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भारत सरकार
GOVERNMENT OF INDIA
रक्षा मंत्रालय
MINISTRY OF DEFENCE

संयुक्त सेवा विनिर्देश
JOINT SERVICES SPECIFICATION

ON

PAPER, WRAPPING, WAXED KRAFT AMMUNITION
(DCAN No. 8135-000 149)
(NSN No. 8135-72039 8671)

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 BHAVAN POST OFFICE
NEW DELHI-110011

LIST OF MEMBERS ASSOCIATED WITH REVISION OF THIS STANDARD

1. This Fifth Revision of the Joint Services Specification 8135-05 has been approved by Rear Admiral Sanjay Misra, DGNAI, Vice Chairman, Offg Chairman, Armament Standardisation Sub-Committee by circulation.
2. The representatives of following organisation have been present/consulted in approving the document:

S. No.	Organisation
1.	ADGWE/GS (WE-2/3), New Delhi
2.	Dte of Arty (GS/Artillery-5), New Delhi
3.	Dte Gen of Naval Armt, Naval HQ, New Delhi
4.	Dte of Armt & Safety Eqpt, Air HQ, New Delhi
5.	DGEME, Army HQ, New Delhi
6.	DGNAI, Naval HQ, New Delhi
7.	DGAQA, JD (Armt) Gp, New Delhi
8.	CQA (ME), Pune
9.	CQA (Amn), Pune
10.	CQA (SA), Ichapur, West Bengal
11.	CQA (W), Jabalpur
12.	HEMRL, DRDO, Pune
13.	ARDE/DRDO Orgn, Pune
14.	Ammunition Factory, Pune
15.	Secretary ASSC, New Delhi
16.	DG(ACE), Pune

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JSS 8135-05:2017
(Fifth Revision)

RECORD OF AMENDMENTS

Amendment		Amendment pertains to S. 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 Joint Services Specification has been prepared by Armament 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 8135-05 : 2017 (Fifth Revision):

- a) was first prepared in the year 1991.
- b) was revised in the year 1996, 2001, 2006 & 2013.
- c) is a revision of JSS 8135-05 : 2013 (Fourth Revision) and supersedes the same.

0.4 This specification would be used for Manufacture, Supply and Quality Assurance of Paper, Wrapping, Waxed Kraft, Ammunition.

0.5 Quality Assurance Authority for the item covered in this specification is The Controller, Controllerate of Quality Assurance (Military Explosives), Aundh Road, Pune - 411020. (email id cqamear-dgqa@nic.in). 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 Bhawan PO,
New Delhi-110 011.
assc.defstand@gov.in

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

a) **Copies of IS from:**

Bureau of Indian Standards,
Manak Bhawan,
9, Bahadur Shah Zafar Marg,
New Delhi-110002,
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 -110011.

0.7 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.

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

0.9 Directorate of Standardisation Website - All the approved JSSs/JSGs are available on the Directorate of Standardisation Website ***www.ddpdos.gov.in***. Defence Organisations 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 is meant to govern Manufacture, Supply and Quality Assurance of Paper, Wrapping, Waxed Kraft, Ammunition suitable for wrapping cordite and Ammunition components.

2. RELATED SPECIFICATIONS/DOCUMENTS

References are made in this specification to:

Table 1

S. No.	Specification No. & Year	Nomenclature
a)	IS 1060 (Part 1) : 1966 AMD 6 Reaffirmed 2016	Methods of sampling and test for paper and allied products : Part 1 (Revised).
b)	IS 1060 (Part 2) : 1960 Reaffirmed 2016	Methods of sampling and test for paper and allied products : Part 2 (Tenth Reprint).
c)	JSS 9160-09 : 2016 (Second Revision)	Paraffin Wax, Ammunition.
d)	JSS 8135-17 : 2016 (First Revision)	Paper Kraft, Ammunition.
e)	JSG 0114 : 2015 (First Revision)	Methods of test for Textiles used in Ammunition.
f)	CIME Drawing CI/M/153	Water Penetration Apparatus.

2.2 Copies of CQA (ME) Drawing CI/M/153 are obtainable on payment from:

The Controller
Controllerate of Quality Assurance (Military Explosives)
Aundh Road,
Pune - 411020

3. MATERIAL

Paper, Wrapping, Waxed Kraft, Ammunition shall be of uniform width and thickness and shall be free from foreign matter and visible impurities.

4. MANUFACTURE

4.1 The body paper shall be made from pure unbleached Sulphate wood pulp (Kraft). The material shall be hot rolled so that there is no surface layer of wax. The substance of the body paper and waxed paper shall be in accordance with the terms of contract.

4.2 Ingredients

4.2.1 Paper, Wrapping Waxed, Kraft, Ammunition shall contain the following ingredients to the respective specifications as given below:

S. No.	Ingredients	Specification
a)	Paper Kraft grade 1 (substance $75 \pm 4 \text{ g / m}^2$)	JSS 8135-17
b)	Paraffin Wax	JSS 9160-09

5. TENDER SAMPLE

The contractor/manufacturer/supplier shall submit a tender sample of 250 g along with 250 g of basic kraft paper used in sheet or roll form, free of charge, conforming to this specification to the Quality Assurance Authority as stated in the contract. Unless otherwise specified the sample shall consist of sheets of at least 50 cm x 50 cm. The sample sheets shall be kept flat, free from wrinkles and folds and protected from exposure.

6. PRE-INSPECTION OF STORES/CONSIGNMENT

6.1 Manufacturers /contractors must satisfy themselves that the stores are in accordance with the terms of the contract and fully conform 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 a necessary pre-inspection has been carried out on the stores tendered, will be submitted along with the challan. The declaration will also indicate the method followed in carrying out pre-inspection showing the features checked / tested and will have the test certificate attached to the challan/declaration.

6.2 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.

7. QUALITY ASSURANCE

7.1 Inspection

The Paper, Wrapping, Waxed, Kraft, Ammunition and the packages in which it is packed shall be subject to inspection by and to the approval of the Quality Assurance Officer/Quality Assurance Authority.

7.2 Sampling

At least 5 percent of the packages shall be sampled. When supplied in rolls, four continuous representative sheets (150 g) shall be taken from each sample package. The sample Sheets shall be cut with edges parallel to the machine and cross directions of the paper. Samples taken from rolls shall not include the end portions.

7.3 Criteria for Conformity

If on examination, any sample is found not to conform to this specification, the whole batch/lot/consignment may be rejected.

7.4 Test Requirements

7.4.1 Samples taken from any portion of the batch/lot/consignment of material shall conform to clause 4 and in addition shall conform to the test requirements shown in the following tables:

7.4.2 Table 2 - Chemical Requirements of Paper, Wrapping, Waxed, Kraft, Ammunition:

S. No.	Characteristics	Requirements	Test Method Reference to IS 1060 (Part 1 & 2)
a)	Moisture content, % by mass	7.0 Max	JSG 0114 Method 4
b)	pH of water extract	5.5 Min 7.5 Max	Part 1 - 10
c)	Water soluble chlorides, calculated as Sodium chloride, % by mass	0.05 Max	JSG 0114 Method 7 or By Chloride Titrate
d)	Water Soluble Sulphates calculated as anhydrous Sodium Sulphate, % by mass	0.25 Max	Part 2 -18
e)	Matter soluble in Ether, % by mass	20 Min 32 Max	Part 2 - 20
f)	Fatty acids, calculated as Oleic acid, % by mass	0.25 Max	Part 2 - 19
g)	Ash on incineration, % by mass	5.0 Max	Part 1 - 2

NOTE - All percentages shall be calculated on the dry mass material after drying to constant mass.

7.4.3 Physical Requirements

The material shall be conditioned, prior to testing, in an atmosphere of 65% ± 2% relative humidity at 27°C ± 2°C for a period of not less than 24 hours.

Table 3 - Physical Requirements of Paper, Wrapping Waxed, Kraft, Ammunition

S. No.	Characteristics	Passing Standard	Reference to Test Method No. IS 1060 (Pt 1)
a)	Water Proof ness	To pass the test	Appx 'A'
b)	Substance g / m ²	85 Min 105 Max	IS 1060 (Part 1) Part 1-6
c)	Bursting strength kPa	206 Min	Part 1, 12.5

8. WARRANTY

The stores supplied against the contract shall be deemed to have been warranted against defective material and performance by the contractor for a period of 12 months from the date of receipt of the store at the consignee's end and if during this period any of the stores supplied is found defective, the same shall be replaced by the supplier/manufacturer/contractor free of charge at the consignee's premises.

9. PACKAGING

9.1 The Paper shall be delivered flat and unfolded in reams of 500 sheets. Each ream shall be wrapped separately and 10 such reams are wrapped in hessian cloth to form a bale. The bale shall be placed between two suitable thick boards (wood or paper) and the assembly secured by hoop iron or polypropylene tape for safe rail transit.

9.2 When the supply is required in rolls, each roll is to be wrapped with packing paper followed by hessian cloth and hooped round along with 4 bamboo strips at corners. The quantity per roll shall not exceed 200 kg.

9.3 The inclusion of any foreign matter or impurities in any of the packages shall render the whole consignment/batch/lot liable to rejection.

9.4 Any other form of package shall have the prior approval of the Quality Assurance Authority.

10. MARKING

10.1 All packages containing the material shall be indelibly and legibly marked with the following details (as applicable):

- a) Nomenclature and Specification number of the material.
- b) Name and address of the Consignee.
- c) A/T or SO number and date.
- d) * Consignment No.
- e) Lot/Batch No. and Date of Manufacture.
- f) Gross and net mass.
- g) * Consecutive number of packages and total number of packages in consignment.
- h) Date of supply.
- j) Manufacturer's initials or recognized trademark.

* Not applicable when the store is manufactured by Ordnance Factories.

10.2 In addition to above the Quality Assurance Officer may suggest some more markings/ identifications suitable at the time of inspection.

11. SAFETY OF OPERATIONS

Nothing in this specification shall relieve the contractor, supplier, manufacturer or user of his responsibility in the safety of his operations in handling, storage, transit or use of this store.

12. DEFENCE CATALOGUE NUMBER/NATO STOCK NUMBER

The Defence Catalogue Number allotted to this store is 8135-000 149.
The Nato Stock Number allotted to this store is 8135-72039 8671.

13. 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 Bhawan PO,
New Delhi - 110011.

DETERMINATION OF WATER PROOFNESS

A-1 The paper is subjected in a suitable apparatus CQA(ME) Aundh Road, Pune drawing No. CI/M/153) of internal diameter 12.7 cm to a pressure of 10 cm height of water containing 1 percent eosin or any other suitable water soluble dye at a temperature of $27^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 24 hours with a filter paper in close contact with the underside of the test piece.

A-2 The filter paper should not be stained or wetted after the period.