



[Signature]

सहायक निदेशक (रक्ष संन)
Asstt Director (TC)
मानकीकरण निदेशालय
Directorate of Standardisation
रक्षा मंत्रालय, नई दिल्ली-110011
Ministry of Defence, New Delhi-110011

क्र. सं. 08/03 /समन्वय मावका
दिनांक... के अनुसार रक्षा
मंत्रालय द्वारा जारी है
Approved by Ministry of Defence
Vide letter No. SSSC
Coord/Sid dated.....

05 July 18

भारत सरकार
GOVERNMENT OF INDIA
रक्षा मंत्रालय
MINISTRY OF DEFENCE

संयुक्त सेवा विनिर्देश
JOINT SERVICES SPECIFICATION

ON

BAG WATER PROOF
(DS CAT No. 4240-000 484)
(NSN 4240720259504)

मानकीकरण निदेशालय
रक्षा उत्पादन विभाग, रक्षा मंत्रालय
'एच' - ब्लॉक, निर्माण भवन डाकघर
नई दिल्ली - ११००११

DIRECTORATE OF STANDARDISATION
DEPARTMENT OF DEFENCE PRODUCTION
MINISTRY OF DEFENCE
'H' BLOCK, NIRMAN BHAWAN PO
NEW DELHI - 110011

LIST OF MEMBERS ASSOCIATED WITH FORMULATION OF THIS STANDARD

1. This first revision of the Joint Services Specification 4240-03 has been approved by Brig A. Pradhan, Offg Addl, DGQA (S), Chairman, Stores Standardisation Sub Committee by circulation.
2. The members of the following organization have been present/consulted in approving the document:

S. No.	Organisation
1.	DQAS (Aero) / Air HQ
2.	CQA (T & C)
3.	CQA (M)
4.	CQA (PP)
5.	CQA (GS)
6.	DQA (N)
7.	DGAQA
8.	MGO /CP Cell/ OS Dte.
9.	MGO Br / EM / GS & C
10.	Dte of Stores / Air HQ
11.	MGO / EM / Std
12.	NHQ / DCV
13.	NHQ / DOS (E)
14.	DMSRDE
15.	JDLS
16.	OEF, Kanpur
17.	DSC, Kanpur
18.	Secy, SSSC

iii

TABLE OF CONTENTS

S. No.	Topic	Page No.
0.	FOREWORD	1
1.	SCOPE	3
2.	RELATED SPECIFICATIONS	3
3.	STANDARD PATTERN	5
4.	MATERIAL	5
5.	MANUFACTURE	5
6.	DIMENSIONS	5
7.	WORKMANSHIP AND FINISH	6
8.	ADVANCED SAMPLE	6
9.	PRE-INSPECTION BY THE PRODUCER	6
10.	QUALITY ASSURANCE	6
11.	SAMPLING	7
12.	CRITERIA FOR CONFORMITY	7
13.	TEST METHOD	8
14.	MARKING	8
15.	PRESERVATION AND PACKAGING	8
16.	TECHNICAL LITERATURE/DOCUMENT	9
17.	WARRANTY	9
18.	DEFENCE STORES CATALOGUE PART NUMBER/NATO STOCK CODE NUMBER	9
19.	SUGGESTIONS FOR IMPROVEMENT	9

TABLE OF CONTENTS

S. No.	Topic	Page No.
20.	APPENDICES	10-12
	APPX 'A' - FOR FABRIC NYLON 75 GSM PU COATED	10
	APPX 'B' - RESISTANCE TO LOW TEMPERATURE	12
	APPX 'C' - IDENTIFICATION OF POLYURETHANE	12
21.	DRAWINGS	13-15

0. FOREWORD

0.1 This revision of Joint Services Specification has been prepared by the Stores Standardisation Sub Committee on the authority of the Standardisation Committee, Ministry of Defence.

0.2 This specification has been approved by the Ministry of Defence and is mandatory for use by the Defence Services.

0.3 This JSS 4240-03 : 2017 (First Revision):

- a) was prepared in 2011 based on Specification No. DMSRDE/T&GS/95/425(b);
- b) is a revision of JSS 4240-03 : 2011 and supersedes the same.

0.4 This specification would be used for manufacture quality assurance and procurement of the item.

0.5 Quality Assurance Authorities for the item covered by this specification are CQA (T&C), Kanpur for Army, Navy and Air Force respectively. Enquiries regarding any technical parameters shall be addressed to the Quality Assurance Authority, while other enquiries shall be referred to:

The Director,
Directorate of Standardization,
Ministry of Defence,
'H' Block, Nirman Bhavan PO,
New Delhi - 110011

0.6 Non - registered users can obtain on payment:

a) **Copies of IS from:**

Bureau of Indian Standards,
Manak Bhawan,
9, Bahadur Shah Zafar Marg,
New Delhi - 110 002

or
their regional / branch offices.

b) **Copies of JSSs/JSGs from:**

The Director,
Directorate of Standardisation,
Standardisation Documents Centre
Ministry of Defence
Room No. 05, 'J' Block, Nirman Bhawan PO,
New Delhi - 110 011.

0.7 This specification holds good only for the supply order for which it is issued.

0.8 Indian Standard (IS) specifications are available free of cost for registered users on:

Directorate of Standardisation Website:
www.ddpdos.gov.in
for registration visit our website.

0.9 This specification holds good only for the supply order for which it is issued.

0.10 **Directorate of Standardisation Website** - All the approved JSSs / JSGs are available on the Directorate of Standardisation Website www.ddpdos.gov.in. Defence organisation desirous of accessing a copy of this document are requested to approach the Directorate of Standardisation for obtaining user id/password to access the website.

1. SCOPE

This specification covers the requirements of Bags Water Proof. The bag is intended to be used by the troops for multipurpose uses such as carriage of personnel articles and as a part of ski and mountaineering equipment (DS Cat Part No. 4240-000 484 & NSN 4240720259504).

2. RELATED SPECIFICATIONS

2.1 Reference is made in this specification to:

<i>S. No.</i>	<i>Specification No.</i>	<i>Nomenclature</i>
a)	IS 280 : 2006 (Fourth Revision) Reaffirmed 2015	Mild Steel wire for General Engineering Purpose
b)	IS 390 : 1975 (First Revision) Reaffirmed 2013	Method for determining the water repellency of fabrics by water spray test
c)	IS 667 : 1981 (First Revision) Reaffirmed 2013	Methods for Identification of Textile Fibres
d)	IS/ISO 105-C10 : 2006	Textiles – Tests for colour fastness Part C10 Colour fastness to washing with soap or soap soda
e)	IS 1068 : 1993 (Third Revision) Reaffirmed 2011	Electroplated Coating of Nickle plus Chromium and Copper plus Nickle plus Chromium - Specification
f)	IS 1912 : 1984 (Second Revision) Amendment 1 Reaffirmed 2011	Specification for Country Jute Twine
g)	IS 1921 : 2005 (Second Revision) Reaffirmed 2016	Flux Cored Solder Wire - Specification
h)	IS 2454 : 1985 (First Revision) Reaffirmed 2013	Method for Determination of colour fastness of textile materials to artificial light (Xenon Lamp)
j)	IS 2507 : 1975 (First Revision) Reaffirmed 2015	Specification for Cold-Rolled Steel strips for Springs
k)	IS 2508 : 1984 (Second Revision) Amendment 3 Reaffirmed 2013	Specification for Low Density Polyethylene Films
m)	IS 4084 : 1978 (First Revision) Reaffirmed 2013 Amendment 3	Specification for Eyelets and Washers (Sail)

S. No.	Specification No.	Nomenclature
n)	IS 4472 (Part III) : 1973 Reaffirmed 2016	Methods for Identification of Application Classes of Dyes on Textile Materials Part III Man-Made Fibres
p)	IS 4905 : 2015/ ISO 24153 : 2004 (First revision)	Random sampling & Randomization procedure
q)	IS 7016 (Part 1) : 1982 (First Revision) Reaffirmed 2014	Methods of Test for coated and treated fabrics Part 1 Determination of Roll Characteristics
r)	IS 7016 (Part 2) : 2015/ ISO 1421 : 1998 (Second Revision)	Methods of Test for coated and treated fabrics Part 2 Determination of textile strength and elongation at break
s)	IS 7016 (Part 7) : 2009/ ISO 1420 : 2001 (Second Revision) Reaffirmed 2014	Methods of test for coated and treated fabrics Part 7 Rubber or Plastic coated fabrics Determination of resistance to penetration by water
t)	IS 7016 (Part 8) : 1975 Reaffirmed 2012	Methods of test for coated and treated fabrics Part 8 Accelerated Ageing
u)	IS 9543 : 2015 (First Revision)	Textiles - Spun Polyester Sewing Threads - Specification
w)	IS/ISO 105C-10 : 2006	Method for determination of colour fastness of textile materials to washing
y)	BS : 3424	Separation without damage to surface on lifting of weight piece
z)	JSS 4020-09: 2013 (Revision No. 3)	Cord Nylon, various
aa)	JSS 8315-06: 2014 (Revision No. 1) Amendment 1	Tape nylon dyed /un-dyed
ab)	DMSRDE Schedule No. DMSRDE/LE-2/94/1(a)	'D' Ring 18 mm
ac)	DMSRDE Schedule No. DMSRDE/LE- 2/94(2)	Stopper Plastic
ad)	IND/TC/2323 (a)	Polythene Twine Braided OG
ae)	CQA (GS)/US/460	Box Fibre board rigid corrugated triple wall seven ply of suitable size

2.2 Copy of IND/TC/series of specifications can be obtained from:

The Controller
Controllerate of Quality Assurance (Textiles & Clothing),
Ashok Path
Kanpur - 208 004 (UP)

2.3 Copy of CQA (GS) series of specifications can be obtained from:

The Controller
Controllerate of Quality Assurance (GS),
Ashok Path, Kanpur - 208 004 (UP).

3. STANDARD PATTERN

The standard Pattern of Bag Water Proof held in the custody of the controller, Controllerate of Quality Assurance (Textiles & Clothing), Ashok Path, Kanpur 208001, shall constitute the standard as regards shade appearance, general workmanship, finish and any other particulars or properties not noted/defined in this specification. The Bag Water Proof shall conform in every respect to the terms of the specification in workmanship, finish and also in other respects not defined in the specification. It shall conform to the sealed sample held in the custody of AHSP.

4. MATERIAL

4.1 Following material to be used for Bag Water Proof:

S. No.	Material	Particulars
a)	Fabric Nylon 75 GSM Olive green Polyurethane Coated 100 cm wide	Appx 'A' & 'B'
b)	Cord nylon 1785 N Breaking Load OG	JSS 4020-09 Except for shade which will be OG dyed with disperse or acid type dye. The colour fastness shall be as under: 1) To light - Rating V or better 2) To washing - Rating IV or better
c)	Sewing thread spun polyester OG (Variety No. 4)	IS 9543
d)	Tape Nylon 19 mm OG	JSS 8315-06
e)	Hook Steel	As per details given on plate No. 2 attached drg
f)	'D' Ring 18 mm	As per DMSRDE schedule No. DMSRDE/LE-2/94/1(a)
g)	Stopper Plastic	As per DMSRDE schedule No. DMSRDE/LE-2/94(2)
h)	Eyelet aluminium Alloy No. 24 with Washer	IS 4084

4.2 Test certificates of materials from recognized laboratories shall be obtained showing physical and chemical properties if the manufacturer does not have his own laboratory.

5. MANUFACTURE

The Bag water proof shall be manufactured as per the details given in the enclosed drawing. The coated side of the fabric shall be kept inside of the bag.

6. DIMENSIONS

The Bag shall conform to the dimension shown in the plate attached to this specification.

7. WORKMANSHIP AND FINISH

7.1 In appearance, shape workmanship and finish and in all other respects not defined in this specification, the bag shall conform to the sealed pattern held in the custody of the Controlling authority.

7.2 The bag shall be machine stitched with the lock stitches regulated at 35 to 45 stitches per decimeter with even tension. The ends of the threads shall be securely fastened off and loose threads shall be trimmed off.

8. ADVANCE SAMPLE

8.1 Advance Sample Qty 05 Nos should be submitted to The Controller, CQA (T&C), Ashok Path, Kanpur 208004 for test and approval prior to the commencement of Bulk manufacture from those firms who have not supplied the store during last three years. The advance samples must be submitted to AHSP within 45 days from issuing date of SO and AHSP to issue bulk Production clearance within 60 days from the date of receipt of advance sample.

8.2 Testing of samples will be carried out at the designated AHSP Labs. When test facilities are not available, facilities of Government labs/NABL accredited labs will be utilized.

8.3 The AHSP shall carry out testing and evaluation of Advance Sample and forward the recommendation of Bulk Production clearance (BPC) to the Purchase Officer.

9. PRE-INSPECTION BY THE PRODUCER

Manufacturers/suppliers must satisfy themselves that the stores are in accordance with the terms of the contract and fully conform to the specification, by carrying out thorough pre-inspection of each lot/batch before tendering the same for inspection to the Quality Assurance Officer, nominated under the terms of the contract. A declaration by the contractor that a necessary pre-inspection has been carried out in the stores tendered, will be submitted along with the challan. The declaration will also indicate the methods followed in carrying out pre-inspection showing the features checked/tested and have the test certificate attached to the challan/declaration. If the Inspecting Officer finds that the pre-inspection of the consignment as required above has not been carried out, the consignment is liable for rejection.

10. QUALITY ASSURANCE

10.1 Examination of samples taken from any portion of the consignment or during surveillance inspection shall conform to the requirement when tested in accordance with the methods mentioned against each in this specification.

10.2 The accepted stores shall be marked with facsimile of acceptance mark of size 13 or 25 mm near the marking label using indelible ink.

11. SAMPLING

11.1 The lot size is restricted to 10,000 Number.

11.2 The supplier shall offer the stores serially numbered and arranged in such a manner that the entire lot is easily accessible to the sampling Officer.

11.3 Based on the lot size offered for quality assurance, sample units for visual examination and dimensional check at the time of sampling be drawn as per column 2 and for bulk inspection as per column 4 of the Table using technique of random sampling as per IS 4905.

11.4 On having satisfied with the preliminary examination, samples if required for laboratory test/examination shall be drawn as per column 5 to 7 of the Table.

**Table 1 Scale of Sampling and Permissible Number Based
on 4% AQL ISO 2859 : 1989**

Lot size in Nos.	Sampling Plan for						
	Visual examination/ dimensional check at the time of sampling		Sample size for detail check at Bulk QA stage	Physical Parameters (for laboratory tests)		Chemical Parameters (for laboratory tests)	
	Sample Size	Accept- ance No.		Sample Size	Accept- ance No.	Sample Size	Accept- ance No.
Upto 280	13	1	32	13	1	3	0
281 - 500	20	2	50	13	1	5	0
501 - 1200	32	3	80	20	2	5	0
1201 - 3200	50	5	125	20	2	13	1
3201 - 10000	80	7	200	32	3	13	1

NOTES

1. Sampling shall be done randomly as per IS 4905.
2. Sampling officer will select sample units randomly and select one ultimate. Item from each sampling unit i.e. as per one bundle/package/bale so as to make desired sample size as given in column (2) for visual examination and QAIR will be prepared by him.
3. If found satisfactory on visual examination, Samples for lab testing will be drawn from the samples drawn as mentioned in column (2) only.

12. CRITERIA FOR CONFORMITY

The lot shall be considered to be in conformity with the required standard, if the samples drawn for lab test, static and dynamic inspection as above found satisfactory and also are otherwise satisfactory in regard to visual parameters.

13. TEST METHOD

13.1 The basic cloth and garniture used shall conform to the specification requirements when tested as per method laid down in the relevant specification.

13.2 Specified test methods as illustrated in 4 to 7 shall be used to ensure high degree of reproducibility and repeatability.

14. MARKING

Each Bag waterproof shall be provided with a white cloth satin label 6 cm x 4 cm securely stitched at the space and position as shown in the attached drawing. The label shall be printed with the manufacturer name, initials or recognised trademark, together with the year of manufacture, nomenclature and Cat number of the store using suitable ink duly approved by the inspector.

15. PRESERVATION & PACKAGING

The bag shall be packed as per details given below:

a) Each bag shall be properly folded and 10 such bags shall be placed one over the other and tied with Twine Jute 3 ply (conforming to IS 1912) or Polythene Twine braided OG {conforming to IND/TC/2323 (a)} and kept inside a bag of Polyethylene film 0.04 mm (conforming to IS 2508) or Polypropylene film 0.0375 mm (conforming to IS 2508) to form a unit pack. 50 such unit packs shall then be placed in box fibre board rigid corrugated triple wall 7 ply of suitable size (conforming to specification No. CQA (GS)/US/460). The empty spaces if any left in the box shall be filled with suitable cushioning material to make a complete package. All the joints then be properly closed with tape adhesive brown 50 mm. The box shall then be bound with 2 band of polypropylene strapping across width and 1 across the length and the ends shall be sealed with machine.

b) Before dispatch, each package shall be legibly marked by stencil using indelible marking ink/paint, previously approved by the Inspector showing following details:

- 1) Nomenclature Cat/Part No. of the store.
- 2) Qty packed in the package.
- 3) Lot and serial No. of the box.
- 4) AT/SO/Extract No. and date.
- 5) Inspection Note No. and date.
- 6) Gross mass of the bale in kg.
- 7) Name and address of the consignee.

- 8) Firm's Name/Trade Mark.
- 9) Month and year of packing.

16. TECHNICAL LITERATURE AND DOCUMENTS

16.1 Refer 2 of this specification.

16.2 For proper exploitation, care and maintenance of equipment relevant literature/document shall be provided free of cost with each packed store.

17. WARRANTY

Except as otherwise provided in the invitation to the tender, the contractor/seller shall declare that the store sold/ supplied to the purchaser under this contract shall be of the best quality and workmanship and new in all respect and shall be strictly in accordance with the specification and particulars contained/mentioned in the contract. The contractor/seller shall guarantee that the said goods/stores/articles would continue conforming to the description and quality aforesaid for the period of twelve months from the date of delivery of the said goods/stores/articles to the purchaser for 15 months from the date of shipment/dispatch from the contractor's works which is earlier and notwithstanding the fact that the purchaser (Inspector) may have inspected and/or approved the said goods/stores/articles, if during the aforesaid period of 12/15 months the said goods/stores/articles, be discovered not conforming to the description and quality aforesaid or not giving satisfactory performance or have deteriorated and the decision of the purchaser in the behalf shall be final and binding on the contractor/seller to rectify/replace by acceptable goods/stores/articles, or such portion or portions thereof as is found to be defective by the purchaser in the discretion on the application made thereof by the contractor/seller, and in such an event the above mentioned warranty period shall apply to the goods/stores/articles rectified/replaced from the date of rectification/replacement thereof, otherwise the contractor/seller shall pay to the purchaser such compensations as determined by the purchasers as may arise by reason of the breach of the warranty there in contained.

18. DEFENCE STORES CATALOGUE PART NUMBER/NATO STOCK CODE NUMBER

The stores covered by this specification shall bear the DS Cat Part No. 4240-000 484 & NSN 4240720259504.

19. SUGGESTIONS FOR IMPROVEMENT

Any suggestion for improvement in this document may be forwarded to:

The Director,
Directorate of Standardisation,
Ministry of Defence,
'H' Block, Nirman Bhavan PO,
New Delhi - 110011

21. DRAWINGS

FABRIC NYLON 75 GSM PU COATED
(Variety No. 1 & 2)

A-1. SCOPE

This schedule of particulars covers the requirements of following two varieties of fabric Nylon 75 GSM PU coated water proof for fabrication of various defence stores.

- a) Variety No. 1 – White
- b) Variety No. 2 – Dyed

S. No.	Particulars	Requirements	Method of test
a)	Width in cm	100 ± 2 as per ordered	
b)	Mass in gm		IS 7016 (Part1)
	1) Coated Fabric	75 ± 5	
	2) Coating Content	10 (min)	
c)	Nature of fibre	Polyamide	IS 667
d)	Nature of Coating	Polyurethane	Appx 'B'
e)	Breaking strength 'kgf' (5 cm x 20 cm between grips)	Warp	
	1) Warp	45 (min)	IS 7016 (Part 2)
	2) Weft	40 (min)	
f)	Tear strength 'kgf' (Revised single strip method)		
	1) Through wrap	1.5 (min)	
	2) Through weft	1.5 (min)	
g)	Water proofness Coated side (Low Pressure head test 30 cm for 30 minutes)		IS 7016 (Part 7)
	1) Leakage 'ml'	Nil	
	2) Wetting of outer surface	No. wetting	
h)	Water repellency (spray rating) (uncoated side)	80 (min)	IS 390
j)	Resistance of accelerated ageing 70 ± 1 ° C for 168 hour	There shall not be any softening, stiffening tackiness, discoloration and objectionable odour	IS 7016 (Part 8)
k)	Resistance to low temperature (at - 40°C) for 6 hours)	No appreciable stiffness No. cracking	Appx 'B'
m)	Blocking	Separation without damage to surface on lifting of weight piece.	BS : 3424 (Method 13)
n)	Resistance to damage by flexing (after 30,000 cycles)	There shall not be any wrinkle, cracking, flaking etc.	IS 7016 Part 2

<i>S. No.</i>	<i>Particulars</i>	<i>Requirements</i>	<i>Method of test</i>
p)	Separation of PU film	On fraying thread in warp and weft direction up to 5 mm after cutting the fabric from any portion there shall not be left a continuous PU film on the areas where from the threads have been removed.	--

ADDITIONAL REQUIREMENT FOR VARIETY No. 2

<i>S. No.</i>	<i>Particulars</i>	<i>Requirements</i>	<i>Method of test</i>
a)	Nature of Dye	Acid	IS 4472 Part 3
b)	Colour fastness to		
a)	light	Rating 5 (min)	IS 2454
b)	Washing	Rating 4 (min)	IS/ISO 105-C-10-2006

A-2. The basic fabric shall be clean free from any weaving defects stains and should lay flat when spread. The fabric shall be properly scoured evenly bleached & dyed as per the requirement and heat set before PU coating. The fabric shall be coated on one side with polyurethane. In case of variety No. 1, polyurethane having aliphatic isocyanate shall be used. The coating shall be uniform sufficiently pliable and free from any stiffness odour, foreign matters and other defects.

APPX 'B'
(Clause 4.1)

RESISTANCE TO LOW TEMPERATURE

B-1. On exposure at (-40 °C) for 6 hours, the coated fabric shall remain flexible and coating shall not crack when folded sharply keeping coated surface outwards.

APPX 'C'
(Clause 4.1)

IDENTIFICATION OF POLYURETHANE

C-1. Approx 5 gm of sample is dissolved/swollen in 5 ml glacial acetic acid by warming for several minutes in this solution 0.1 gm p-dimethyl amino benzaldehyde is added. The solution is further warmed for 2 to 3 minutes. The solution turns yellow indicating presence of polyurethane.

APPX 'B'
(Clause 4.1)

RESISTANCE TO LOW TEMPERATURE

B-1. On exposure at (-40 °C) for 6 hours, the coated fabric shall remain flexible and coating shall not crack when folded sharply keeping coated surface outwards.

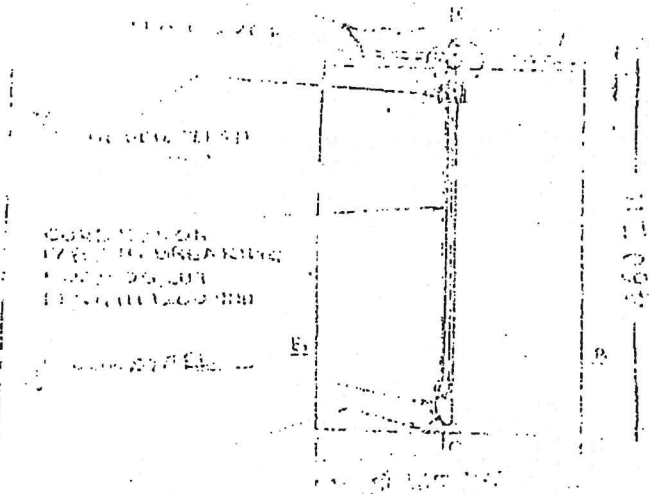
APPX 'C'
(Clause 4.1)

IDENTIFICATION OF POLYURETHANE

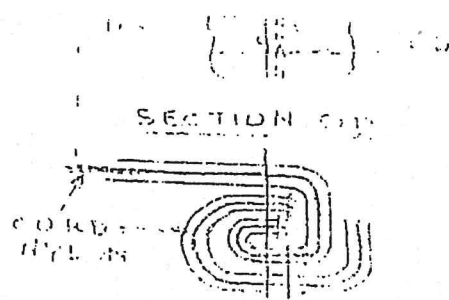
C-1. Approx 5 gm of sample is dissolved/swollen in 5 ml glacial acetic acid by warming for several minutes in this solution 0.1 gm p-dimethyl amino benzaldehyde is added. The solution is further warmed for 2 to 3 minutes. The solution turns yellow indicating presence of polyurethane.

BAG WATER PROOF

MATERIAL: NYLON FABRIC 70% OR 80% ...
 (COATED SIDE OF FABRIC ...)



BACK VIEW
 AT THE ...



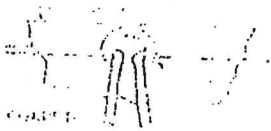
MOUTH COVER



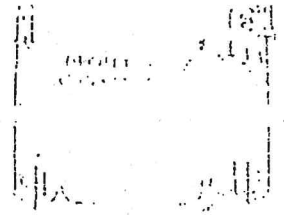
TECHNICAL DRAWING



ENLARGEMENT AT X



SECTION ...



SECTION ...

SECTION ...

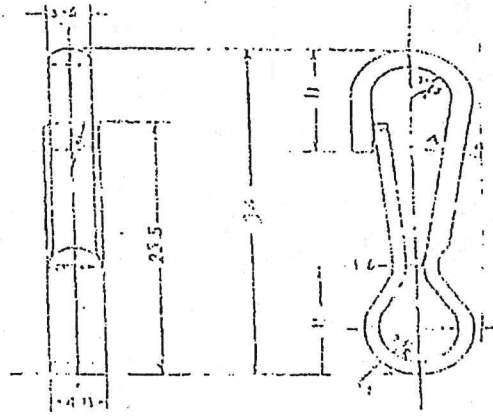
SECTION ...

SECTION ...

BAG WATER PROOF (HOOK)

MATERIAL - COLD ROLLED STEEL STRIP FOR SPRING
IS: 15017

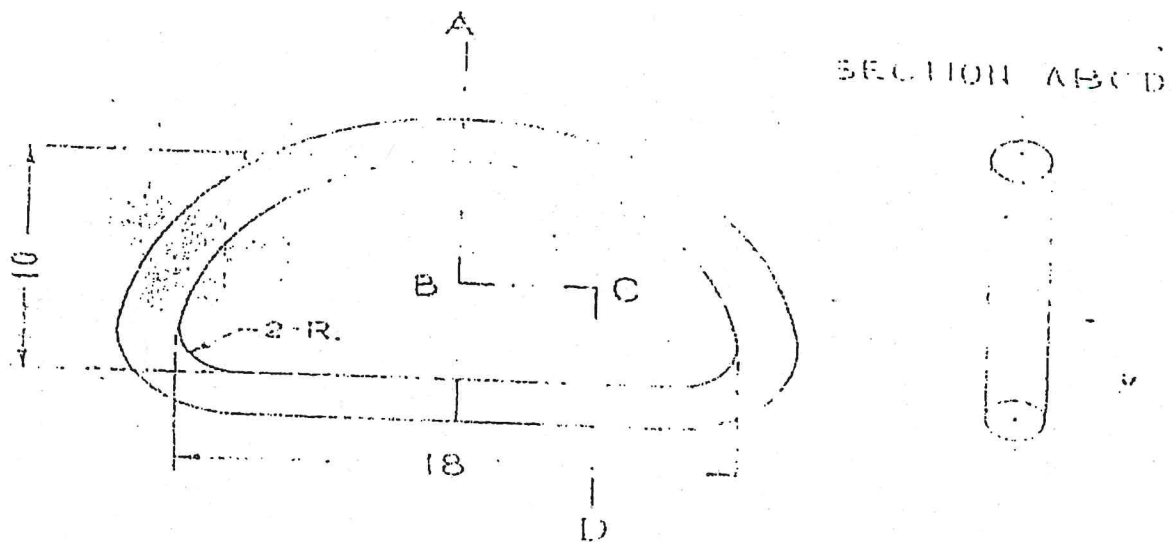
PLATING - HOOK SHALL BE COPPER PLUS NICKEL PLUS
CHROMIUM PLATED CONFORMING TO SERVICE CONDITION
NO. 4 CLASSIFICATION CODE. Fe/Cu 20 Ni 30 P
CR. Y. OF IS: 1068-95.



FIRST - ANGLE PROJECTION	DRAWN BY	CHECKED BY	APPROVED
DIMENSIONS IN MM.	SCALE: 2:1		

D RING 18 mm.

MATERIAL - M.S. WIRE 2 mm DIA
1/2 HARD CONFORMING TO IS: 1081



PLATING :-

D SHALL BE COPPER PLUS NICKEL PLUS CHROMIUM COATING CONFORMING TO SERVICE CONDITION No. 4 CLASSIFICATION CODE Fe/Cu 20 Ni 30 P Cr OF IS: 1068-93

FIRST ANGLE PROJECTION
DIMENSIONS IN mm. SCALE 1:1

