

SPECIFICATION FOR DUCK NYLON VARIOUS OG

4. FORWARD

- 0.1 This specification is intended to guide purchase, inspection and manufacture of Duck Nylon OG of three types against Defence requirements.
- 0.2 In case of discrepancy between this specification and any sample or pattern this specification will be taken as correct.
- 0.3 Wherever a reference to any other Specification occurs in this specification, it shall be taken as a reference to the latest version of that specification.

1. SCOPE

- 1.1 This specification covers the requirement of Duck Nylon Various OG of three types used in fabrication of packs and harnesses for Personnel Parachutes in particular and other miscellaneous Aerial Delivery Equipment, in general.

2. MANUFACTURE AND FINISH

- 2.1 Yarn : The yarn used in the manufacture of the Duck shall be bright, high-tenacity multifilament nylon 6 or 66. The manufacturer shall use preferably the linear density given in the table. However, a suitable change in the linear density could also be made by the manufacturer provided that the other properties of fabric as given in the table are achieved.

2.2 Fabric :

- 2.2.1 Weave : The Duck Nylon various shall be in plain weave of Happsack derivative as indicated in Table. The ends and picks per decimeter values given in the table are suggested particulars and can be altered at the discretion of the manufacturers to achieve the required performance properties.

- 2.2.2 The selvages of the Duck Nylon shall be straight, even and well made and shall have the same tension as the remainder of the Duck.

- 2.2.3 Finish : The Duck Nylon shall be given a preliminary secur sufficient to remove sizing and other adhering material. The material shall then be processed through heat setting, dyeing etc. The finished Duck Nylon shall be clean, evenly woven with firm texture, free from spinning/weaving defects and stains.

- 2.2.4 The dyed Duck shall be manufactured either by use of dyed yarn or by dyeing the woven fabric. The yarn or fabric shall be dyed with dispersed or acid dyes. The dyed fabric shall be of uniform shade and to the approved colour standard.

3. REQUIREMENTS

- 3.1 Construction : The Duck Nylon shall comply with the requirements of the enclosed Table.

- 3.2 Shrinkage : Shrinkage of the ducks nylon shall not be more than 2 percent either in warp or weft direction.

- 3.3 pH Value : The pH value of the finished Duck shall not be less than 3.5 nor more than 8.5 when determined by the cold method prescribed in IS:1390.

- 3.4 Colour fastness : The dyed Duck Nylon shall be fast to light and washing. The colour fastness rating of the Duck shall be as under :-
- 3.4.1 Fastness to Washing : 4 or better when tested by the method given in IS: 3381.
- 3.4.2 Fastness to Light : 4 or better when tested by the method given in IS: 2454.
- 3.5 Length : The Duck Nylon shall be in rolls of 40 m without joint or multiples thereof or as ordered by the procuring authority. *Short lengths upto 10% of the total order would be acceptable. However, smallest piece in length*
4. SEALED SAMPLE
- 4.1 The unmeasurable characteristics of the Duck Nylon like general appearance, feel, stiffness etc. shall be in conformity with the sealed samples held in custody of AHSP.
5. PACKAGING
- 5.1 The Duck Nylon shall be packed in continuous length on cardboard rolls which have been previously covered by a layer of Kraft Paper (IS: 1397).
6. MARKING
- 6.1 Each roll of Duck Nylon shall be legibly marked with the name of the material, length, width, date-month-year of manufacture and the manufacturer's name.
7. PACKING
- 7.1 Each roll of Duck Nylon shall be wrapped with Polyethylene film of 40 microns (150 gauge). Suitable number of rolls shall be arranged in cylindrical bundles and secured by Jute twine to form a unit pack. Appropriate number of unit packs shall then be placed in a case wood packing, conforming to IS: 1508, duly lined with Paper Packing Waterproof, conforming to IS: 1398. The empty spaces, if any, shall be stuffed with cushioning materials to prevent movement of the contents inside. The case, properly nailed with the top lid shall be bound by *lashing* hoops or GI wire of adequate strength. While nailing the top lid care shall be taken that the contents are not pierced. Packing materials shall be of best quality and previously approved by the Inspector.
- 7.2 The Gross mass of the package shall not exceed 40 Kg.
- 7.3 If ordered for delivery to a local inspection depot, the Duck Nylon shall be delivered loose in the firm's returnable packs. After inspection, the accepted supplies shall be packed by the Inspection Depot authority as indicated in Para 7.1 above.
- 7.4 Before despatch, each case wood packing shall be legibly and indelibly marked showing the following :-
- Name of the Store.
 - Quantity packed in CWP.
 - Serial No. of the CWP
 - Month and year of packing.
 - Name and Trade Mark of the manufacturer.
 - Mass of the CWP, in kg.
 - Name and address of the consignee.

8. SAMPLING

- 8.1 Quantity of Duck Nylon tendered to the buyer against a despatch shall constitute a lot.
- 8.2 Conformity of the lot to the requirements of this specification shall be adjudged after testing the samples selected from it in accordance with the following sampling plan :

<u>LOT SIZE</u>	<u>SAMPLE SIZE</u>	<u>SUB-SAMPLE SIZE.</u>
Upto 50	8	3
51 to 100	13	4
101 to 150	20	5
151 to 300	32	6
301 to 500	50	7
501 and above	80	10

- 8.3 For evaluating ends, picks, width, weave and length, the number of pieces selected according to 'Sample Size' given above shall form the test sample.
- 8.4 For evaluating weight, breaking load, and pH value the number of pieces specified under 'Sub-Sample Size' given above shall be selected at random from those already tested according to 8.3 above. For lot size less than 500, three pieces and otherwise 5 pieces shall be selected for colour fastness.

9. PRE-INSPECTION

- 9.1 Before tendering the material to the Government Inspector, the supplier will carry out a thorough Pre-Inspection of each delivery to satisfy himself that the materials fully conform to this specification.

10. INSPECTION

- 10.1 If on examination, material from any portion of a consignment is found not to be fully in accordance with this specification, the whole consignment is liable to be rejected.
- 10.2 If on examination of 20 percent of any delivery, 20 percent of those examined are found not to conform to this specification in any respect, then the whole consignment may be rejected.
- 10.3 All rolls not fully in accordance with this specification shall be rejected.

STATION :- AGRA

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TABLE 4
REQUIREMENTS OF WOVEN NYLON VARIOUS OF

VARIETY No.	LINEAR DENSITY OF YARN (IN TEX)		FINDER dm.	PICKS PER dm.	MASS IN Gms./M ²	BREASTING LOAD (MIN) ON 5 cm x 20 cm strips (in NEWTONS)	WEAVE	FIBRE WIDTH IN CMs.	ROLL LENGTH (IN METRE)	
	WARP	WEFT								
1	2	3	4	5	6	7	8	9	10	11
1	23.3	23.3	420	420	230 ± 5%	2200	2200	10/12	104 ± 2	40 unless otherwise specified.
2	23.3	23.3	220	220	425 ± 5%	5400	5400	2/2 HOP SACK	92 ± 1	40
3	23.3	23.3	370	370	700 ± 5%	8800	8800	3/4 HOP SACK	92 ± 1	40
TEST METHOD	IS:1315	IS:1963	IS:1963	IS:1964	IS:1964	IS:1969		IS:1964	IS:1964	

NOTE: 9.80665 N is equal to 1 Kg. Force.

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