



रक्षा मंत्रालय
MINISTRY OF DEFENCE

ज्वाइंट सर्विस स्पेसिफिकेशन
JOINT SERVICES SPECIFICATION

ON

POLYTHENE FILMS VARIOUS
(DS CAT No. 9330 – 000 023 TO 000 028)

मानकीकरण निदेशालय
रक्षा उत्पादन विभाग
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RECORD OF AMENDMENTS

Amendment		Amendment pertains to : Sl. No. / Para No. / Column No.	Authority	Amended by	Signature & Date
No.	Date			Name & Appointment (IN BLOCK LETTERS)	

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0. FOREWORD

0.1 This specification has been prepared by the Stores Standardisation Sub - 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 (a) This JSS was prepared in the year 1983.

(b) This Specification was reaffirmed in 1993 and revised in 2001 (Revision No. 1)

(c) This Specification is a revision of JSS 9330 - 02 : 2008 (Revision No. 2) and Supersedes the same.

0.4 This JSS would be used to Guide, Manufacture, Quality Assurance and Procurement of the item.

0.5 Quality Assurance Authorities for the item covered by this specification are CQA (GS), Kanpur and DQA (N), New Delhi for Army and Navy respectively. Enquiries regarding technical parameters shall be addressed to the Quality Assurance Authority, while other enquiries shall be referred to :

The Director,
Directorate of Standardisation,
Ministry of Defence,
'H' Block, Nirman Bhavan PO,
New Delhi – 110 011

0.6 Non - registered users can obtain the following on payment :

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JSS 9330 - 02 : 2014
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0.7 Indian Standard (IS) specifications are available free of cost for registered users on :

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

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1. SCOPE

1.1 This specification covers the requirements of Polythene Films 0.04 to 0.25 mm thick, intended for packing and for use as a waterproof lining material in some items of equipment.

2. RELATED SPECIFICATIONS

2.1 Reference is made in this specification to :

Sl. No.	Specification No.	Nomenclature
(a)	IS 1029 : 1970 (First Revision) Reaffirmed - 2013 Amd - 3	Specification for Hot Rolled Steel Strips (Baling)
(b)	IS 1397 : 1990 (Second Revision) Reaffirmed - 2008 Amd - 3	Kraft Paper- Specification
(c)	IS 1912 : 1984 (Second Revision) Reaffirmed - 2007 Amd - 1	Specification for Country Jute Twine
(d)	IS 2500 : Part 1 : 2000 / ISO 2859 - 1 : 1999 (Third Revision) Reaffirmed - 2011 Amd - 1	Sampling Procedure for Inspection by Attributes : Part 1 : Sampling schemes Indexed by Acceptance Quality Limit (AQL) for Lot - by - Lot Inspection
(e)	IS 2508 : 1984 (Second Revision) Reaffirmed - 2008 Amd - 3	Specification for Low Density Polyethylene Films
(f)	IS 3751 : 1993 (First Revision) Reaffirmed - 2010 Amd - 1	Textile - Heavy Cee Jute Cloth - Specification
(g)	IS 4185 : 1989 (First Revision) Reaffirmed - 2010	Adhesive Paper Tapes - Specification
(h)	IS 4905 : 1968 Reaffirmed - 2011 Amd - 1	Methods for Random Sampling

3. MATERIAL

3.1 The polythene film shall conform to Grade '210' of IS 2508 : 1984 in all respects.

4. DIMENSIONS MASS AND TOLERANCES

4.1 Unless otherwise specified, the polythene film shall be supplied in width of one meter and in a continuous length of 100 metres per roll.

4.2 The thickness and width measured at any portion of the film shall be within the tolerance prescribed in specification IS 2508 : 1984. In addition the average thickness as calculated from the mass, density and area of the film in each roll shall be within ± 10 percent of the nominal thickness.

4.3 The average mass of the various polythene films is given below :

Thickness	Average mass (min)
0.04 mm	36 g / m ²
0.05 mm	44 g / m ²
0.08 mm	72 g / m ²
0.12 mm	108 g / m ²
0.18 mm	162 g / m ²
0.25 mm	225 g / m ²

5. WORKMANSHIP AND FINISH

5.1 The polythene film shall be smooth, soft, transparent and essentially colourless.

5.2 The polythene film shall be free from cuts, pinholes, perforations, tears, unmoulded particles of same materials, fold, creases and other damages.

6. MARKING

6.1 Each length of film shall be legibly and indelibly marked at one end with the following particulars :

- (a) Manufacturer's name, initials or recognized trade mark, if any
- (b) Length of film
- (c) Width of film
- (d) Mass of the film

- (e) Nominal thickness of the film in millimeter.
- (f) DS Cat number of the store
- (g) Year of manufacture.

7. PRE - INSPECTION OF STORES / CONSIGNMENT

7.1 Manufacturers / contractors must satisfy themselves that the stores are in accordance with the terms of the contract and fully conformed to the required specification, by carrying out a thorough pre - inspection of each lot before actually tendering the same for inspection to the Quality Assurance Officer nominated under the terms of the contract. A declaration by the contractor that necessary pre - inspection has been carried out on the stores tendered, will be submitted along with the challan. The declaration will also indicate the methods followed in carrying out pre - inspection on showing the features checked / tested and will have the test certificate attached to the challan / declaration.

7.2 If the Quality Assurance Officer finds that pre - inspection of the consignment as required above has not been carried out, the consignment is liable for rejection.

8. QUALITY ASSURANCE

8.1 Pressure head test - When pieces of the film 20 cm in diameter are subjected to 15 cm head of water for one hour, there should be no percolation of water through them. This test will apply to films up to 0.08 mm thick only.

9. SAMPLING

9.1 Formatting of Lot – The delivery shall be visually inspected by the Quality Assurance Officer at the spot in the first instance to ascertain the homogeneity in respect of nature, size, shape, source and year of manufacture. If it is homogeneous, the delivery shall be treated as one lot. If not, it shall be segregated by the supplier into separate groups so that each group which is homogeneous within itself forms a lot.

9.1.1 The supplier shall arrange the units of homogeneous lot in such a way that all the units are easily accessible to the Quality Assurance Officer to enable him to draw samples from any portion of the homogeneous lot.

9.2 Sampling Procedure – Sampling of stores shall be done adopting appropriate sampling method as per IS 4905 : 1968 so that samples drawn as per Table I and Table II of Clause 9.3 for assessing various quality requirements, are truly representative of the lot.

9.3 Scale of sampling – The number of sample units to be drawn for assessing the quality of the store, characteristic - wise, would be in accordance with Table II for detailed laboratory testing and Table I for dimensional / non - destructive / visual inspection.

TABLE I
SAMPLING PLAN FOR DIMENSIONAL / NON - DESTRUCTIVE / VISUAL
INSPECTION

Sl. No.	Lot Size	Sampling Plan No.	Major Characteristics AQL 2.5 %			Minor Characteristics AQL 4.0 %		
	N		n	Ac	Re	n	Ac	Re
(a)	Up to 500	1	50	3	4	50	7	8
(b)	501 to 1000	2	80	5	6	80	10	11
(c)	1001 to 3000	3	125	7	8	125	14	15
(d)	3001 to 10000	4	200	10	11	200	21	22
(e)	10001 to 35000	5	315	14	15	200	21	22
(f)	35001 to 150000	6	500	21	22	200	21	22

TABLE - II
SAMPLING PLAN FOR LABORATORY TESTING

Sl. No.	Lot Size	Sampling Plan No.	Major Characteristics AQL 2.5 %			Minor Characteristics AQL 6.5 %		
	N		n	Ac	Re	n	Ac	Re
(a)	Up to 500	1	5	0	1	8	1	2
(b)	501 to 1000	2	20	1	2	13	2	3
(c)	1001 to 3000	3	20	1	2	13	2	3
(d)	3001 to 10000	4	20	1	2	20	3	4
(e)	10001 to 35000	5	20	1	2	20	3	4
(f)	35001 to 150000	6	32	2	3	32	5	6

Index to codes :

- N = No. of units in the lot or lot size.
- n = No. of units in the sample or sample size.
- Ac = Acceptance No. or criteria for conformity to lot quality i.e. maximum allowable i.e. No. of defectives in the sample for acceptance of the lot.
- Re = Rejection No. = Ac + 1
- AQL = Acceptance Quality Level in terms of percentage of defective items.

NOTES :

- (1) When the sample size equals or exceeds lot size do 100 % inspection.
- (2) All the sample units as specified in above tables are required to be tested irrespective of the rejection No. = $(Ac + 1)$
- (3) The lot shall be considered conforming to the specified quality of the number if defective units observed in the sample is not more than the respective acceptance number for any class of defects.
- (4) Accepted lots are only those lots, which have been accepted without any deviation in terms of the specification. The lots accepted under deviation are considered rejected at the first instance, in terms of specification hence should be treated as rejected.

9.4 Sampling for Visual Inspection – The Quality Assurance Officer shall draw samples as per Table I of clause 9.3 for dimensional / non - destructive / visual inspection to assess the quality of the lot. If the quality of the lot indicates conformity to the standard as laid down in Table I of clause 9.3, sampling for laboratory test will be done. Otherwise the lot shall be straightaway rejected.

9.5 Sampling for Laboratory Testing – If the lot is considered conforming to the quality standards as specified in . Table I of clauses 9.3, sampling for laboratory testing shall be carried out as per Table II of clause 9.3 and the samples shall be subjected to the laboratory testing.

9.6 Bulk Inspection - If the laboratory test report indicates that the lot does not conform to the standard as specified in Table II of clause 9.3, the whole lot shall be rejected. Otherwise the lot shall be inspected 100 % thoroughly for workmanship, finish and other critical and visual defects. All items found defective shall be rejected.

10. CRITERIA FOR CONFORMITY

10.1 All the sample units as specified in Table I and Table II of clause 9.3 are required to be tested / inspected irrespective of the rejection number ($= Ac + 1$) being achieved earlier.

10.2 The lot shall be considered conforming to the specified quality of the number if defective units observed in the sample is not more than the respective acceptance number for any class of defect.

10.3 When the sample size equals or exceeds the lot size do 100 % inspection.

10.4 The number of sample units to be sampled for laboratory testing should be multiple of the number characteristics tests which can not be carried out simultaneously on the same sample units.

11. WARRANTY :

11.1 Except as otherwise provided in the invitation to the tender, the contractor / seller hereby declare that the goods, stores, article 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.

11.2 The contractor / seller hereby guarantee that the said goods / stores / articles would continue to conform to the description and quality aforesaid for period of twelve months from the date of delivery of the said goods / stores / articles to the purchaser or 15 months from the date of shipment / dispatch from the contractors works which is earlier and not with standing 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 to conform 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 portion there of as is found to be defective by the purchaser in the discretion on the application made there of by the contractor / seller, and in such as event the above mentioned warranty period shall apply to the goods / stores / articles rectified / replaced from the date of rectification / replacement there of, otherwise the contractor / seller shall pay to the purchaser such compensations as determined by the purchaser as may arise by reason of the breach of the warranty there in contained.

12. ADVANCE SAMPLE : 1 x 15 metre of Advance samples should be submitted to the controller, CQA (GS), Kanpur for test and approval prior the commencement of Bulk Manufacture from these firms who have not supplied the stores during last 3 yrs. The advance samples must be submitted to the AHSP within stipulated date of submission.

13. PACKAGING

13.1 The following materials shall be used for packing of polythene films :

Sl. No.	Material	Conforming to
(a)	Country jute twine	IS 1912 : 1984
(b)	Cloth cee heavy jute	IS 3751 : 1993
(c)	Steel strapping 13 mm wide and 0.4 mm thick	IS 1029 : 1970
(d)	Kraft paper	IS 1397 : 1990
(e)	Gummed paper	IS 4185 : 1989
(f)	Wooden / strong Cardboard pole	Best trade quality to be approved by the Quality Assurance Officer

13.2 Method

13.2.1 The stores shall be delivered in new and clean condition.

13.2.2 Each length of polythene films shall be wound into a roll on a wooden or strong cardboard pole of approved quality and length equal to the width of the film.

13.2.3 Each roll shall be wrapped with a layer of paper kraft wrapping or any other suitable wrapping material and well secured by strip of gummed paper tape or other adhesive tape or by tying with twine. One or more such rolls shall be wrapped with Cloth Cee Heavy or any other suitable hessian cloth and the seams of the cloth securely sewn with jute twine. Care shall be taken to avoid piercing of the inner wrapping during stitching.

13.3 The gross mass of the package shall not exceed 40 kg if the consignee is a holding depot or 250 kg if the consignee is an Ordnance Factory.

13.4 The package shall be bound with an adequate number of metal hoops or cordage of adequate strength. The packages shall be compact and suitable for safe rail / road transit.

13.5 Marking

13.5.1 Before dispatch, each package shall be legibly and indelibly marked with the following particulars:-

- (a) DS Cat No. and nomenclature of the store
- (b) Number of rolls in the package
- (c) Consignee's name and address.
- (d) Gross mass of the package in kg
- (e) Serial number of individual package and total number of packages in the consignment e.g. 1 of 4, 2 of 4, 3 of 4 and 4 of 4 when the consignment consists of 4 packages.
- (f) Month and year of packing
- (g) Consignor's name and address
- (h) Contract no. and date.
- (j) Inspection Note number and date.

14. DEFENCE STORES CATALOGUE NUMBERS

14.1 The stores covered by this specification shall bear the following DS Cat Number :

Sl. No.	DS CAT. NUMBERS	Nomenclature	
(a)	9330 - 000 023	Polythene film	0.04 mm thick
(b)	9330 - 000 024	Polythene film	0.05 mm thick
(c)	9330 - 000 025	Polythene film	0.08 mm thick
(d)	9330 - 000 026	Polythene film	0.12 mm thick
(e)	9330 - 000 027	Polythene film	0.18 mm thick
(f)	9330 - 000 028	Polythene film	0.25 mm thick

15. SUGGESTIONS FOR IMPROVEMENT

15.1 Any suggestions for improvement of this document may be forwarded to :

The Director,
Directorate of Standardisation,
Ministry of Defence,
'H' Block, Nirman Bhavan PO,
New Delhi - 110 011.