE: 17/12/20 SIGNATURE: *[Signature]*

ALL DIMENSIONS ARE IN mm
REMOVE ALL SHARP EDGES

| | | | | |
|--------------------|--------------------------------------------------|-------------|------|-------------------------------------|
| MATERIAL | | | | LATEST REFERENCE :- |
| HEAT TREAT/GROUND | | | | DRAWN <i>[Signature]</i> |
| SURFACE TREAT | ISSUE | ALTERATIONS | DATE | CHECKD. USER SEC <i>[Signature]</i> |
| SUR. FINISH/COAT | TITLE : CONTAINER FOR 120mm MK-II | | | CHECKD. HOS SC <i>[Signature]</i> |
| EST.MASS PRO/FINAL | HEAVY ALLOY PENETRATOR PROJECT TIRUCHIRAPALLI | | | APPRD. <i>[Signature]</i> |
| | DRG. NO: H OMA 120 2 130 1 | | | DATE 10.11.17 SHEET 3 OF 3 |
| | | | | SCALE NTS SECTION SC |
| | | | | REV 1 |