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QAP No. NFM/IMMK-II/PKG/02

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FOR

PACKAGE OF INFLUENCE MINE 'ADRUSHY MK-II'



(Feb. 2020)

PROJECT NAME :- PRODUCT SUPPORT FOR PRODUCTIONIZATION OF
ADRUSHY MK-II

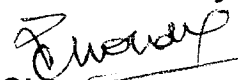
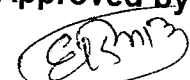
PROJECT NO:- ARD - 11

SUBMITTED BY: ELECTRONICS TECHNOLOGY / NFM

ARMAMENT RESEARCH AND DEVELOPMENT ESTABLISHMENT(ARDE)
HOMI BHABHA ROAD

PASHAN, PUNE- 411021

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QUALITY ASSURANCE PLAN FOR INFLUENCE MINE MK-II		Feb 2020	
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QAP No: NFM/IMMK-II/PKG/02

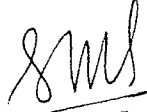
FOR

PACKAGE OF INFLUENCE MINE 'ADRUSHY MK-II'


Is approved by the Project Review Committee



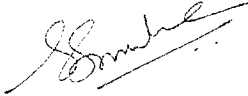
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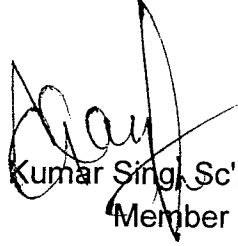
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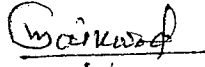
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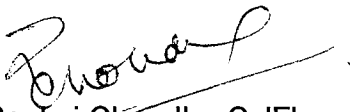


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PACKAGE FOR INFLUENCE MINE Mk-II- (ADRUSHY)
(Provisional)

Specification to govern Manufacture, inspection & supply

Approved on -----

THIS SPECIFICATION IS THE PROPERTY OF THE MINISTRY OF DEFENCE AND MUST BE RETURNED TO THE DIRECTOR, ARDE, PASHAN, PUNE – 411 021 IMMEDIATELY AFTER THE TENDER HAS BEEN DECLINED, OR ON COMPLETION OF THE CONTRACT OR ON DEMAND.

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Any question relating to the drawing, pattern or the specification should be referred to the Director, ARDE or other Quality Assurance Officer, duly authorized to act on behalf of him.

Obtainable from: -

The Director,
Armament research and Development Establishment,
Dr. Homi Bhabha road,
Pashan, Pune – 411 021

SCOPE

- 1.1 This specification governs the manufacture, assembly, painting, marking, inspection and supply of Package for Influence Mine Mk-II – (Adrushy)

2. RELATED DOCUMENTS

- 2.1 This specification is to be read in conjunction with the drawing / drawings quoted in the contract / order.

Wherever a reference is made to any documents in this specification, it should be taken as a reference to the latest edition of the documents unless otherwise stated.

3. STANDERD PATTERN

- 3.1 Any sample lent to the manufacturer shall be used only as guide to workmanship and not as guide to details. However, a standard pattern, if obtained from the purchasing or Quality Assurance Authority, shall constitute the standard as regard any particulars or properties noted/defined in this specification.
- 3.2 Only virgin material of specified grades shall be used.
- 3.3 The manufacturer should obtain from the source of procurement / raw material manufacturer certificated regarding –
 - (i) Batch and grade of raw material procured for the purpose and
 - (ii) The material test report pertaining to the batch and grade of raw material procured and submit the same to the Inspecting Officer.

4 MANUFACTURE

- 4.1 The manufacturer should submit 2 kg each of the specified plastic moulding material along with standard test specimen to the inspecting officer for material inspection and acceptance.
- 4.2 The dimensions and form of the store and its components are to be in conformity with the drawings issued. Process schedule for molding articles be prepared and given to Inspection Authority. Any subsequent change in the process schedule should be notified to the Inspecting Officer in advance.
- 4.3 Neither the completed store nor any component part shall be altered or rectified in any way not provided in the drawing or specification/QAP without the prior sanction of the Inspecting Officer.
- 4.4 Where the drawing or specification permits a choice of alternative materials or forms for particular components, the manufacturer is required to notify the Inspecting Officer in writing, which of the permitted alternatives he chooses to produce. If choice of

alternative is changed during the course of the order, the manufacturer shall again notify the Inspecting office of such changes.

- 4.5 Moulded components shall be made from material in a thoroughly dry condition to ensure moisture free granules before moulding.
- 4.6 The moulded components shall be free of porosity, warpage, checks, chipped edges, blisters and other defects, which would affect their serviceability and appearance.
- 4.7 All components shall be free of chips, dirt, grease and other foreign materials, the cleaning method used shall not be injurious to any of the parts nor shall the parts be contaminated by the cleaning agent used.
- 4.8 The joints between various components will be completely sealed against ingress of water i.e. Hinges, Latches and handles.

5. **PROTECTIVE TREATMENT**

- 5.1 Protective treatment, wherever necessary, shall be provided on components as per the respective drawings.

6. **MARKING AND PAINTING**

- 6.1 **Marking on the Package shall be done as per the instructions given on the relevant drawing.**

PROVISIONS:- Following items are required for test.

a) Influence Mine-II (Adrushy) HES filled with dummy fuze.	10 Nos.
b) container P 17 with 4 wooden dummy pellets.	3 Nos.
c) Battery box assy. (Non serviceable)	10 Nos.
d) key combination.	3 No.

7. **SAMPLING AND INSPECTION**

- 7.1 Arrangements for inspection
 - 7.1.1 The manufacturer shall notify the Inspecting Officer when he is in a position to start work and shall inform him of all sub-orders placed in connection with the order at the same time as they are placed.
 - 7.1.2 The Inspecting Officer shall have access at all times, to all Departments of manufacturing plants which are concerned with the production and storage of material for components under the order, at the works either of the manufacturer or of the sub-

manufacturers and shall arrange for Inspection to be carried out by his representatives as he considers necessary.

7.2 Inspection of Material

7.2.1 Before proceeding to manufacture, all material shall be submitted to the inspecting Officer in batches. Each batch shall contain a quantity of material prepared under uniform conditions in respect of composition and manufacturing processes.

7.2.2 The manufacturer shall not take into use any material or components until it has been accepted for its purpose by the Inspecting Officer, who may require the bulk of the material or the components to be sealed or bonded until results of tests or analysis of samples are available.

7.3 Samples for Testing

7.3.1 The manufacturer shall supply and prepare free of charge the materials or components required by the Inspecting Officer for testing purposes and shall provide the necessary facilities and apparatus which may be required for carrying out the test called for by the drawing or by this specification and other standard specifications.

7.3.2 Test pieces of samples will invariably be selected by the Inspecting Officer or his representative and will remain the property of the Government.

7.3.3 Samples size - General Sample size 3.% or otherwise mention in the QAP.

7.4 Submission and Inspection

7.4.1 The manufacturer is expected to submit for acceptance the material, components or assemblies called for in the order in suitably sized batches. The amount of material or number of units that comprises a batch will be decided by the Inspecting officer after consultation with the manufacturer.

7.4.2 Before offering Lot for inspection 100% Boxes be checked as stage inspection for water leakage test, along with tests reports.

8 Replacement by Manufacturer

8.1 Formal acceptance of material or components, by the Inspecting officer, shall not relieve the manufacturer of his responsibilities for any parts, which may subsequently prove to be defective. If material or components from batches accepted after sampling inspection proves to be subsequently defective during examination or assembly, the manufacturer shall be required to replace the defective material or components free of cost.

8.2 If the material or finished or partly finished stores are expended or damaged in examination or tests as stipulated in this specification or elsewhere as a condition of acceptance the manufacturer shall be required to replace or repair free of cost charge the number so expended or damaged which become the property of the Government.

8.3 Where finished stores are expended in tests stipulated in this specification or elsewhere as a condition of acceptance, the cost of the samples so expended will be borne by the manufacturer if the samples representing the lot have passed satisfactorily.

8.4 Method of Inspection

8.4.1 The inspection and acceptance shall be in accordance with relevant QAP No. NFM/IMMK-II PKG/02

8.4.2 The Inspection Authority reserves the right to inspect any unit of product within the batch in addition to operating sampling plan or plans associated.

8.4.3 The Inspection Authority reserved the right to reject any batch which is found during inspection to contain a defective whether that defective forms part of a sample or not.

8.4.4 The Inspection Authority shall draw one or more samples from each batch from the production intermittently.

8.4.5 In case of disputes about the Inspection characteristics of an item the verdict of the Inspection Authority/AHSP shall be final and binding upon the manufacturer.

9 TESTS

The mass of empty assembly of package shall be 14.5-15Kg.

Commercial items viz rivets, plates, Rods, Latches, Handel Assy. etc. are permitted, fabricated using SS-304 material and passing rust proof test.

9.1 Rust proof test: 5 samples of each metallic components the shall be subjected to rust proof test.

9.1.1 The samples to be immersed for 100 hours in a solution composed as under: -

Calcium Suplhate	:	1.5 g per litre
Magnesium Chloride	:	3.0 g per litre
Magnesium Suplhate	:	2.0 g per litre
Sodium Chloride	:	25.0 g per litre

Alternatively genuine sea water may be used.

be withdrawn and dried.

9.1.3 If the traces of rust are found on samples, the bulk will be rejected.

10. PACKING AND DELIVERY

Lot size - 250Nos +8 Samples. (For test)

10.1 Each package must be clearly marked with the order number and description of components, manufacturer's initials and recognized trademark and any other marking which the Inspecting Officer may direct.

10.2 The components / assembly shall be dispatched in lots as directed by the Inspecting Officer and in accordance with the terms of the order.

11. RESPONSIBILITY FOR SAFETY

11.1 Nothing in this specification shall relieve the manufacturer of the responsibility for the safety of his operations.

Place: Pune

LIST OF COMPONENTS FOR PACKAGE FOR INFLUENCE MINE MK-II (ADRUSHY)

SL No.	DESCRIPTION	DRG. No.	
1	Method of Packing for Influence Mine MK-II (ADRUSHY)	9707 00 04 00 00 000 00TA	
2	Method of Packing for Container No. 17P to hold 4 Booster Pellet	ISV 564 A	
3	Package for Influence Mine MK-II (ADRUSHY) empty Assy.	9707 00 04 01 00 000 00TA	
4	Lid Assy.	9707 00 04 01 01 000 00TA	
5	Lid	9707 00 04 01 01 001 00TA	
6	Piece packing top	9707 00 04 01 01 002 00TA	
7	Gasket	9707 00 04 01 01 003 00TA	
8	Hook (Latch)	COMMERCIAL(STAINLESS STEEL)	
9	SS Bolt and nut (M6x16)	STD	
10	SS Rivet (Dia 3.0x11mm)	STD	
11	Body Assy.	9707 00 04 01 02 000 00TA	
12	Body	9707 00 04 01 02 001 12TA	
13	Insert Plate	9707 00 04 01 02 001 22TA	
14	Piece packing bottom	9707 00 04 01 02 002 00TA	
15	Handle Assy.	COMMERCIAL(STAINLESS STEEL)	
16	Latch Assy.	COMMERCIAL(STAINLESS STEEL)	
17	SS Bolt and nut (M6x16)	STD	
18	Plain Washer	STD	
19	Rubber Washer	STD	
20	Hinge Assy.	COMMERCIAL(STAINLESS STEEL)	
21	SS Rivet (Dia 3.0x11mm)	STD	
22	Wire Rope with sleeve assy.	9707 00 04 01 03 000 00TA	
23	Clip	STAINLESS STEEL WIRE	
24	Sleeve	STD (PVC)	
25	Wire Rope	COMMERCIAL(STAINLESS STEEL)	
26	Ammunition, Container No. 17 P (Empty Assembly)	ISV 563 A	

PACKAGE FOR INFLUENCE MINE
MK-II (ADUSHY) EMPTY ASSY.

9707 00 04 01 00 000 00TA

INFLUENCE
MINE MK-II (ADUSHY) FILLED ASSY.

9707 00 01 00 00 000 12TB

METHOD OF PACKING FOR
INFLUENCEMINE MK-II (ADUSHY)

9707 00 04 00 00 000 00TA

METHOD OF PACKING FOR
CONTAINER No. 17 P TO HOLD 4 BOOSTER

DRG. No. ISV 564 A

DOUBLE BATTERY BOX ASSY

9707 00 02 03 13 000 00TB

KEY COMBINATION

9707 00 06 00 00 000 00TA

PACKAGE FOR INFLUENCE MINE MK-II
(ADRUSHY) FILLED ASSY.

1 2 3 4

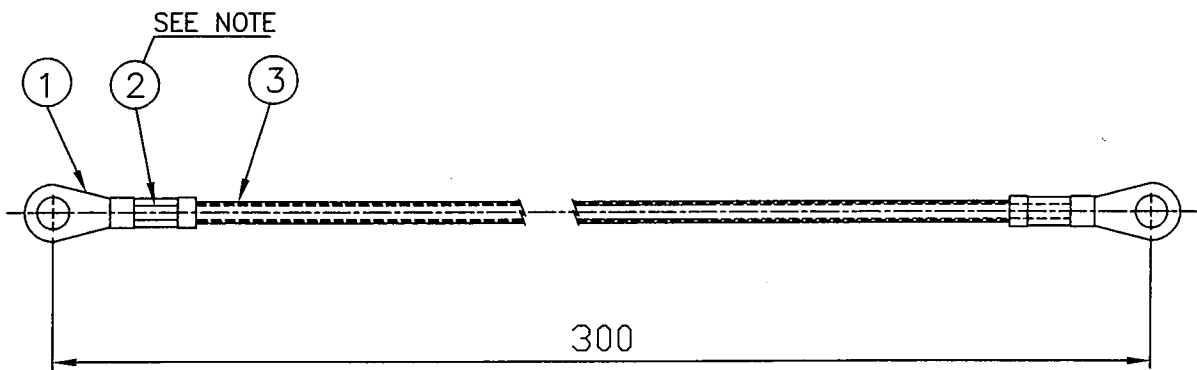
ISS 0 VA S SS IC DRG.No. 9707 00 04 01 03 000 00TA

GEN TOL FINE/MEDIUM/COARSE CLASS TO IS:2102

DRG CONVENTIONS CONFIRM TO INDIAN STD DIMN IN mm UNLESS OTHERWISE STATED

BILL OF MATERIAL

S.NO.	DESCRIPTION	DWG NO.	QTY
1	WIRE CLIP Mat:-SS, Size:-Sutaible to wire Diameter	COMMERCIAL	2
2	SLEEVE Mat:-PVC Size:-Sutaible to wire Diameter and length as reqd.	COMMERCIAL	1
3	WIRE ROPE Mat:-SS, Size:- ϕ 2mm x Length as required.	COMMERCIAL	1



NOTE:- WIRE ROPE BE CRIMPED AND BRAZED WITH CLIP.

S No	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	GO
DRN	CHD	<i>[Signature]</i>	MATERIAL		SIGN	
APPD DATE	For Director		PROTECTIVE FINISH			
SEALED DATE	SCALE	EST MASS	TITLE			
DESIGN AUTHORITY			WIRE ROPE WITH SLEEVE ASSY			
ARDE	PUNE 411021					
DRG.No.	9707	00	04	01	03	000 00TA
	IC	SS	S	AA	A	C SST
PART No	DS CAT No			AHSP		

1 2 3 4

QUALITY ASSURANCE PLAN		QAP NO:NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb2020	Revision No:0	Date:	Page 1 of 1
ASSEMBLY		WIRE ROPE WITH SLEEVE ASSY		

1 Drawing No.:- 9707 00 04 01 03 000 00TA

2 Method of Manufacture:- Assembly

The vendor will submit the assembly for inspection in the fully assembled condition. The vendor will ensure that the Filled Box should withstand the load. One end of the wire rope with sleeve assembly is fitted with Top box and other end of the wire rope with sleeve assy. is fitted with Bottom Box.

3 Receiving inspection: Nil

4 In-Process Inspection: Nil

5 Stage Inspection: - Nil

6 Final Inspection:

6.1 Visual examination: commercial item can be used

6.1.1 Features for Visual Examination and Acceptance Criteria:-

Sl.	Details of features	Sample Size	Acceptance Criteria
1.	The wire rope should withstand the load.	100%	The package and contents should remain serviceable.
2	Rust proof test	5 Nos.	Wire rope should not be rust.

6.2 Dimensional Inspection:-

6.2.1 Critical Dimensions:- NIL

6.2.2 Major Dimensions:-Nil

6.3 Tests on Finished Items:-

6.3.1 Details of Tests / Checks on Finished Items and Acceptance Criteria:-

Sl.No	Test / Check	Sample Size	Test method	Acceptance Value
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7 Details of Tests: NIL

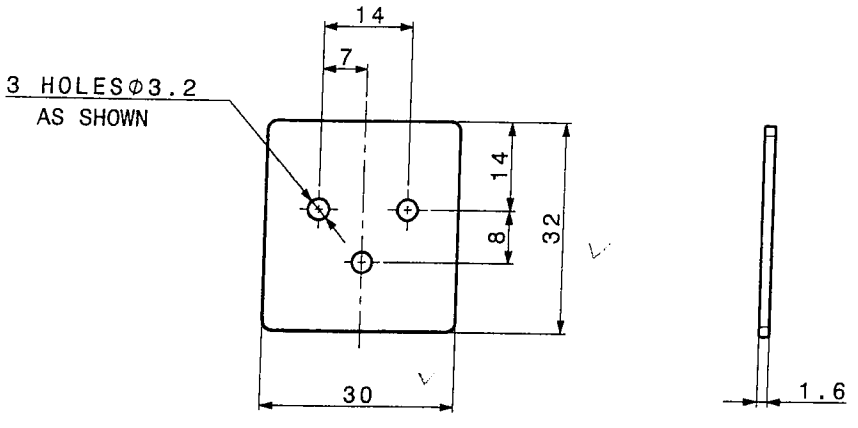
Prepared By SN KHANDADE, TO'C	Recommended By SHOBHA SINGH. SC'E'
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DRG. No. 9 7 0 7 0 0 0 4 0 1 0 2 0 0 1 2 2 T A

IC SS S AA A C SST

GEN TOL FINE/MEDIUM/COARSE-CLASS TO IS:2102

DRG CONVENTIONS CONFORM TO INDIAN STDS. DIMN IN mm UNLESS OTHERWISE STATED



NOTE:- ALL SHARP CORNERS TO BE REMOVED.

S No	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	GO
DRN	NILESH	CHD <i>[Signature]</i>	MATERIAL	SIGN		
APPD	DATE	For Director	STAINLESS STEEL Gr.304 AS PER STD. ASTM A240			
SEALED	DATE		PROTECTIVE FINISH			
SCALE	1:1	EST MASS	TITLE			
DESIGN AUTHORITY	ARDE		INSERT PLATE			
PUNE 411021						

DRG. No. 9 7 0 7 0 0 0 4 0 1 0 2 0 0 1 2 2 T A

IC SS S AA A C SST

PART No DS CAT No AHSP

QUALITY ASSURANCE PLAN		QAP NO: NFM/IMMK-II/PKG/02		
Issue No.1	Date:	Revision No:00	Date:	Page 1 of 2
Component		INSERT PLATE		

1 Drawing No.:- 9707 00 04 01 02 001 22TA

2 Method of Manufacture:- General Engineering

3 Receiving inspection:

3.1 Raw material:- a) Stainless Steel to Gd 304 AS PER STD ASTM A 240.

b) The Vendor should obtain raw material certificate(s) from the source of procurement/manufacturer pertaining to the batch and grade of raw material, and submit the same to the Inspection Authority. Alternately, the Vendor should get the raw material tested from Authorized Laboratory in presence of QA rep & project division rep and produce the test certificate

3.2 Tests / Checks and Acceptance Criteria for Raw Material:-


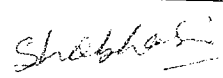
Sl. No	Test / Check	Parameter	Test method	Unit	Specified Value
1	Chemical	Carbon ,(%)	ASTM A240 Gd. 304	%	0.08max
		Silicon,(%)	ASTM A240 Gd. 304	%	0.75max
		Manganese,(%)	ASTM A240 Gd. 304	%	2.0max
		Phosphorus,(%)	ASTM A240 Gd. 304	%	0.045max
		Sulphur,(%)	ASTM A240 Gd. 304	%	0.030max
		Chromium,(%)	ASTM A240 Gd. 304	%	18.0-20.0
		Nickel,(%)	ASTM A240 Gd. 304	%	8-10.5

3.2.1 Tests / Checks and Acceptance Criteria for Inserts Raw Material:-

4 In-Process Inspection: Nil

5 Stage Inspection:- Nil

6 Final Inspection:-

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Component		INSERT PLATE	
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6.1 Visual examination:- Nil

6.1.1 Features for Visual Examination and Acceptance Criteria:-

6.2 Dimensional Inspection:-

6.2.1 Critical Dimensions:- NIL

6.2.2 Geometrical Features: -Nil


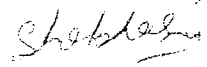
6.2.3 Major Dimensions:- To be classified as per the Major Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No.	Dimension / Feature	Drawing Zone	Inspection Method
1	30	C-2	General Engineering
2	3 HOLES Ø3.2	B-1	General Engineering
3	32	C-3	General Engineering

6.2.4 Minor Dimensions:- To be classified as per the Minor Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.
Dimension are for general guidance.

6.3 Tests on Finished Items

6.3.1 Details of Tests / Checks on Finished Items and Acceptance Criteria:- Nil

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Component		BODY	

4 In-Process Inspection:- Nil

5 Stage Inspection:- Nil

6 Final Inspection:- Nil

6.1 Visual examination:- Nil

6.1.1 Features for Visual Examination and Acceptance Criteria:-

Sl. No.	Details of features	Sample Size	Acceptance Criteria
1	Blowholes, Warpage, Flash, Blisters Short shot, Sink Mark, Burn Mark, Weld line, Flow mark & Side wall Dragging marks	100%	Should not be present
2	Gate mark	100%	Should not be present
3	Mechanical work i.e. Machining, Heat treatment	100%	Not applicable
4	Discoloration	100%	Not applicable
5	Porosity	5%	Should not be present

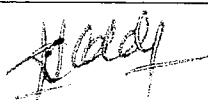
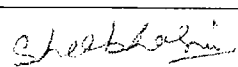
6.2 Dimensional Inspection:-

6.2.1 Critical Dimensions: NIL

6.2.2 Geometrical Features: -Nil

6.2.3 Major Dimensions:- To be classified as per the Major Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No.	Dimension / Feature	Drawing Zone	Inspection Method
1	690 ±10	D-5	General Engineering
2	370 ±10	E-7	General Engineering
3	430 ±10	D-2	General Engineering

Prepared By: SN KHANDADE, TO'C'		Recommended By: SHOBHA SINGH, SC'E'	
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QUALITY ASSURANCE PLAN		QAP NO: NFM/IMMK-II/PKG/02		
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1. Drawing No.:- 9707 00 04 01 02 001 12TA

2. Method of Manufacture:- Roto Moulding.

The manufacturer will prepare and supply the process schedule to the Inspection Authority which is to be followed for the manufacture of the components. The process schedule will be vetted and approved by the Inspection agency. Any subsequent change in the process will be notified to the Inspection authority for their approval.

3. Receiving inspection:-

3.1 Raw material :- a) Linear Low Density Polyethylene (LLDPE)
b) The Vendor should obtain raw material certificate(s) from the source of procurement/manufacturer pertaining to the batch and grade of raw material, and submit the same to the Inspection Authority. The Vendor should get the raw material tested from Authorized Laboratory in presence of Inspection Authority.

3.2 Tests / Checks and Acceptance Criteria for Plastic Raw Material:-

Sl. No	Test / Check	Parameter	Test method	Unit	Acceptance Value
1	Mechanical properties	Melt Flow Index (190°C / 2.16 kg)	ASTM D 1238	cc/10min	4-5
		Tensile strength at Yield	ASTM D 638	MPa	18 min
		Elongation at Yield	ASTM D 638	%	20
		Flexural modulus	ASTM D 790	Kg/cm	500 min
		Izod notched impact strength	ASTM D 256	Kg.cm/cm	20 min
		Density (23°C)	ASTM D 792	g/cc	0.933-0.936
		Vicat Softening Point	ASTM D 1525	C	113°C min

These values are obtained from firm needs to conform with spec. If value confirms accept the material.

3.2.1 Tests / Checks and Acceptance Criteria for Inserts Raw Material:

Prepared By: SN KHANDADE, TO'C'	Recommended By: SHOBHA SINGH, SC'E'
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Component		BODY		


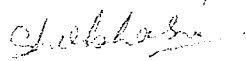
6.2.4 **Minor Dimensions:-** To be classified as per the Minor Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No.	Dimension / Feature	Drawing Zone	Inspection Method
1	630(TP)	D-5	General Engineering
2	600 ±10	D-5	General Engineering
3	340 ±10	D-2	General Engineering
4	370(TP)	D-2	General Engineering

6.3 Tests on Finished Items:-

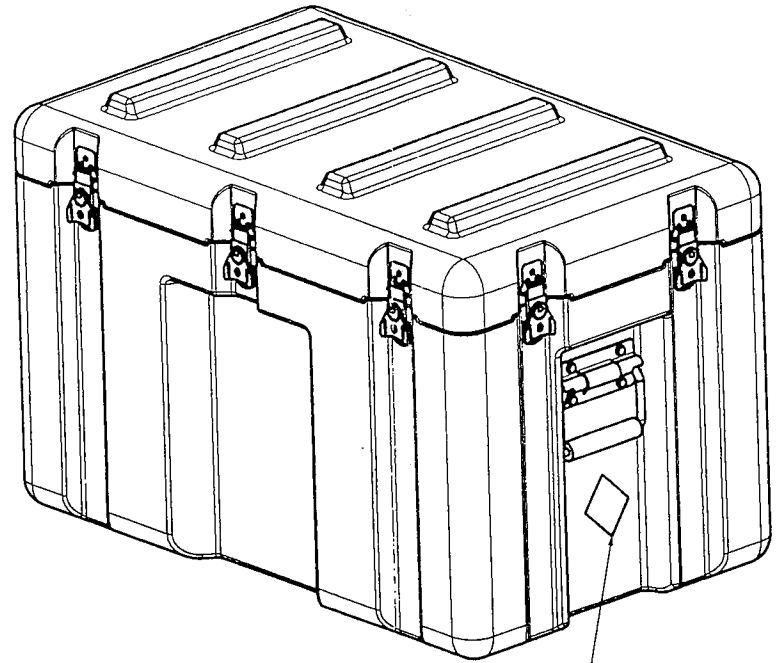
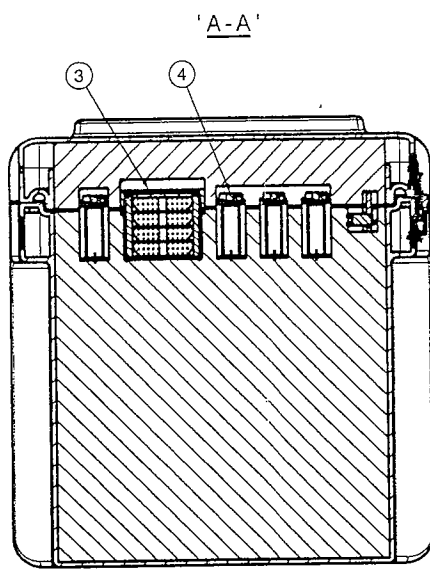
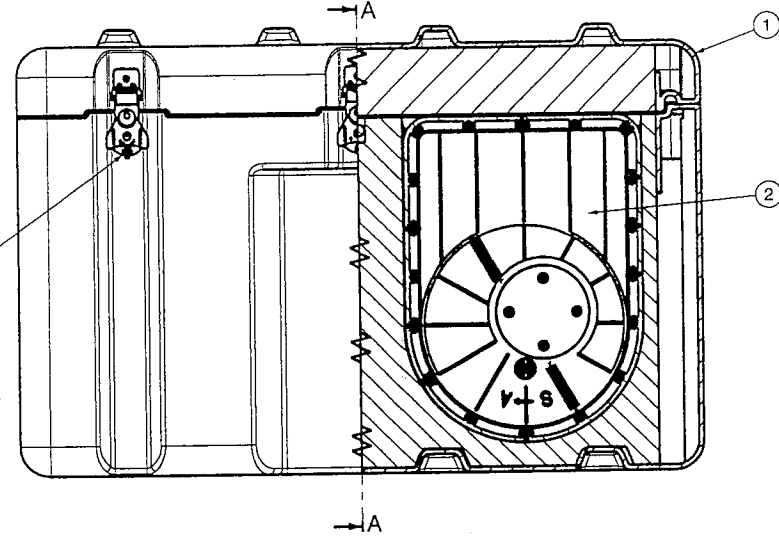
6.3.1 Details of Tests / Checks on Finished Items and Acceptance Criteria:-

Sl. No.	Test / Check	Sample Size	Test method	Acceptance Value
1.	Fitment trials in conjunction with other relevant components	On 5% of randomly selected sample	---	Proper fitment of relevant components

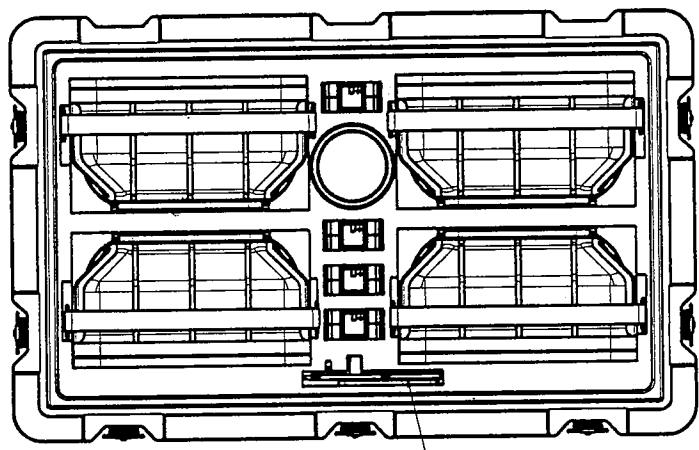
Prepared By: SN KHANDADE, TO'C'		Recommended By: SHOBHA SINGH, SC'E'	
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DRG. No. 9707 00 04 01 00 000 00TA
 GEN. TOL. FINE/MEDIUM/COARSE CLASS TO IS:2102
 DRG. CONVENTIONS CONFIRM TO INDIAN STD. DIMN. IN mm UNLESS OTHERWISE STATED

ITEM No.	DESCRIPTION	DRAWING No.	PART NO.	No. OFF
1	PACKAGE FOR INFLUENCE MINE MK-II (ADRUSHY) EMPTY ASSY.	9707 00 04 01 00 000 00TA	---	1
2	INFLUENCE MINE MK-II (ADRUSHY MK-II)	9707 00 01 00 00 000 12TA	---	4
3	METHOD OF PACKING FOR:- CONTAINER NO.P17 TO HOLD 4 BOOSTER PELLETS	---	ISV 564A	1
4	DOUBLE BATTERY BOX ASSY.	9707 00 02 03 13 000 00TB	---	4
5	KEY COMBINATION	9707 00 06 00 00 000 00TA	---	1



PLAN WITHOUT LID



NOTES:-

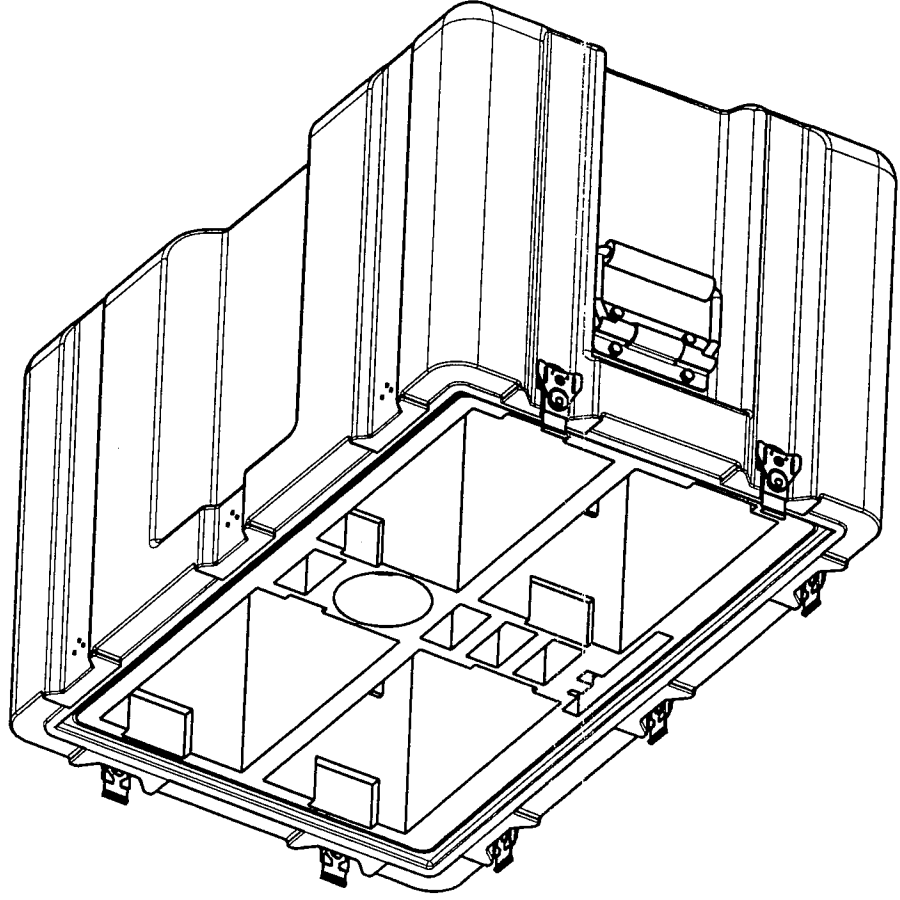
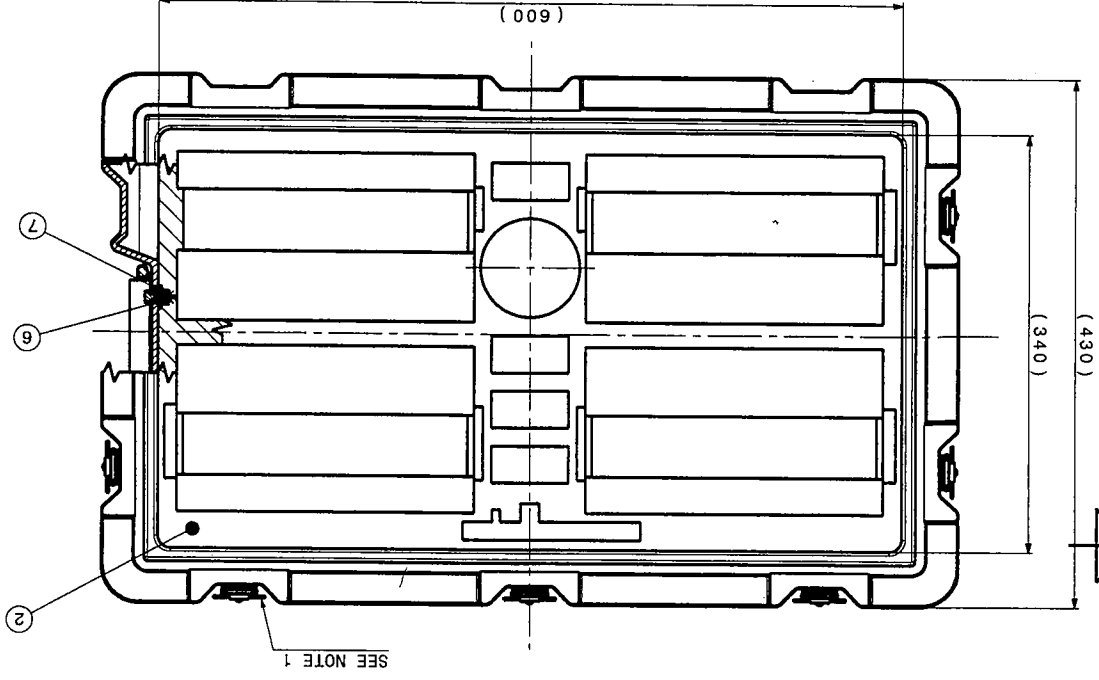
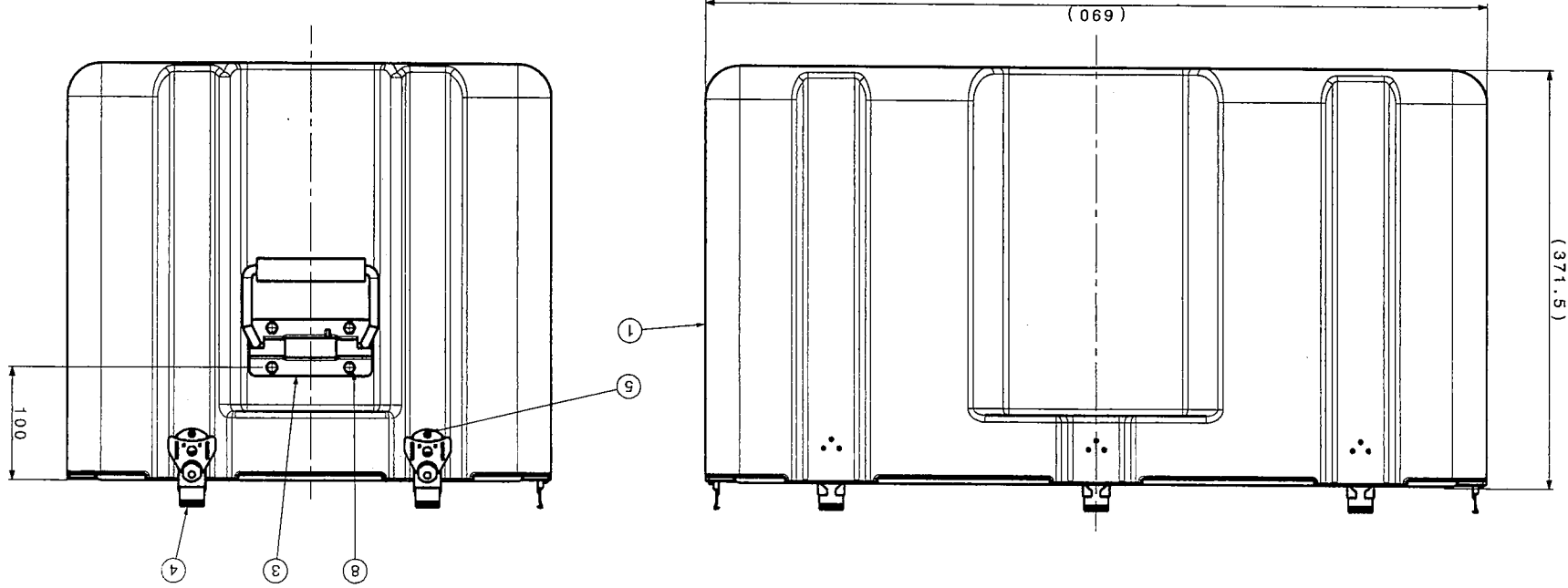
- 1) WHEN PACKED AFTER PUTTING IN PACKERS LABEL WIRE STEEL SOFT GALVANISED $\phi 1$ OR $\phi 1.25 \times 100$ LONG. TO SPEC. IS:280 TO BE PASSED THROUGH HOLES TWISTED AND SEALED WITH SEAL LEAD $\phi 10$ WHICH IS STAMPED WITH INSPECTORS MONOGRAM. THE ENDS OF WIRE TO BELT LEFT LONG ENOUGH TO ENABLE UNTWISTING BY HAND.
- 2) ONE LEAFLET OF HARBOUR AND LAYING DRILL (A-4 SIZE PAPER) KEEP INSIDE BEFORE SEALING THE BOX.

Sr. No.	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	GO
DRN.	NILESH	CHD. <i>[Signature]</i>	MATERIAL		SIGN	
APPD.	DATE	For Director	PROTECTIVE FINISH			
SCALE	1:5	EST. MASS	TITLE METHOD OF PACKING FOR:-			
DESIGN AUTHORITY	ARDE	PUNE 411021	INFLUENCE MINE MK-II (ADRUSHY) (4 INFLUENCE MINE MK-II, 4 BATTERY, 1 KEY COMBINATION, 1 CONT.No.P17 CONTAINING 4 BOOSTER PELLETS)			
DRG. No.	9707	00	04	00	000	00TA
PART No.		DS CAT. No.		AHSP		

GEN. TOL. FINE/MEDIUM/COARSE
 CLASS TO IS:2102
 DRG. CONVENTIONS CONFIRM TO INDIAN STD.
 DIMN. IN mm UNLESS OTHERWISE STATED

DRG. No. 9707 00 04 01 02 001 12TA

ITEM No.	DESCRIPTION	DRAWING No.	PART No.	No. OFF
1	BODY	9707 00 04 01 02 001 12TA		1
2	PIECE PACKING BOTTOM	9707 00 04 01 02 002 00TA		1
3	HANDLE ASSY.		COMMERCIAL	2
4	LATCH ASSY.		COMMERCIAL	7
5	SS RIVET SIZE - ϕ 8 X11		STD.	21
6	PLAIN WASHER-ID	6.5XOD-12.5XTHK-1.6	STD.	8
7	RUBBER WASHER-ID	6.5XOD-12.5XTHK-1.6	STD.	8
8	HEX. HD BOLT AND NUT	M6X12 LG.	STD.	8



NOTES :

- 1) LATCHES FITMENT AND POSITION BE MATCHED WITH LID ASSY.
- 2) INNER FITMENT BE BONDED WITH BOX USING ADHESIVE FEVICOL SR 505.
- 3) LOCATION OF HANDLE NOMINAL DIMENSION 100 mm.

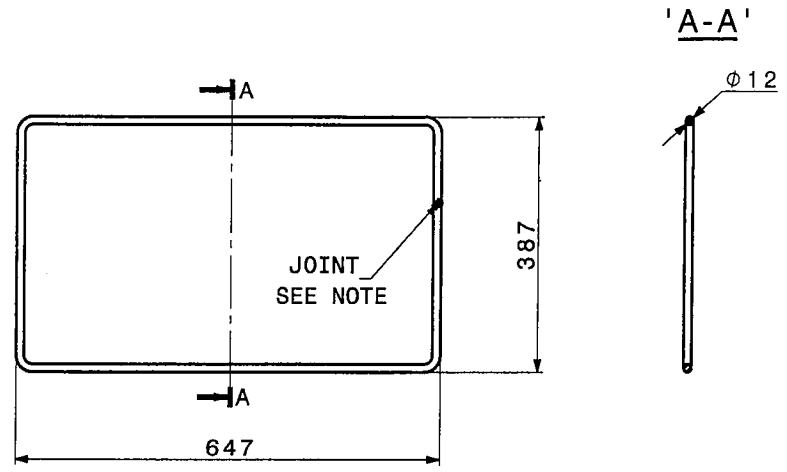
SP. No.	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	SIGN
DRN. No.	DATE	APPD.	MATERIAL			
DRN. NILESH	For Director	SEALD	PROTECTIVE FINISH			
SCALE 1:5	EST. MASS	TITLE				
DESIGN AUTHORITY						
PUNE 411021						
DRG. No.	IC	SS	AA	A	C	SST
970700040102001A	00	04	01	02	000	00TA
PART No.	DS CAT. No.	AHSP				

1 2 3 4

ISS 0 VA S SS IC DRG.No. 9 7 0 7 0 0 4 0 1 0 1 0 0 3 0 0 T A

GEN TOL FINE/MEDIUM/COARSE-
CLASS TO IS:2102

DRG CONVENTIONS CONFORM TO INDIAN STDS.
DIMN IN mm UNLESS OTHERWISE STATED



NOTE: - THE JOINT BE PASTED USING THE ADHESIVE FEVICOL FOAMFIX
OR FEVICOL SR 505.

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S No	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	GO
DRN	NILESH	CHD <i>Nilesh</i>	MATERIAL		SIGN	
APPD	DATE	For Director	ETHYLENE PROPYLENE DIENE MONOMER RUBBER (EPDM)			
SEALED	DATE		PROTECTIVE FINISH			
SCALE	1:10	EST MASS	TITLE			

DESIGN AUTHORITY
ARDE
PUNE 411021

GASKET

DRG.No. 9 7 0 7 0 0 4 0 1 0 1 0 0 3 0 0 T A
IC SS S AA A C SST

PART No DS CAT No AHSP

1 2 3 4

QUALITY ASSURANCE PLAN		QAP NO: NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb2020	Revision No:0	Date:	Page 1 of 2
Component		GASKET		

1. Drawing No. :- 9707 00 04 01 01 003 00TA

2. Method of Manufacture:- Rubber Molding

The manufacturer will prepare and supply the process schedule to the Inspection Authority which is to be followed for the manufacture of the component on his approval and any subsequent change in the process will be notified to the Inspection Authority for approval.

3. Receiving inspection:-

3.1 Raw material :- ETHYLENE PROPYLENE DIENE MONOMER (EPDM)

The Vendor should obtain raw material certificate(s) from the source of procurement / manufacturer pertaining to the batch and grade of raw material, and submit the same to the Inspection Authority. The Vendor should get the raw material tested from Authorized Laboratory in presence of Inspection Authority .

3.2 Tests / Checks and Acceptance Criteria for Raw Material :- ETHYLENE PROPYLENE DIENE MONOMER.

S.NO.	DESCRIPTION	TEST METHOD	UNIT	SPEC. VALUE
1	Polymer	I D by Spectrophotometry		EPDM
2	Hardness	ASTM D 2240	Shore A	15-30
3	Density	ISO1183	g/cc	0.5-1
4	ASH CONTENT	-----	-----	< 4.98

4. In-Process Inspection:- Nil

5. Stage Inspection:- Nil

6. Final Inspection:-

6.1 Visual examination:-

Prepared By: SN KHANDADE, TO'C	Recommended By: SHOBHA SINGH, SC'E'
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QUALITY ASSURANCE PLAN		QAP NO: NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb2020	Revision No:0	Date:	Page 2 of 2
Component		GASKET		

6.1.1 Features for Visual Examination and Acceptance Criteria:-

Sl. No	Details of features	Sample Size	Acceptance Criteria
1	Blisters and surface imperfections	100%	Should not be present

6.2 Dimensional Inspection:-

6.2.1 Critical Dimensions:- Nil

6.2.2 Geometrical Features:- Nil

6.2.3 Major Dimensions:- To be classified as per the Major Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as Para 7.3.3 of per General Information Section of this document.

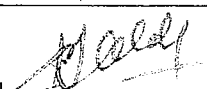
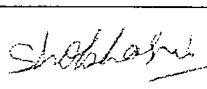
Sl. No.	Dimension / Feature	Drawing Zone	Inspection Method
1	647	C-2	General Engineering
2	387	B-3	General Engineering
3	ø 12.0	B-4	General Engineering

6.2.4 Minor Dimensions:- To be classified as per the Minor Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

6.3 Tests on Finished Items:-

6.3.1 Details of Tests / Checks on Finished Items and Acceptance Criteria:

Sl. No	Test / Check	Sample Size	Test method	Acceptance Value
1.	Fitment trials in conjunction with other relevant components	On 5% of randomly selected sample	---	Proper fitment of relevant components

Prepared By: SN KHANDADE, TO'C' 	Recommended By: SHOBHA SINGH, SC'E' 
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V 499 1SV 564 A
PART NO.

DRG. CONVENTIONS CONFORM TO IS: SPEC

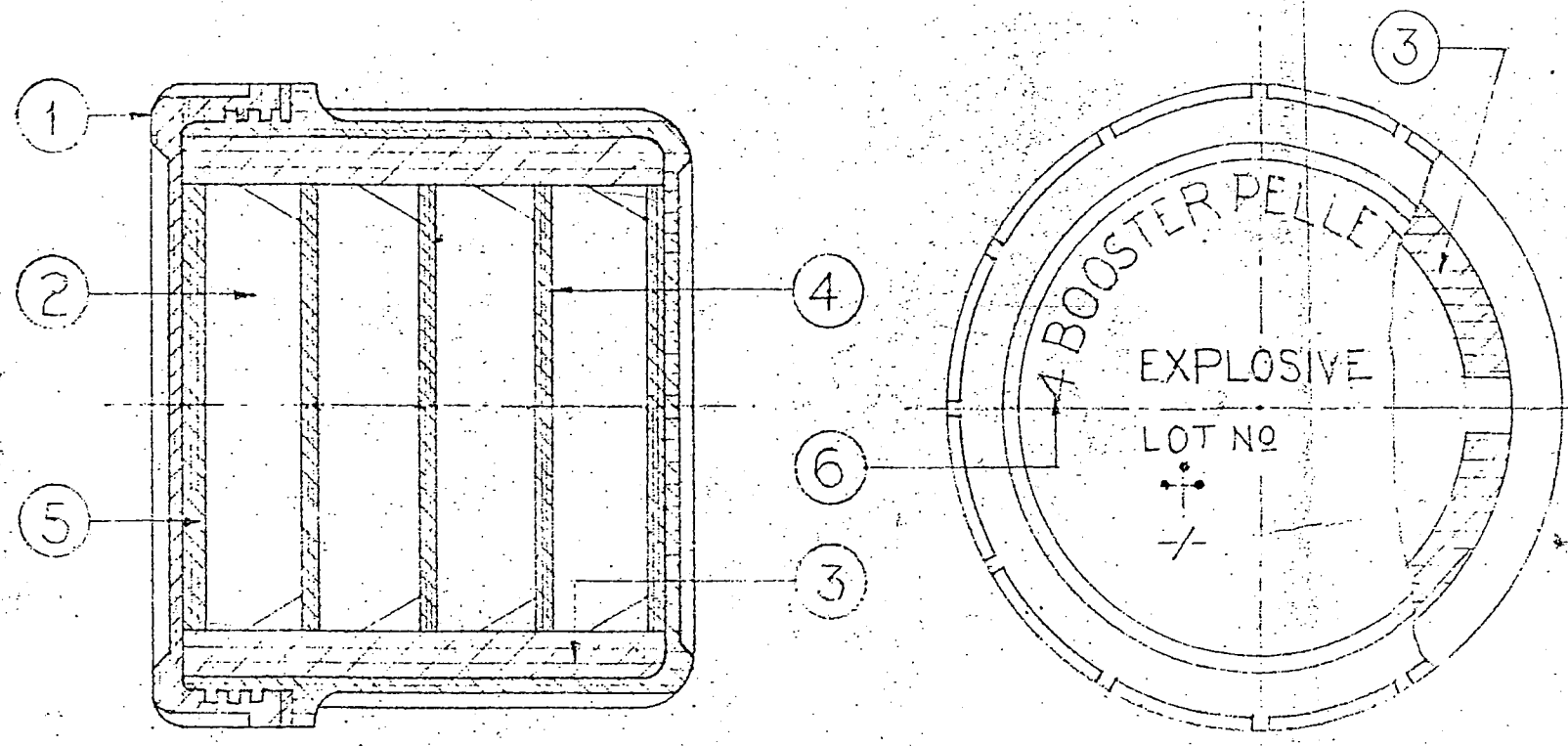
DIMS. ARE IN mm

D.C. 36274 -A.

GEN. TOL MEDIUM CLASS TO IS: 2102 PT. 1 1980 (RA 1291)

LIST OF COMPONENTS

ITEM NO	DESCRIPTION	PART NO	DESIGNER'S REF	NO PER SET
1	CONTAINER NO 17P (EMPTY ASSY)	1SV564A	ARDE 1910	1
2	BOOSTER PELLET		ERDL 1309	4
3	PIECE PACKING (SIZE :- 225X69X6 THICK)	-	-	1
4	DISC (SIZE :- ϕ 62 X 3mm THICK)	-	-	4
5	PIECE PACKING (SIZE ϕ 62 X 6 mm THICK)	-	-	1
6	LABEL I.A. 1034	-	ARDE 2240 DET 12	1



MATERIAL FOR S. NO 3 & 4

CROSSLINKED POLYETHYLENE FOAM

- a) DENSITY - 50 - 60 kg/m³
- b) TENSILE STRENGTH - 7 kg/cm² MIN.
- c) ELONGATION - 12% MAX
- d) TEAR STRENGTH - 1.5 kg/cm MIN.
- e) COMPRESSION - 12% MAX
- f) WATER ABSORPTION - 0.02 gm/cm² MAX.
- g) WORKING TEMP - 50°C TO +100°C
- h) COLOUR - BLACK

NOTE :- TESTS CARRIED OUT AS PER ASTM.

MATERIAL FOR S. NO 5

EXPANDED POLYETHYLENE FOAM TO SPEC IND/ME/913 (PROV) OF DENSITY 25 TO 30 kg/m³

				DRN :- AKJ	CHD :-	TRD :-	COMP :-	ASSY. DRG. 1SV 510 GA
				C.D. MAN	ONE P.O.	SCALE :- N.T.S.		
				APPD.	For CQA (A)	EST. MASS :- NOT APPLICABLE		
28-4-97	D.C. 36274 -A	DRG. PROC. SEALED.				GAUGE SCHED. NOT APPLICABLE		DATE :- 23-12-96
R. No.	DATE	AUTHORITY	REVISION	ZONE	AHSP	D.O.	MATERIAL :- AS ABOVE	
DRG. SEALED :- 28-4-97 (PROV)					SIG.		PROTECTIVE FINISH :- NOT APPLICABLE	
								DESIGNER'S REF. ARDE 2240
								DET. NO 11
								PART No. 1SV 564 A
								D.S. CAT. No. NOT APPLICABLE
								AHSP :- CQA (A), KIRKEE

METHOD OF PACKING FOR CONTAINER NO 17P TO HOLD 4 BOOSTER PELLETS

**PACKAGE FOR INFLUENCE MINE MK-II
(ADRU SHY) EMPTY ASSY.**

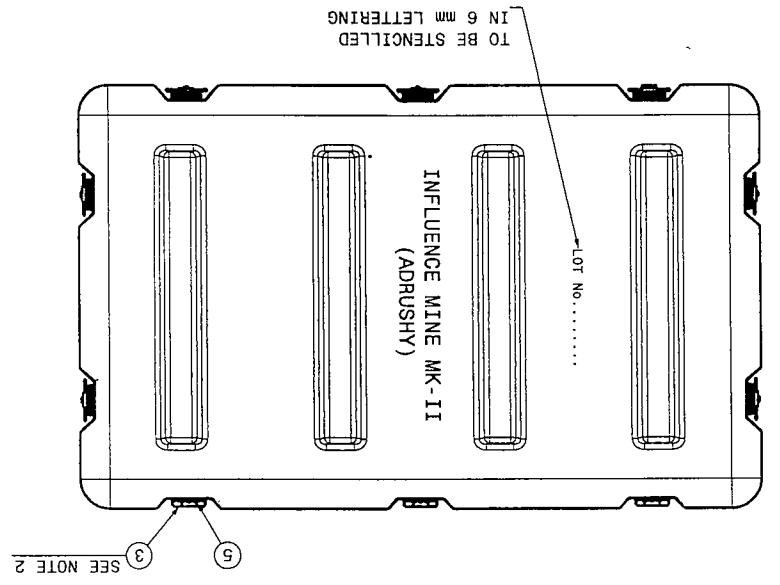
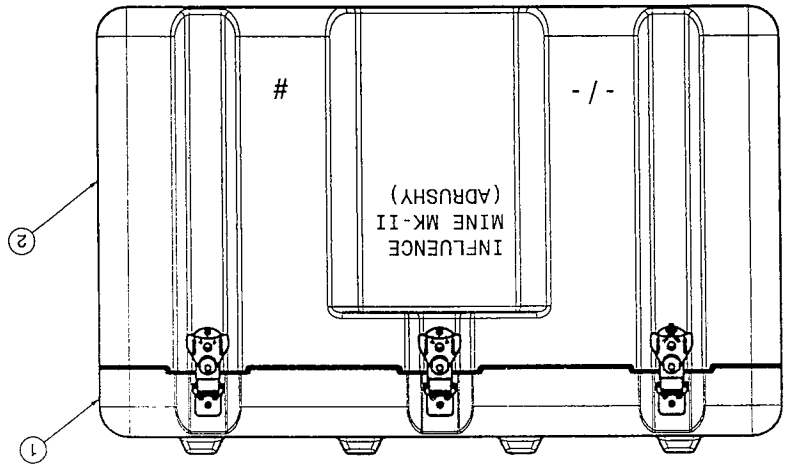
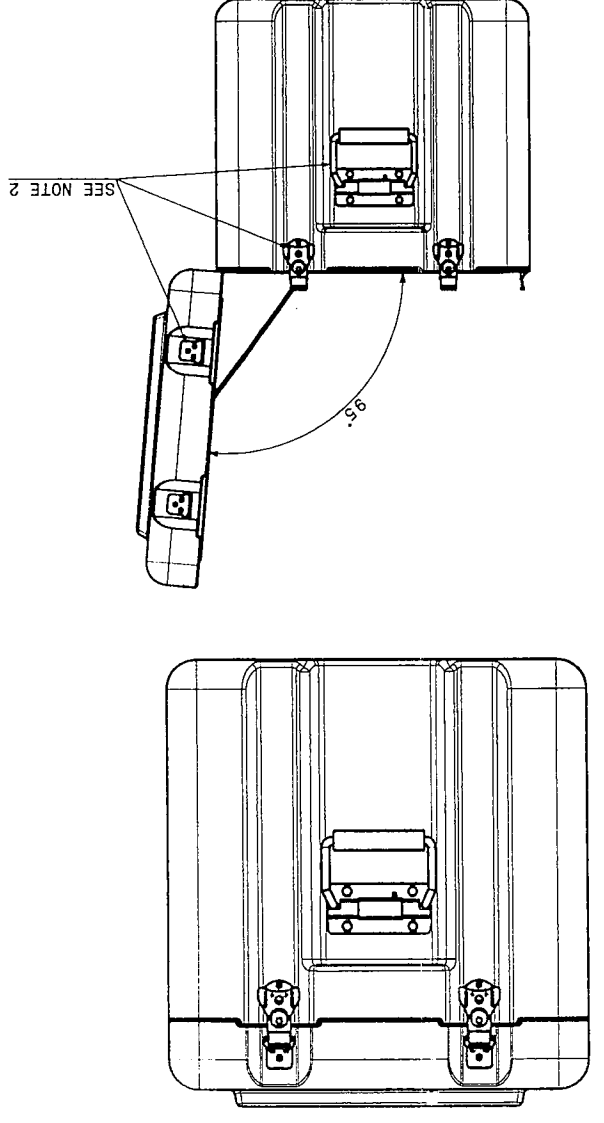
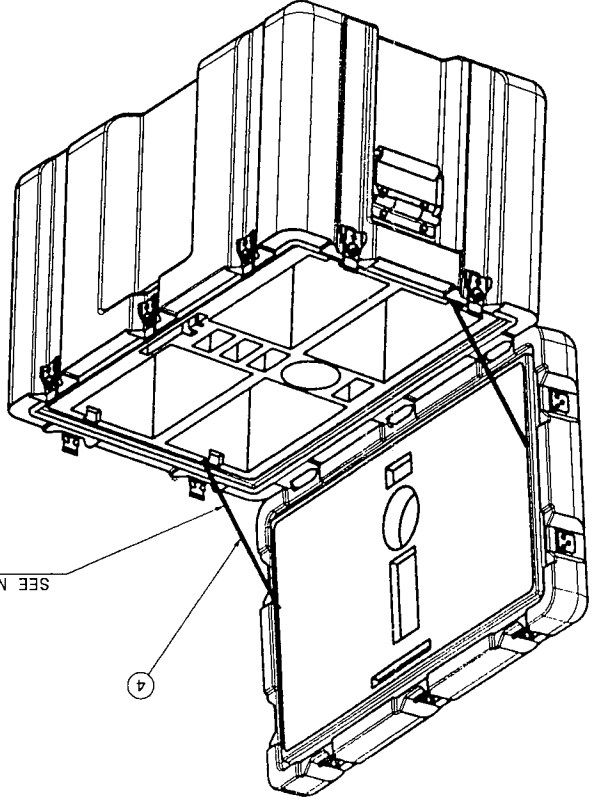
9707 00 04 01 01 001 00TA	LID	
9707 00 04 01 01 002 00TA	PIECE PACKING TOP	
9707 00 04 01 01 003 00TA	GASKET	
9707 00 04 01 01 000 00TA	LID ASSY	
9707 00 04 01 01 000 00TA	HOOK (LATCH)	
9707 00 04 01 01 000 00TA	COMMERCIAL (STAINLESS STEEL)	
9707 00 04 01 01 000 00TA	SS BOLT AND NUT (M6X16)	
9707 00 04 01 01 000 00TA	SS RIVET (DIA 3.0 x11MM)	
9707 00 04 01 02 001 12TA &	INSERT PLATE	
9707 00 04 01 02 001 22TA	PIECE PACKING BOTTOM	
9707 00 04 01 02 002 00TA	BODY	
9707 00 04 01 02 001 00TA	HANDLE ASSY	
9707 00 04 01 02 001 00TA	COMMERCIAL (STAINLESS STEEL)	
9707 00 04 01 02 001 00TA	LATCH ASSY	
9707 00 04 01 02 001 00TA	COMMERCIAL (STAINLESS STEEL)	
9707 00 04 01 02 001 00TA	SS BOLT AND NUT (M6X16)	
9707 00 04 01 02 001 00TA	PLAIN WASHER	
9707 00 04 01 02 001 00TA	RUBBER WASHER	
9707 00 04 01 02 001 00TA	STD	
9707 00 04 01 02 001 00TA	COMMERCIAL (STAINLESS STEEL)	
9707 00 04 01 02 001 00TA	HINGE ASSY	
9707 00 04 01 02 001 00TA	SS RIVET (DIA 3.0 x11MM)	
9707 00 04 01 03 000 00TA	WIRE ROPE WITH SLEEVE ASSY.	
9707 00 04 01 03 000 00TA	STD	
9707 00 04 01 03 000 00TA	WIRE ROP	
9707 00 04 01 03 000 00TA	STAINLESS STEEL WIRE Ø 2.0	
9707 00 04 01 03 000 00TA	SLEEVE	
9707 00 04 01 03 000 00TA	STD (PVC OD 3 INNER DIA 2.5 X260L)	
9707 00 04 01 03 000 00TA	WIRE ROPE HEAD	
9707 00 04 01 03 000 00TA	COMMERCIAL (STAINLESS STEEL)	

9707 00 04 01 00 000 00TA
PACKAGE FOR INFLUENCE MINE
MK-II (ADRU SHY)
EMPTY ASSY.

1	2	3	4	5	6	7	8	9	10	11	12	
SS	C	A	AA	S	SS	IC	DRG. No. 9707 00 04 01 00 00TA					
GEN. TOL. FINE/MEDIUM/COARSE												
DRG. CONVENTIONS CONFIRM TO INDIAN STD.												
DIMM. IN mm UNLESS OTHERWISE STATED												

ITEM NO.	DESCRIPTION	DRAWING NO.	NO. OFF.
1	110 ASSY.	9707 00 04 01 01 000 00TA	1
2	BODY ASSY.	9707 00 04 01 02 000 00TA	1
3	HINGE ASSY.	9707 00 04 01 02 000 00TA	1
4	MATL. SS 304	COMMERCIAL	3
5	WIRE ROPE ASSY.	9707 00 04 01 03 000 00TA	2
6	SS RIVET 4X11	STD.	18

ITEM LIST



NOTES :-

1. WIRE ROPE WILL BE FITTED TO THE BOTH TOP AND BOTTOM BOX
2. USING THE STEEL RIVET.
3. COMMERCIAL ITEMS PERMITTED, FABRICATED USING SS 304 MATERIAL AND PASSING RUST PROOF TEST.
4. DETAILS OF TEST FOR REGULAR PRODUCTION REFER QAP PARA. NO. 6.3.1
5. LOAD TEST FOR HANDLE ASSY. REFER QAP PARA. NO. 6.3.1

MARKING & STENCILLING :-

MARKING TO BE IN 12 mm LETTERING EXCEPT OTHERWISE STATED WITH READY MIXED PAINT MARKING FOR PACKAGES YELLOW GOLDEN (IS:5:ISC:356) TO SPEC. IS:138-1992
 MARKING TO BE ON TOP AND SIDE ONLY.
 THE POSITION OF STENCILLING MUST BE EXACTLY AS SHOWN.

BOX SIZE :- BOX OUTER SIZE - 690X430X435

PART No.		DS CAT. No.		AHSF	
DRG. No. 9707 00 04 01 00 00TA		SS		IC	
DESIGN AUTHORITY		EST. MASS		SCALE 1:5	
TITLE		DATE		SEALD	
PACKAGE FOR INFLUENCE MINE MK-II (ADRUSHY) EMPTY ASSY.		For Director		DATE	
MATERIAL		APD.		DATE	
AUTHORITY		DRM.		DATE	
BRIEF RECORD		SIGN		ZONE	
CD		GO		SIGN	

1 2 3 4 5 6 7 8 9 10 11 12

H

G

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A

QUALITY ASSURANCE PLAN		QAP NO: NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb 2020	Revision No: 0	Date:	Page 1 of 6
ASSEMBLY		PACKAGE FOR INFLUENCE (ADRUSHY) MINE-II EMPTY ASSY		


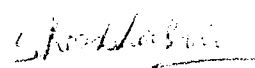
1. **Drawing No.:** 9707 00 04 01 00 000 00TA
2. **Method of Manufacture: Roto Moulding**

The manufacturer will prepare and supply the process schedule to the Inspection Authority which is to be followed for the manufacture of the component on his approval and any subsequent change in the process will be notified to the Inspection Authority for approval.
3. **Receiving inspection:**
 - 3.1 **Raw material: Linear Low Density Polyethylene (LLDPE).**
The manufacturer will obtain raw material certificate(s) from the source of procurement pertaining to the batch and grade of raw material, or test the sample at Approved Labs.
4. **In-Process Inspection: NIL**
5. **Stage Inspection:-**
 - 5.1 **Details of Dimensions / Features / Parameters for Verification at stages:** At the first stage before commencing production, the moulds and the first few samples will be examined critically for completeness and totality of features as per drawing. Clearance for bulk production is to be given if found satisfactory. However the geometrical features are to be checked at suitable intervals to avoid the use of worn out Mould Otherwise, as deemed necessary by the manufacturer to satisfy the requirements of the Drawing.
6. **Final Inspection:** Lot size is 250Nos. + 13 Nos. for qualification tests
+ 6 nos. for regular production

6.1 Visual examination -

6.1.1 Features for Visual Examination and Acceptance Criteria:

Sl. No	Details of features	Sample Size	Acceptance Criteria
1	Blisters and surface imperfections	100%	Should not be present

Prepared By: SN KHANDADE, TO'C'		Recommended By: SHOBHA SINGH, SC'E'	
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QUALITY ASSURANCE PLAN		QAP NO: NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb 2020	Revision No: 0	Date:	Page 2 of 6
ASSEMBLY		PACKAGE FOR INFLUENCE (ADRUSHY) MINE-II EMPTY ASSY		

Sl. No	Details of Features	Sample Size	Acceptance Values
1	Cracks, dents, moulding flows, flashover, sharp corners blowholes or any other moulding defects	100%	Should not be present
2	Checking the Gasket for proper fitment in to the groove of the Bottom Cavity and Top lid.	100%	It should fit in to the grooves properly.
3	Handles and Clamp Assembly for proper fitting and fixing	5 Nos.	It should be properly fitted and should not be any cracks near to the riveting points.
4	Fitment of Inside Cushion	5 Nos.	Proper fitment of foam along with store to be observed.

6.2 Dimensional Inspection:

6.2.1 Critical Dimensions: NIL

6.2.2 Geometrical Features: - NIL

6.2.3 Major Dimensions: NIL

6.2.4 Minor Dimensions:- NIL

6.2.5 Provisions:- Following items are required for test.

Sr. No.	Store	Qty.
1.	Influence Mine-II (Adrushy) HES filled with dummy fuze	10 Nos
2.	Container P-17 with 4 wooden dummy pellets	3 Nos.
3.	Battery box assy (dummy)	10 Nos.
4.	Key combination.	3 No.

Prepared By: SN KHANDADE, TO'C'	Recommended By: SHOBHA SINGH, SC'E'
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QUALITY ASSURANCE PLAN

QAP NO: NFM/IMMK-II/PKG/02

Title No.1

Date: Feb 2020

Revision No: 0

Date:

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ASSEMBLY

PACKAGE FOR INFLUENCE (ADRUSHY)
MINE-II EMPTY ASSY**6.3 Tests schedule: Following Test are specified for advance samples or first lot of NEW VENDOR**

Lot size - 250 Nos.

Sample size - 13 Nos.

a) First all 13 samples be checked for water Immersion Test. After the completion of the test, the samples be subjected to test no. 4, 6 & 7 following test.

Sl. No	Test / Check	Test Method	Acceptance Criteria	Sample size
1	9P (Immersion) of JSG:0102 (Water Immersion Test)	Rectangular packages: For packages upto 250 kg, each face shall be immersed in sequence for a period of 20 minutes to a depth of 0.15 m in water. Note: samples passed in test at sr. No. 4,6 & 7 be tested for water leakage test.	There should not be any traces of water inside the Box.	13
2	High temp.	+75°c ±5°c for 6 hrs.	Package and store should remain intact without any damage after the test.	2
3	Low temp.	-20° c ±5°c for 6 hrs.	Package and store should remain intact without any damage after the test.	2
4	Bump Test (15U of JSG: 0102)	Store will be fastened securely to the table of Bump Machine. Subject it to 1000 bumps at a rate not exceeding 4 bumps per second. Bump Machine should provide a free drop of 25 ± 3 mm at each bump with 40g.	Package and store should remain intact without any damage after the test.	3

Prepared By:

SN KHANDADE, TO'C'

Recommended By:

SHOBHA SINGH, SC'E'

QUALITY ASSURANCE PLAN

QAP NO: NFM/IMMK-II/PKG/02

Issue No.1

Date: Feb 2020

Revision No: 0

Date:

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ASSEMBLY

PACKAGE FOR INFLUENCE (ADRUSHY)
MINE-II EMPTY ASSY

5	Stacking Test as per JSG: 0102	The package shall stand upon, its base or upon the face upon which, it is normally expected to be stored. It shall stand on a hard level surface and its uppermost face shall be subjected to a static load of 600Kg equivalent to that which would be produced by stacking on it the minimum number of similar packages required to reach a total height of between 5.5 and 5.8m. The load shall be applied for 24 hours.	Package and store should remain intact without any damage after the test.	2
6	14P: Impact test of JSG0102 (Vertical)	Box is to be dropped from the height of 1.5m (one time) on its base & from the height of 0.3m on all six orientations (faces, edges and corners) respectively on a concrete/hard surface.	Package and store should remain intact without any damage after the test.	2
7	15P: Impact test of JSG 0102 (Horizontal)	Box is to be dashed against (on side or end) against steel / hard wall giving it a Swing with free length of 6m rope with displacement of 2 m.	Package and store should remain intact without any damage after the test.	2
8	Load test For handle assy.	Simulate the load of 60Kg Approx. and the box be hanged with help of rope for 5min.	The Handle assy. should not be loosen or displaced from it position.	Any 8Nos. from above tested sample

b) Acceptance:

- I. If all the tests passed, the bulk clearance will be given.
- II. If the sample failed in the particular test, the same test will be repeated with same sample Nos. If the test passed the bulk clearance will be given./or otherwise.

Prepared By: SN KHANDADE , TO'C'	Recommended By: SHOBHA SINGH, SC'E'
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6.3.1 Details of Tests for regular production.

Following test to conducted for bulk production clearance

Table-1

Sl. No.	Test Method	Test detail	Observation	Sample No.
1	14P: Impact test of JSG0102 (Vertical)	Box is to be dropped from the height of 1.5m (one time) on its base & from the height of 0.3m on all six orientations (faces, edges and corners) respectively on a concrete/hard surface.	Package should remain serviceable after the test.	2 Nos.
2	15P: Impact test Of JSG 0102 (Horizontal)	Box is to be dashed against (on side or end) steel /hard wall giving it a Swing with free length of 6m rope with displacement of 2 m.	Package should remain serviceable after the test.	2 Nos.
3	Bump Test (15U of JSG: 0102)	Store will be fastened securely to the table of Bump Machine. Subject it to 1000 bumps at a rate not exceeding 4 bumps per second. Bump Machine should provide a free drop of 25 ± 3 mm at each bump with 40g.	Package and Store should remain serviceable after the test.	2Nos.
4	9P (Immersion) of JSG0102; (Water Immersion Test)	Rectangular packages: For packages up to 250 kg, each face shall be immersed in sequence for a period of 20 minutes to a depth of 0.15 m in water. Note: samples passed in test at srNo.1,2&3 be tested for water leakage test.	There should not be any traces of water inside the Box.	6 Nos.
5	Load test For handle assy.	Simulate the load of 60Kg Approx. and the box be hanged with help of rope for 5min.	The Handle assy. should not be loosen or displaced from it's position.	Any 3Nos. form above tested sample

6.3.2 Details/ sequence of the test:-

- a) First all 6 samples be checked for water leakage test. After the completion of water leakage test samples be subjected to test No.1, 2 & 3 mentioned at Para 6.3.1 with following sampling plan.

Lot size- 151 - 280 Nos. (Sampling plan for tests No. 1, 2 & 3)

AQL - Level - 2.5%

Prepared By: SN KHANDADE, TO'C'	Recommended By: SHOBHA SINGH, SC'E'
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QUALITY ASSURANCE PLAN		QAP NO: NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb 2020	Revision No: 0	Date:	Page 6 of 6
ASSEMBLY		PACKAGE FOR INFLUENCE (ADRUSHY) MINE-II EMPTY ASSY		

Sample size - 2 for each test.

Double Sampling Plan for Reduced Inspection
Special inspection Level - S- 3


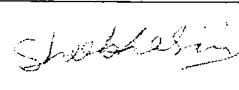
Sample	Sample size	Cumulative Sample size	Acceptance No.	Rejection No.
1st	2	2	0	2
2nd	2	4	1	2

6.3.3 Acceptance:-

- If all sample pass the tests, the lot will be accepted.
- If the sample failed in the particular test the same test will be repeated with same sample Nos., If the test passed, the Lot will be given clearance. /or otherwise

6.3.4 : Test Levels as per specification of Package for various tests mentioned in Table 1;

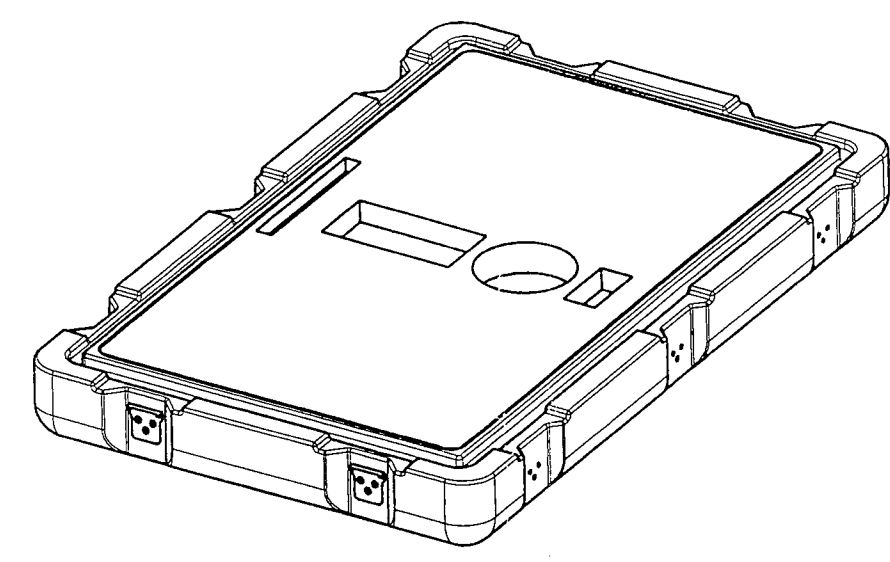
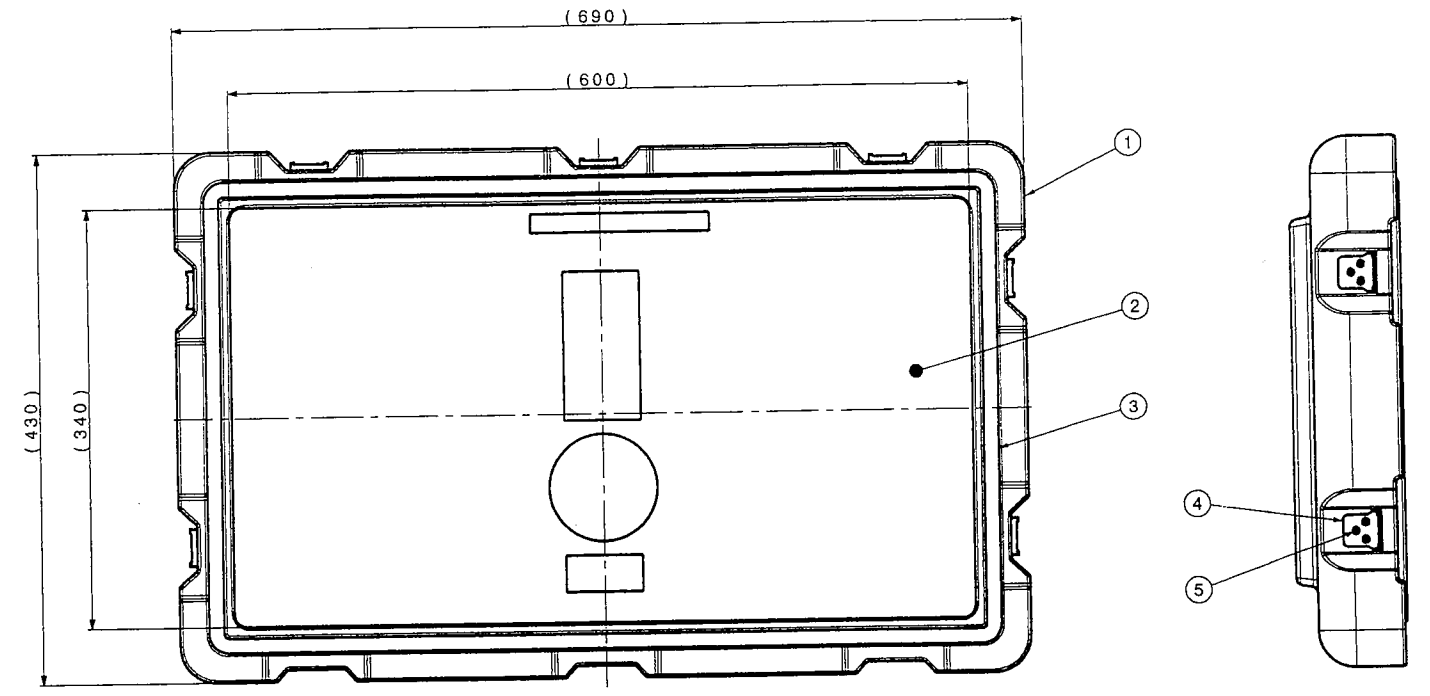
Sl. No	Test / Check	Sample Size	Acceptance Value
1.	Fitment trials in conjunction with other relevant components	On 5% of randomly selected sample	Proper fitment of relevant components

Prepared By: SN KHANDADE , TO'C'		Recommended By: SHOBHA SINGH, SC'E'	
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DRG. No. 9707 00 04 01 01 001 00TA
 IC SS S AA A C SST

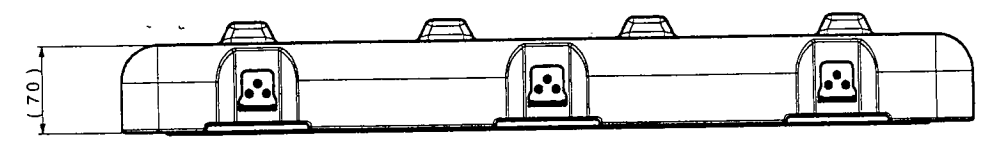
GEN. TOL. FINE/MEDIUM/COARSE CLASS TO IS:2102
 DRG. CONVENTIONS CONFIRM TO INDIAN STD. DIMM. IN mm UNLESS OTHERWISE STATED

ITEM LIST				
ITEM No.	DESCRIPTION	DRAWING No.	PART No.	No. OFF
1	LID	9707 00 04 01 01 001 00TA	---	1
2	PIECE PACKING TOP	9707 00 04 01 01 002 00TA	---	1
3	GASKET	9707 00 04 01 01 003 00TA	---	1
4	HOOK(LATCH) MATL- SS 304	COMMERCIAL	---	7
5	SS RIVET SIZE -Ø8 X11	STD.	---	21



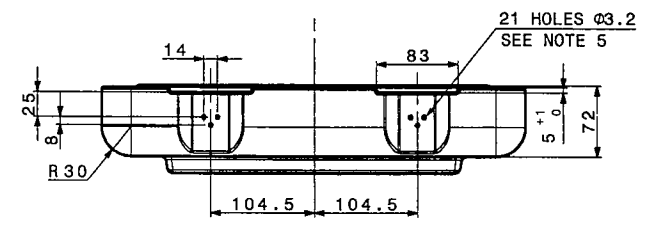
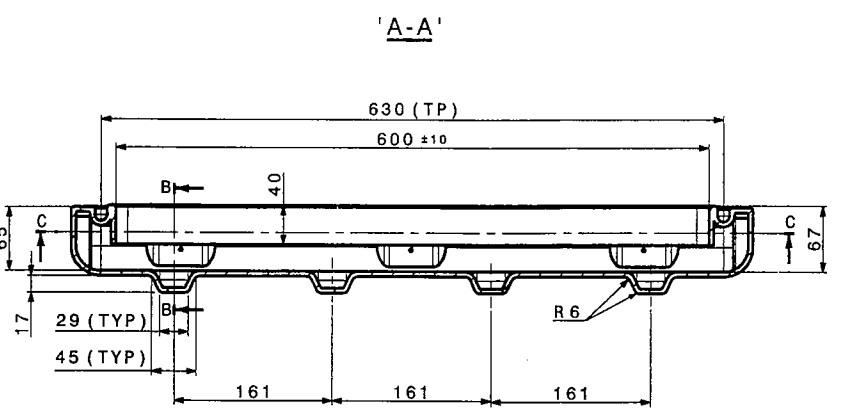
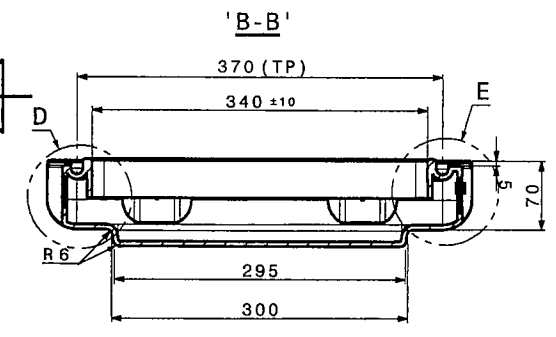
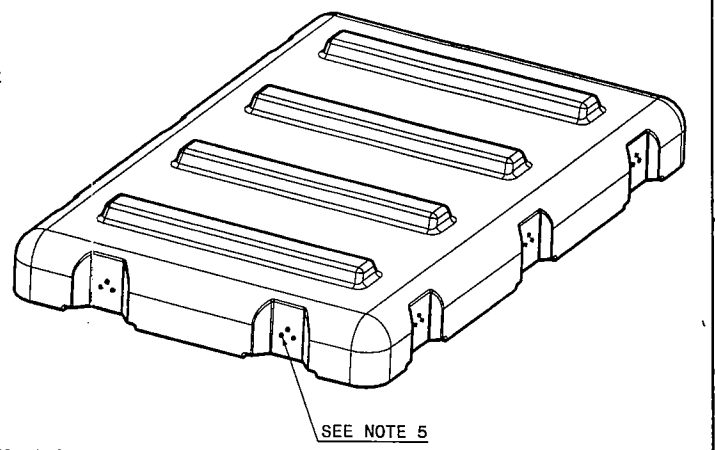
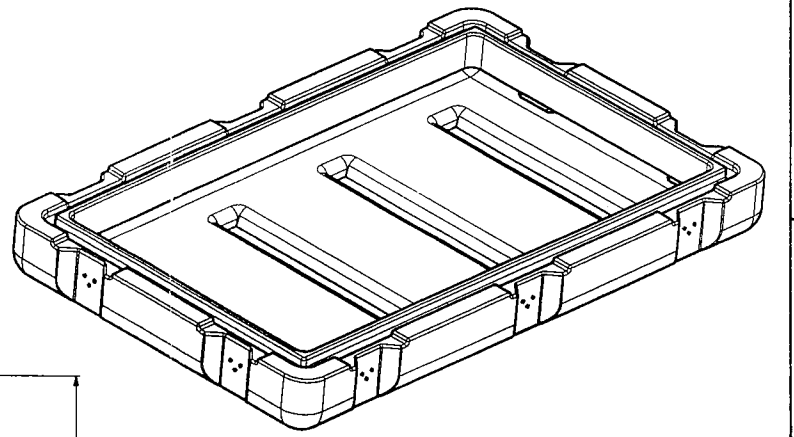
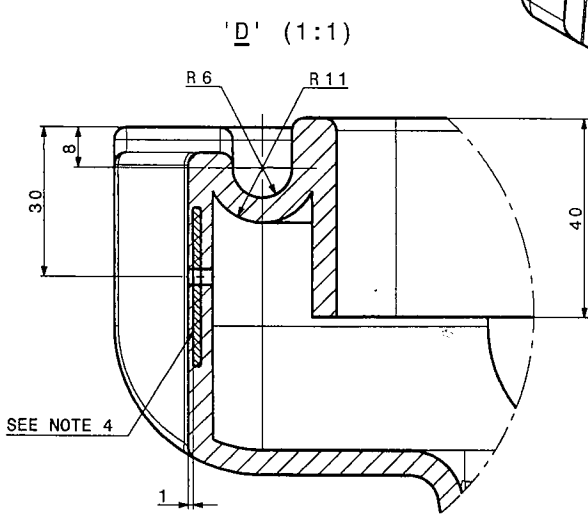
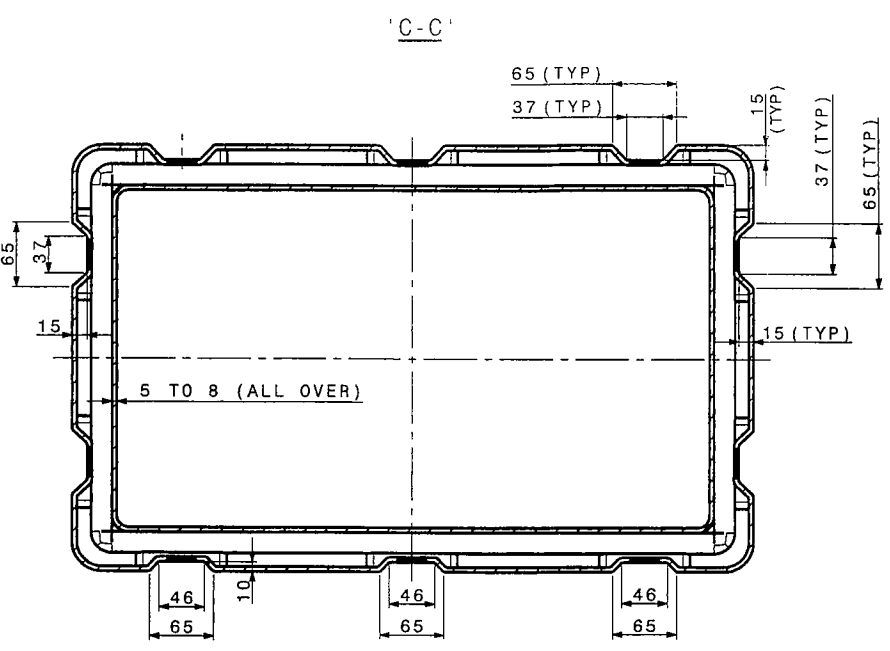
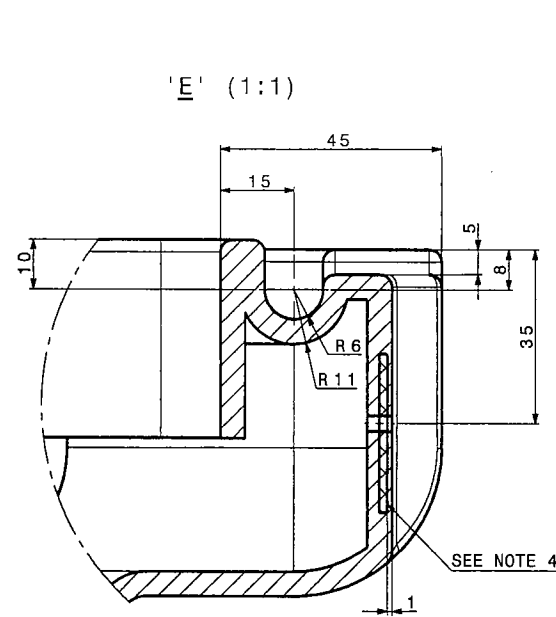
NOTES :-

- 1.LATCH FITMENT AND POSITION BE MATCH WITH BODY ASSY. FOR PROPER FITMENT.
- 2.GASKET BE PESTED WITH USING FEVICOL SR505.
- 3.PIECE PACKING TOP BE PASTED USING ADHESIVE FEVICOL SR505.



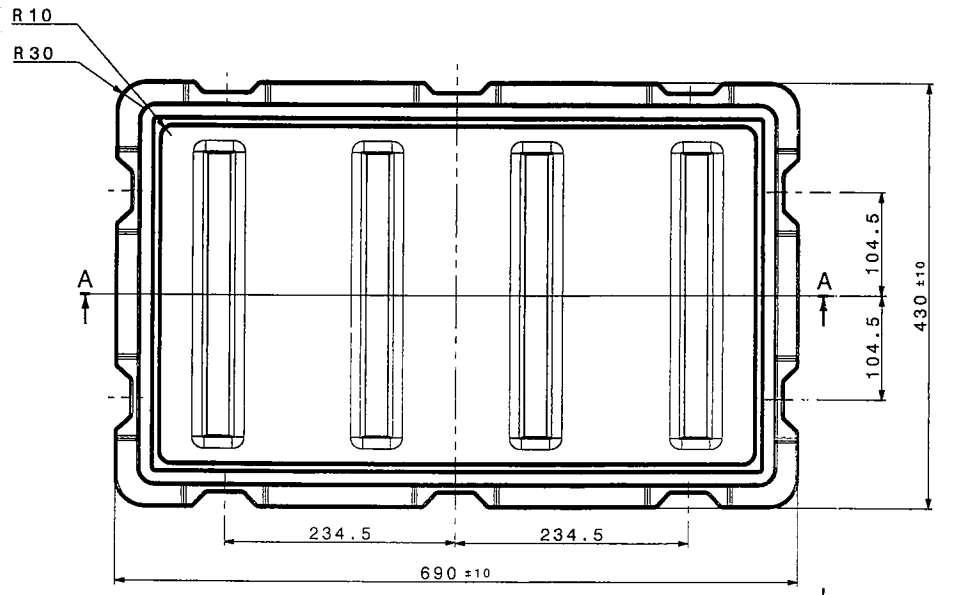
SR. No.	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	GO
DRN.	NILESH	CHD	MATERIAL		SIGN	
APPD.	DATE	For Director	PROTECTIVE FINISH			
SEALED	DATE					
SCALE	1:4	EST. MASS	TITLE			
DESIGN AUTHORITY	ARDE	PUNE 411021	LID ASSY.			
DRG. No.	9707	00 04 01 01 000 00TA				
PART No.		ES CAT. No.	AHSP			

ISS 0 V VV S SS IC DRG. NO. 9707 00 04 01 01 001 001A
 GEN. TOL. FINE/MEDIUM/COARSE CLASS TO IS:2102
 DRG. CONVENTIONS CONFIRM TO INDIAN STD. DIMN. IN mm UNLESS OTHERWISE STATED



NOTES:-

- 1) METHOD OF MANUFACTURING :- ROTO MOULDING
- 2) COLUR :- OLIVE GREEN SHADE NO.220 TO IS:5:2004
- 3) 0° TO 5° DRAFT ANGLE PERMITTED.
- 4) 10 Nos. INSERT PLATE TO BE MOULDED INSITU REFER DRG. NO. 9707 00 04 01 02 001 22TA.
- 5) LOCATION OF LATCHES TO SUIT THE FITMENT AND TEST SPECIFIED.



Sr. No.	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	GO
DRN.	NILESH	CHD	MATERIAL		SIGN	
APPD. DATE	For Director		LINEAR LOW DENSITY POLYTHYLENE (LLDPE)			
SEALED DATE			PROTECTIVE FINISH			
SCALE	1:5	EST. MASS	TITLE			
DESIGN AUTHORITY	ARDE PUNE 411021		LID			
DRG. No.	9707 00 04 01 01 001 001A					
PART No.	DS CAT. No.		AHSP			

QUALITY ASSURANCE PLAN		QAP NO:NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb 2020	Revision No:0	Date:	Page 1 of 3
Component		LID		

1. Drawing No.: 9707 00 04 01 01 001 00TA

2. Method of Manufacture: Roto Moulding

The manufacturer will prepare and supply the process schedule to the Inspection Authority which is to be followed for the manufacture of the components. The process schedule will be vetted and approved by the Inspection agency. Any subsequent change in the process will be notified to the Inspection authority for their approval.

3. Receiving inspection:

3.1 Raw material: a) Linear Low Density Polyethylene.

b) The Vendor should obtain raw material certificate(s) from the source of procurement/manufacturer pertaining to the batch and grade of raw material, and submit the same to the Inspection Authority. The Vendor should get the raw material tested from Authorized Laboratory in presence of Inspection Authority.

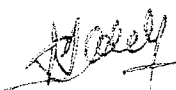
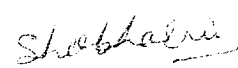
3.2 Tests / Checks and Acceptance Criteria for Plastic Raw Material;

Sl. No	Test / Check	Parameter	Test method	Unit	Acceptance Value
1	Mechanical properties	Melt Flow Index (190°C / 2.16kg)	ASTM D 1238	cc/10min	4-5
		Tensile strength at Yield	ASTM D 638	MPa	18 min
		Elongation at Yield	ASTM D 638	%	20 min
		Flexural modulus	ASTM D 790	Kg/cm ²	500min
		Izod notched impact strength	ASTM D 256	Kg.cm/cm	20 min
		Density (23°C)	ASTM D 792	g/cc	0.933-0.936
		Vicat Softening Point	ASTM D 1525	°C	113°C min

These values are obtained from above tests needs to be conformed with spec. If value confirms accept the material.

3.2.1 Tests / Checks and Acceptance Criteria for Inserts Raw Material:

4. In-Process Inspection: Nil

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QUALITY ASSURANCE PLAN		QAP NO:NFM/IMMK-II/PKG/02	
Issue No.1	Date: Feb 2020	Revision No:0	Date: Page 2 of 3
Component		LID	

5. Stage Inspection:- Nil

6. Final Inspection:- Nil

6.1 Visual examination :-

6.1.1 Features for Visual Examination and Acceptance Criteria:

Sl. No.	Details of features	Sample Size	Acceptance Criteria
1.	Blowholes, Warpage, Flash, Blisters Short shot, Sink Mark, Burn Mark, Weld line, Flow mark & Side wall Dragging marks	100%	Should not be present
2.	Gate mark	100%	Should not be present
3.	Mechanical work i.e. Machining, Heat treatment	100%	Not applicable
4.	Discoloration	100%	Not applicable
5.	Porosity	5%	Should not be present


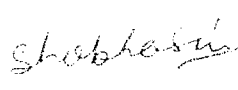
6.2 Dimensional Inspection:-

6.2.1 Critical Dimensions:- NIL

6.2.2 Geometrical Features: - NIL

6.2.3 Major Dimensions:- To be classified as per the Major Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No.	Dimension / Feature	Drawing Zone	Inspection Method
1	690 ±10	H-5	General Engineering
2	430 ±10	G-7	General Engineering
3	70	E-3	General Engineering

Prepared By: SN KHANDADE, TO'C'		Recommended By: SHOBHA SINGH, SC'E'	
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QUALITY ASSURANCE PLAN		QAP NO:NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb 2020	Revision No:0	Date:	Page 3 of 3
Component		LID		


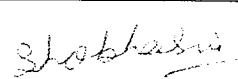
6.2.4 **Minor Dimensions:-** To be classified as per the Minor Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No.	Dimension / Feature	Drawing Zone	Inspection Method
1	600 ±10	D-5	General Engineering
2	340 ±10	E-2	General Engineering
3	67	E-7	General Engineering
4	R6	B-1	General Engineering
5	370(TP)	D-2	General Engineering
6	630(TP)	D-5	General Engineering

6.3 Tests on Finished Items

6.3.1 Details of Tests / Checks on Finished Items and Acceptance Criteria:

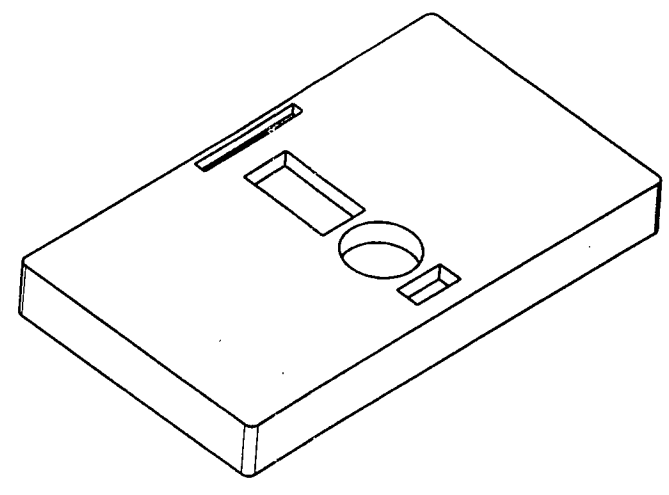
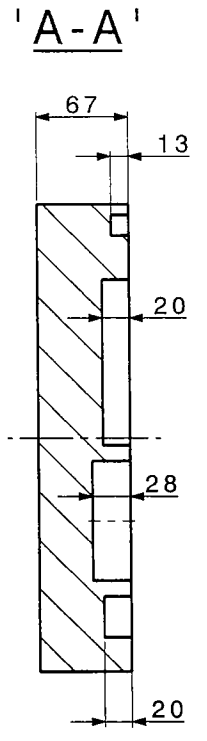
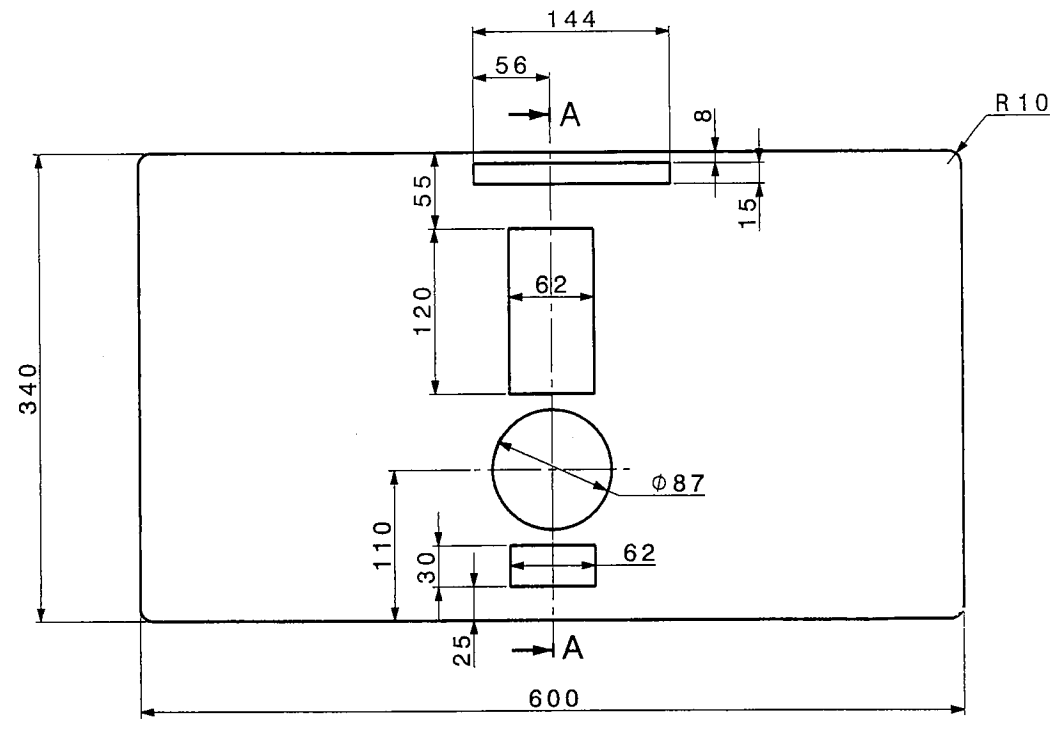
Sl. No	Test / Check	Sample Size	Test method	Acceptance Value
1.	Fitment trials in conjunction with other relevant components	On 5% of randomly selected sample	---	Proper fitment of relevant components

Prepared By: SN KHANDADE, TO'C' 	Recommended By: SHOBHA SINGH, SC'E' 
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DRG. No. 9 7 0 7 0 0 0 4 0 1 0 1 0 0 2 0 0 T A

GEN. TOL. FINE/MEDIUM/COARSE
CLASS TO IS:2102

DRG. CONVENTIONS CONFIRM TO INDIAN STDS.
DIMN. IN mm UNLESS OTHERWISE STATED



NOTES :-

- 1) THE COMPONENT WILL BE MANUFACTURED USING THE FOAM MATERIAL BUILT UP IN LAYERS TO FORM THE GEOMETRY.
- 2) THE LAYERS WILL BE PASTED USING ADHESIVE FEVICOL FOAMFIX OR FEVICOL SR 505.
- 3) OVERALL DIMENSIONS ARE FOR GENERAL GUIDANCE. OVERALL MATING DIMENSIONS TO SUIT INSIDE DIMENSION OF LID SHALL BE MAINTAINED FOR PROPER FITMENT REFER QAP PARA. No.3.2(C).

MATERIAL :-

- I) CROSS LINKED POLYTHYLENE FOAM, XLPE.
- II) FOAM COLOUR : BLACK
- III) DENSITY : 65 TO 85 Kg/cm³
- IV) HARDNESS SHORE A : 16 TO 23

Sr. No.	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	GO
DRN.	NILESH	CHD. <i>Nilesh</i>	MATERIAL	AS ABOVE		
APPD. DATE	For Director		PROTECTIVE FINISH			
SEALED DATE						
SCALE	1:5	EST. MASS	TITLE			
DESIGN AUTHORITY	ARDE	PUNE 411021	PIECE PACKING TOP			
DRG. No.	9 7 0 7	0 0	0 4	0 1	0 1	0 0 2 0 0 T A
PART No.	IC	SS	S	AA	A	C SST
		DS CAT. No.		AHSP		

QUALITY ASSURANCE PLAN		QAP No.: NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb2020	Revision No:0	Date:	Page 1 of 3
Component		PIECE PACKING TOP		

1. Drawing No.:- 9707 00 04 01 01 002 00TA

2. Method of Manufacture:- Die - Punching

3. Receiving inspection:-

3.1 Raw material:- CROSS LINKED POLYTHELENE FOAM (XLPE), (IND/ME/923 SPEC.)

3.2 Tests / Checks and Acceptance Criteria for Raw Material:-

S. NO.	TEST PARAMETER	UNIT	TEST METHOD	SPECIFICATION
1	Polymer	Nil	ASTM D 3677:2015 Identification by Infrared Spectrophotometry	XLPE
2	Hardness	Shore A	ASTM D 2240:2015	16-23
3	Density	Kg/cm ³	ASTM D 792 Method A:2013	65-85

a) The manufacturer should obtain raw material test certificate from vendor.

b) Cross Link Foam is standard bought out item. Selection of Cross Link Foam should be as per dimensions given .


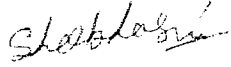
c) Overall dimensions for general guidance. overall mating dimension to suit inner dimensions of the Lid and corresponding components.

4. In-Process Inspection:- NIL

5. Stage Inspection :-

5.1 Details of Dimensions / Features / Parameters for Verification at stages:-

6. Final Inspection:-

Prepared By: SN KHANDADE ,TO'C'		Recommended By: SHOBHA SINGH, SC'E'	
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QUALITY ASSURANCE PLAN		QAP No.: NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb2020	Revision No:0	Date:	Page 2 of 3
Component		PIECE PACKING TOP		

6.1 Visual examination:-

6.1.1 Features for Visual Examination and Acceptance Criteria:-

Sl. No	Details of features	Sample Size	Acceptance Criteria
1	Blisters and surface imperfections	100%	Should not be present

6.2 Dimensional Inspection:-

6.2.1 Critical Dimensions:- NIL

6.2.2 Geometrical Features:- NIL

6.2.3 **Major Dimensions:-** To be classified as per the Major Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No.	Dimension / Feature	Drawing Zone	Inspection Method
1	600	C-3	General Engineering
2	340	C-2	General Engineering
3	67	B-5	General Engineering

6.2.4 **Minor Dimensions:-** To be classified as per the Minor Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No.	Dimension / Feature	Drawing Zone	Inspection Method
1	144	A-3	General Engineering
2	15	B-4	General Engineering
3	56	B-3	General Engineering
4	62	B-3	General Engineering
5	120	B-3	General Engineering
6	13	B-5	General Engineering
7	Ø87	C-3	General Engineering
8	28	C-5	General Engineering
9	30	C-3	General Engineering


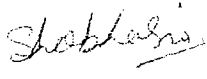
Prepared By: SN KHANDADE ,TO'C'	Recommended By: SHOBHA SINGH, SC'E'
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QUALITY ASSURANCE PLAN		QAP No.: NFM/IMMK-II/PKG/02		
Issue No.1	Date: Feb2020	Revision No:0	Date:	Page 3 of 3
Component		PIECE PACKING TOP		

6.3 Tests on Finished Items

6.3.1 Details of Tests / Checks on Finished Items and Acceptance Criteria:-

Sl. No.	Test / Check	Sample Size	Acceptance Value
1	Fitment trials in conjunction with other relevant components	5 sample	Proper fitment of relevant components

Prepared By: SN KHANDADE ,TO'C'		Recommended By: SHOBHA SINGH, SC'E'	
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ISV 563A
PART NO.

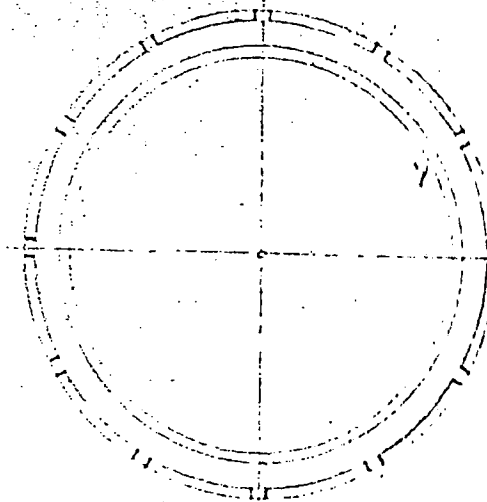
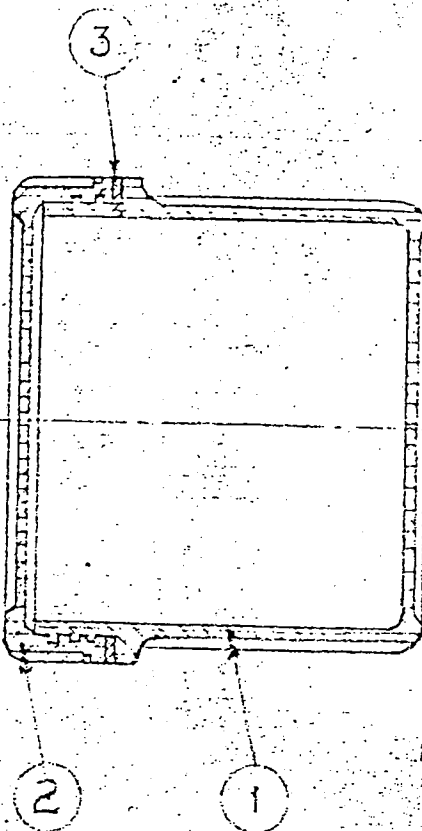
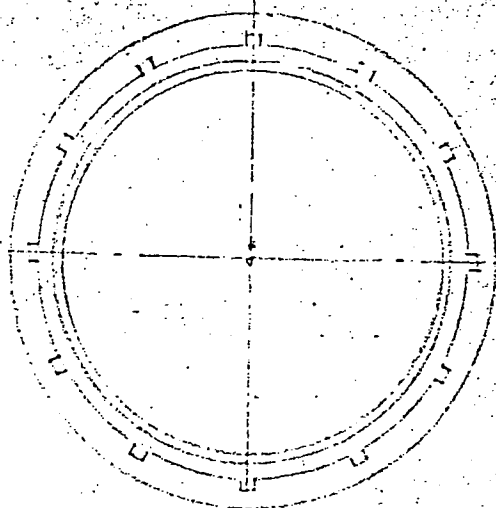
DRG. CONVENTIONS CONFORM TO IS: SPECIFICATIONS

DIMS. ARE IN mm

FOR REFERENCE

D.C. 36274-A

GEN. TOL. MEDIUM CLASS TO IS-2102 PT I 1980 (RA 1391)



NOTE:-

CONTAINER TO BE TESTED AS PER SPEC CQA (A) 2504 (M)

LIST OF COMPONENTS			
ITEM NO.	DESCRIPTION	PART NO.	DESIGNER'S REF.
1	BODY	ISV 2013	ARDE 1910 DET-2
2	LID	ISV 2014	ARDE 1910 DET-3
3	RING	ISV 2015	ARDE 1910 DET-4

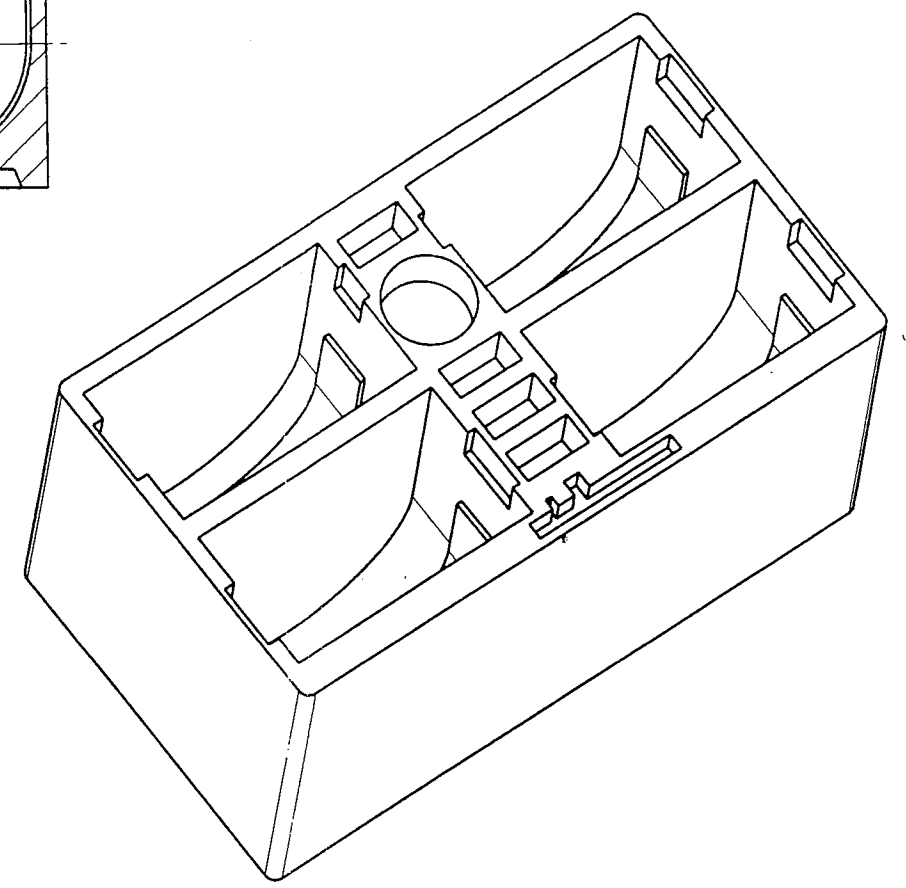
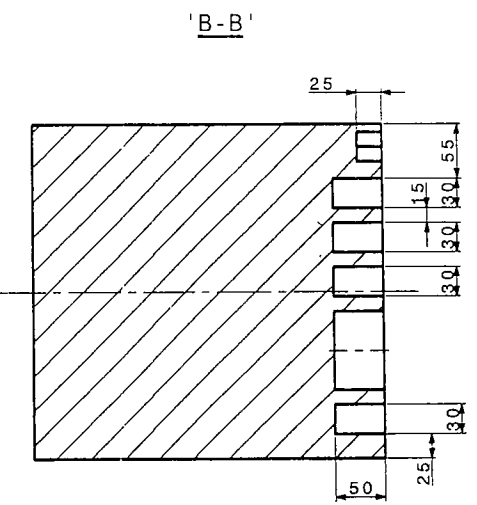
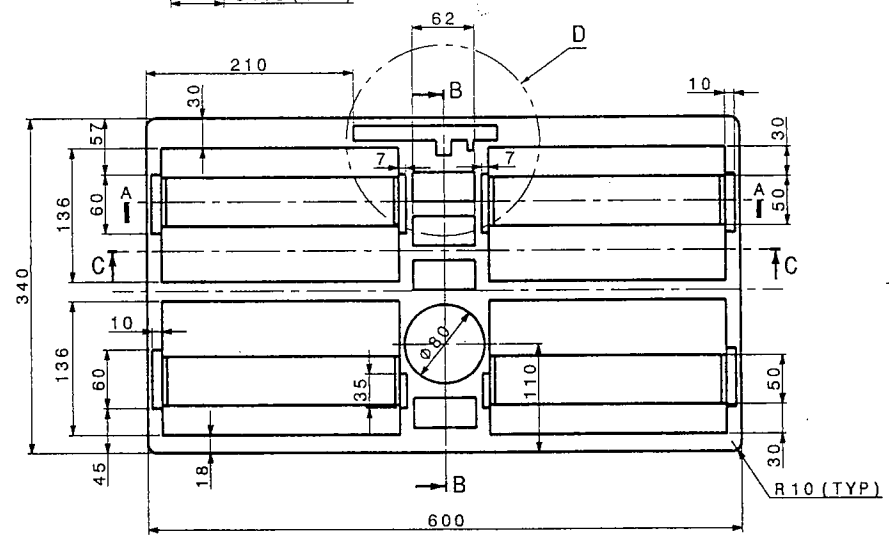
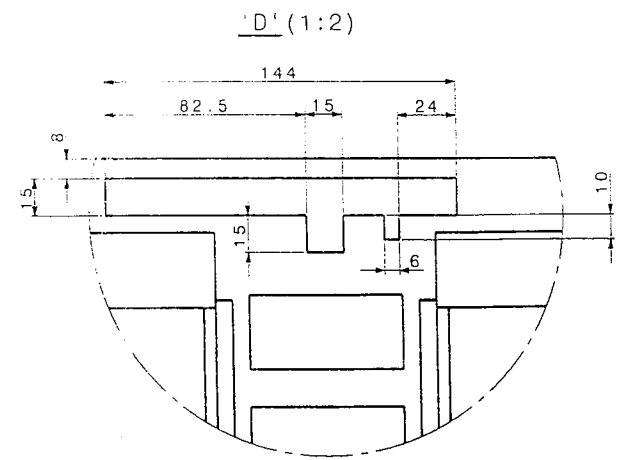
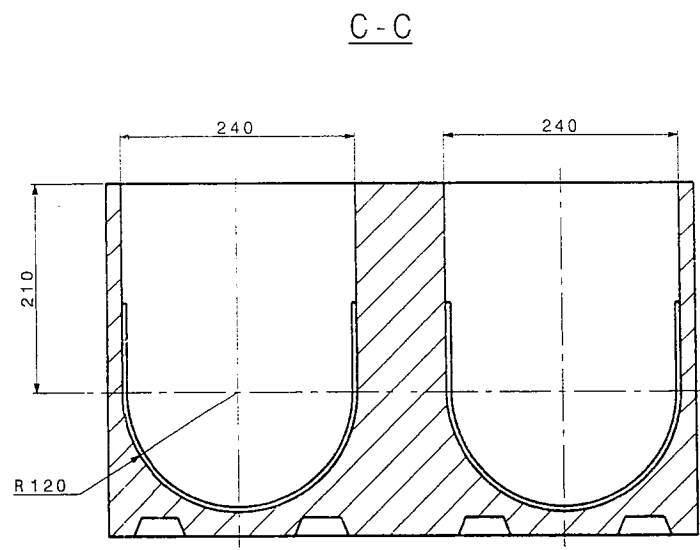
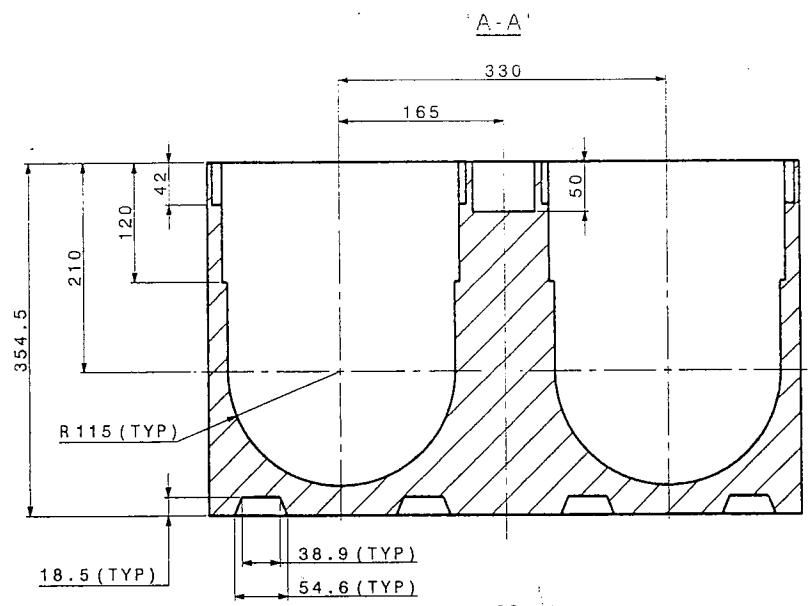
R. No.	DATE	AUTHORITY	REVISION	ZONE	AHSP	D.O.	SIG.		
	28-4-97	D.C. 36274-A	DRG. PROV. SEALED.						
DRG. SEALED :- 28-4-97 (PROV.)									

DRN :- HDW	CHD :-	TRD :-	COMP :-
APPD. <i>[Signature]</i>	CHD DO. <i>[Signature]</i>	SCALE :- NTS	EST. MASS :- NOT APPL. FOR CQA (A)
MAIL :- NOT APPLICABLE		GAUGE SCHD :- NOT APPL. FOR CQA (A)	DATE :- 23-12-96
PROTECTIVE FINISH :- NOT APPLICABLE			

ASSY. DRG. ISV 564 A
DESIGNER'S REF. ARDE 1910
DET No. 1
PART No. ISV 563 A
D.S. CAT. No. NOT APPLICABLE
AHSP :- CQA (A), KIRKEE

AMMUNITION, CONTAINER, 17 P
(EMPTY ASSEMBLY)

DRG. No. 9707004010200200TA
 GEN. TOL. FINE/MEDIUM/COARSE CLASS TO IS:2102
 DRG. CONVENTIONS CONFIRM TO INDIAN STD. DIMN. IN mm UNLESS OTHERWISE STATED



NOTES:-

- 1) THE COMPONENT WILL BE MANUFACTURED USING THE FOAM MATERIAL BUILT UP IN LAYERS TO FORM THE GEOMETRY.
- 2) THE LAYERS WILL BE PASTED USING ADHESIVE FEVICOL FOAMFIX OR FEVICOL SR 505.
- 3) OVERALL DIMENSIONS ARE FOR GENERAL GUIDANCE. OVERALL MATING DIMENSIONS TO SUIT INSIDE DIMENSION OF BODY SHALL BE MAINTAINED FOR PROPER FITMENT.

MATERIAL :

- I)GROSS LINKED POLYTHYLENE FOAM, XLPE.
- II)FOAM COLUR : BLACK
- III)DENSITY : 65 TO 85 Kg/cm³
- IV)ADHESIVE : FEVICOL FOAMFIX OR FEVICOL SR 505
- V)HARDNESS SHORE A : 16 TO 23

Sr. No.	DATE	AUTHORITY	BRIEF RECORD	ZONE	CD	GO
DRN.	NILESH	CHD	MATERIAL	AS ABOVE	SIGN	
APPD.	DATE	For Director	PROTECTIVE FINISH			
SCALE	1:5	EST. MASS	TITLE			
DESIGN AUTHORITY	ARDE	PUNE 411021	PIECE PACKING BOTTOM			
DRG. No.	9707	00	04	01	02	00200TA
PART No.	IC	SS	S	AA	A	C SST
PS CAT. No.			AHSP			

QUALITY ASSURANCE PLAN		QAP No.: NFM/IMMK-II/PKG/02		
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Component		PIECE PACKING BOTTOM		

1 Drawing No.: 9707 00 04 01 02 002 00TA

2 Method of Manufacture - Die - Punching

3 Receiving inspection:-

3.1 Raw material:- CROSS LINKED POLYTHELENE FOAM (XLPE (IND/ME/ 923 Specification)

3.2 Tests / Checks and Acceptance Criteria for Raw Material:-

S. NO.	TEST PARMETER	UNIT	TEST METHOD	SPECIFICATION
1	Polymer	--	Identification by Infrared Spectrophotometry	XLPE
2	Hardness Shore A	--	ASTM D 2240:2015	16-23
3	Density	Kg/cm ³	ASTM D 792 Method A:2013	65-85

a) The manufacturer should obtain raw material test certificate.

b) Cross Link Foam is standard bought out item. Selection of Cross Link Foam should be as per dimensions given.


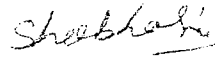
c) Overall dimensions for general guidance. overall mating dimension to suit inner dimensions of the Lid and corresponding components.

4 In-Process Inspection: NIL

5 Stage Inspection:-

5.1 Details of Dimensions / Features / Parameters for Verification at stages:-

6 Final Inspection:-

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6.1 Visual examination:-

6.1.1 Features for Visual Examination and Acceptance Criteria:-

Sl.No.	Details of features	Sample Size	Acceptance Criteria
1 1	Blisters and surface imperfections	100%	Should not be present


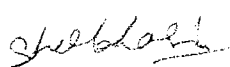
6.2 Dimensional Inspection:-

6.2.2 Critical Dimensions:- NIL

6.2.2 Geometrical Features: - NIL

6.2.3 Major Dimensions:- To be classified as per the Major Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No	Dimension/Feature	Drawing Zone	Inspection Method
1	600	F-4	General Engineering
2	340	E-2	General Engineering
3	354.5	C-2	General Engineering
4	330	A-4	General Engineering

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6.2.4 Minor Dimensions:- To be classified as per the Minor Dimensions Criteria and Sampling Plan & Acceptance Criteria would be as per Para 7.3.3 of General Information Section of this document.

Sl. No.	Dimension/Feature	Drawing Zone	Inspection Method
1	144	A-8	General Engineering
2	15	B-7	General Engineering
3	10	B-10	General Engineering
4	62	D-4	General Engineering
5	120	B-3	General Engineering
6	240	B-3	General Engineering
7	136	E-2	General Engineering
8	50	E-7	General Engineering
9	210	B-2	General Engineering
10	Ø80	E-4	General Engineering
11	25	D-7	General Engineering
12	R115	C-2	General Engineering

6.3 Tests on Finished Items

6.3.1 Details of Tests / Checks on Finished Items and Acceptance Criteria:

Sl. No.	Test / Check	Sample Size	Acceptance Value
1.	Fitment trials in conjunction with other relevant components	5 sample	Proper fitment of relevant components

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