IS 2818 (Part 1) : 1990
(Reaffirmed 2006)

भारतीय मानक

इंडियन हैसियन — विशिष्टि

भाग 1 सामान्य

(दूसरा पुनरीक्षण)

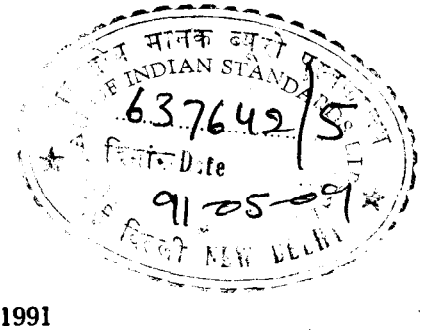
Indian Standard

INDIAN HESSIAN — SPECIFICATION

PART 1 GENERAL

(Second Revision)

UDC 677·11/·15



BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

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Price Group 3

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards on 23 May 1990, after the draft finalized by the Jute and Jute Products Sectional Committee had been approved by the Textile Division Council.

This standard was first published in 1964 and was subsequently revised in 1971. This standard has been again revised to harmonize the various requirements specified in it with those given in specification formulated by Export Inspection Council and also norms prepared by Indian Jute Mills Association.

In the present revision changes have been made in the terminology, sampling, testing and inspection, and criteria for conformity requirements of Indian hessian.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

INDIAN HESSIAN — SPECIFICATION

PART 1 GENERAL

(Second Revision)

1 SCOPE

1.1 This standard specifies terminology, general requirements, packing, marking, sampling, inspection and criteria for conformity of Indian hessian packed in bales and rolls.

2 REFERENCES

2.1 The Indian Standards listed in Annex A are necessary adjuncts to this standard.

3 TERMINOLOGY

3.0 For the purpose of this standard, the definitions given in IS 5476 : 1986 along with the following definitions shall apply.

3.1 Cut (Full Cut)

A length of continuously woven jute fabric measuring 82 m or more.

3.2 Short Piece

A length of continuously woven jute fabric measuring 18 m or more but less than 82 m.

3.3 Lot

The quantity of hessian of one definite type, width, quality, packed in bales or rolls containing one definite length and delivered to buyer against one despatch note.

3.4 Roll

The cylindrical rigid package containing one type of hessian wrapped on suitable core and covered with roll covering with outer layer stitched properly in conformity with IS 4744 : 1968.

4 GENERAL REQUIREMENTS

4.1 The hessian shall be woven with jute yarn in plain weave, with two single yarns drawn through each split of reed. The hessian shall be generally of uniform construction. Selvedges shall be firm, straight and may contain cotton yarn.

5 PACKING AND MARKING

5.1 The hessian shall be packed in bales or rolls as required. The packing and marking shall conform to IS 2873 : 1969 for bales and IS 4744 : 1968 for rolls unless otherwise specified.

5.1.1 The bales or rolls may also be marked with the Standard Mark, details of which may be obtained from the Bureau of Indian Standards.

6 SAMPLING, TESTING AND INSPECTION

6.1 Unless otherwise agreed to between the buyer and the seller, the procedure for sampling shall be as given in Annex B and the procedure for testing and inspection shall be as given in Annex C.

7 CRITERIA FOR CONFORMITY

7.1 The lot shall be considered as conforming to the requirements of this standard, if the following conditions are satisfied.

7.1.1 *For Hessian Packed in Bales*:

a) The total of the corrected net mass of the bales under test is not less than the total contract mass of the bales.

b) The total length of hessian (cuts) in each bale shall conforms to the specified requirement.

c) The number of short pieces (cuts) in each bale under test does not exceed the specified numbers.

d) The average moisture content percent of the test samples does not exceed the specified percentage.

e) The average oil content percent of the test samples does not exceed the specified percentage.

f) The average warpway and weftway breaking strength values of the test samples either by ravelled strip test method or grab test method are not less than the corresponding breaking strength specified.

g) The average value of (i) mass per square metre, (ii) ends per decimetre, and (iii) picks per decimetre for the test samples are in accordance with the requirements specified.

h) (i) *Construction above* (38 × 31) *or* (9 × 8) (*see* Note)

Not more than 20 percent of the width readings of the cuts under test are outside the specified tolerances and not more than half of these readings (10 percent) are below the specified nominal value. However, no individual reading shall fall below the specified nominal value by more than 0·5 percent subject to a minimum of 0·5 cm.

(ii) *Construction* (38 × 31) *or* (9 × 8) (*see* Note) *and below*

The average values of width are in accordance with the requirements specified, but no individual reading shall fall below the specified nominal value by more than 1 cm.

NOTE — 38 × 31 stands for 38 ends/dm and 31 picks/dm; and

9 × 8 stands for 9 porters and 8 shots.

7.1.2 *For Hessian Packed in Rolls*:

a) The total of the corrected net mass of the rolls under test is within $^{+8}_{-2}$ percent of the contract mass.

b) Observed length of the rolls is within ± 1 percent of the marked length of the rolls.

c) For moisture regain, oil content, breaking strength, mass, ends and picks, and width conditions given in **7.1.1**(d), (e), (f), (g) and (h) respectively are satisfied.

ANNEX A

(*Clause* 2.1)

LIST OF REFERRED INDIAN STANDARDS

IS No.	*Title*
1954 : 1969	Methods for determination of length and width of fabrics (*first revision*)
1963 : 1981	Methods for determination of threads per unit length in woven fabrics (*second revision*)
1969 : 1985	Methods for determination of breaking load and elongation of woven textile fabrics (*second revision*)
2873 : 1969	Specification for packaging of jute products in bales (*first revision*)
2969 : 1974	Method for determination of oil content of jute yarn and fabrics (*first revision*)
4744 : 1968	Specification for packaging of jute products in rolls
5476 : 1986	Glossary of terms relating to jute (*first revision*)

ANNEX B

(*Clause* 6.1)

SAMPLING

B-1 SAMPLING PROCEDURE

B-1.1 For assessing the conformity of bales or rolls to the requirements of this specification, the test sample of bales/rolls shall be selected from the lot at random as follows:

No. of Bales/Rolls in the Lot	*No. of Bales/Rolls to be Drawn and Opened for Inspection*
Up to 15	2
16 to 50	3
51 to 150	5

NOTE — If the number of bales/rolls in a lot exceeds 150, the same shall be taken as a separate lot comprising of bales/rolls maximum up to 150.

B-1.2 From the bales/rolls selected as per **B-1.1**, the test sample shall be drawn as follows:

Sl No.	*Tests*	*Test Sample*	
		Bales	*Rolls*
(1)	(2)	(3)	(4)
i)	Gross mass and tare mass (baling Hoops or cores and all packing materials)	All the bales selected as in **B-1.1**	All the rolls selected as in **B-1.1**
ii)	Length of hessian per bale/roll	10 percent of the cuts in the bales selected as in **B-1.1**, subject to a minimum of 3.	All the rolls selected as in **B-1.1**
iii)	Number of short pieces per bale	All the bales selected as in **B-1.1**	
iv)	Moisture regain, percent	Ten cuts shall be drawn covering all the bales selected as in **B-1.1**	All the rolls selected as in **B-1.1**
v)	Mass in g/m^2		
vi)	Ends and picks per dm		
vii)	Width		
viii)	Breaking strength	One metre from each bale selected (**B-1.1**) subject to a minimum of 3 m from 3 different cuts	One metre from each roll selected (**B-1.1**) subject to a minimum of 3 m from 3 different rolls.
ix)	Oil content, percent	Two sample pieces from two cuts selected from two different bales	Two sample pieces from two different rolls

ANNEX C

(*Clause* 6.1)

TESTING AND INSPECTION

C-0 TESTING AND INSPECTION PROCEDURE

C-0.1 Testing and inspection of the lot as laid down in **C-1** to **C-9** shall be carried out on the samples drawn in accordance with Annex B.

C-1 MASS OF BALES/ROLLS

C-1.1 Determine the total gross mass (Wg) of the bales or rolls in the test sample (**B-1.1**) from the gross mass of each bale or roll taken up to nearest kilogram.

C-1.2 Remove all packing materials including baling hoops or cores from the bales/rolls selected in **B-1.1** and weigh them together up to nearest kilogram, determine the total tare mass (Wt) of the bales/rolls weighed (**C-1.1**).

C-1.3 The total net mass (Wn) of the bales/rolls under test shall be as under:

$$Wn = (Wg - Wt)$$

C-1.4 Determine the total corrected net mass (Wi) of the bales/rolls under test by the following formula:

$$Wi = \frac{Wn \times (100 + \text{Contract regain, percent})}{100 + \text{average moisture regain, percent}}$$

C-2 MOISTURE REGAIN

C-2.1 Bales

C-2.1.1 Determine the moisture regain in each cut (**B-1.2**) on opening the bales (**B-1.1**) by the use of a suitable moisture meter. After

opening the bales, sufficient time (not less than 10 minutes) shall be allowed to lapse before measuring moisture regain to enable the fabric to attain conditions for the normal use of the moisture meter. Take four readings for each cut.

C-2.2 Roll

C-2.2.1 Determine the moisture regain in each roll (**B-1.2**) after opening the rolls (**B-1.1**), by the use of a suitable moisture meter. Take 10 readings for each roll.

NOTES

1 The mathematical average of all the readings is the average moisture regain percent of the bales.

2 IJIRA (Indian Jute Industries Research Association) Moisture Meter may be used for the purpose. This meter works on the principle of measuring the electrical resistance which changes with moisture content in the material. The specimen (jute product) is placed under the electrode gun having two poles of specially designed spring-loaded electrodes. The small amount of current passing through the electrodes is amplified and recorded on the meter calibrated against the actual moisture regain, based on oven-dry method of the material. A separate chart, calibrating the readings of the actual moisture regain based on oven-dry method of the material may also be used. The instrument shall be operated according to the manufacturer's instructions.

Mention of the name of the specific instrument is not intended to promote or give preference to the use of that instrument over others not mentioned.

C-3 LENGTH

C-3.1 Bale

C-3.1.1 Determine the total length of the hessian in the cuts selected in each bale (**B-1.1**) by adding up the length of the cuts in the respective bales, measured correct to a decimetre in accordance with **5.1** or **5.2** or **5.3** of IS 1954 : 1969 after conditioning at the prevailing atmosphere. If the total measured length is less than the total marked length on the cuts, repeat the test in all the cuts in the bales selected.

C-3.2 Rolls

C-3.2.1 Determine the length of hessian in each roll in the test sample (**B-1.1**) correct to a decimetre in accordance with **5.1** or **5.2** or **5.3** of IS 1954 : 1969 after conditioning at the prevailing atmosphere.

C-4 NUMBER OF SHORT PIECES (FOR BALE ONLY)

C-4.1 Determine the number of short pieces of hessian in each bale by measuring the length of the cuts correct to a decimetre by using either 'measuring table' or 'measuring scale' method (*see* IS 1954 : 1969).

C-5 WIDTH

C-5.1 Bale

C-5.1.1 Determine the width of cuts (**B-1.2**) correct to 0·5 cm in accordance with **6** of IS 1954 : 1969 after conditioning the same in prevailing atmosphere. Take 3 width readings for each cut.

C-5.2 Roll

C-5.2.1 Determine the width of hessian in rolls (**B-1.2**) correct to 0·5 cm in accordance with **6** of IS 1954 : 1969 after conditioning in the prevailing atmosphere. Take five readings from each roll at interval of approximately one-fifth of roll length leaving about 10 m from the ends.

C-6 MASS IN GRAMS PER SQUARE METRE

C-6.1 Bale

C-6.1.1 Weigh the cuts (**B-1.2**) up to nearest 0·1 kg after measurement of moisture regain (**C-2**) and determine the mass in grams per square metre of fabric at contract regain percent for each cut separately from the corresponding percentage regain (**C-2**), measured length (**C-3**) and nominal width of cuts.

C-6.2 Roll

C-6.2.1 Weigh the rolls (**B-1.2**) up to the nearest kg after measuring moisture regain (**C-2**) and determine the mass in grams per square metre of hessian at contract regain percent for each roll separately from the corresponding percentage regain (**C-2**), measured length (**C-3**) and nominal width of roll.

C-7 ENDS AND PICKS

C-7.1 Bale

C-7.1.1 Count the ends and picks from each cut (**B-1.2**) in one and two places respectively in accordance with IS 1963 : 1981.

C-7.2 Roll

C-7.2.1 Count the ends and picks from each roll (**B-1.2**) as follows:

Ends — Two readings from each roll in accordance with IS 1963 : 1981.

Picks — One reading from every 100 m or a part thereof subject to a minimum of two readings per roll in accordance with IS 1963 : 1981.

C-8 BREAKING STRENGTH

C-8.1 From each cut or roll (**B-1.2**) prepare 10 test specimens, 5 in the warp and 5 in weft

directions and determine the breaking strength by following either ravelled strip method or grab method as under:

a) *Ravelled Strip Method* — Carry out tests on 100 mm wide ravelled strip and 200 mm between grips according to IS 1969 : 1985 on a fabric strength tester with a rate of traverse 460 mm per minute.

b) *Grab Method* — Carry out tests on 120 × 180 mm test specimens on a fabric strength tester (*see* IS 1969 : 1985) of such a capacity that the observed values would be between 10 percent and 90 percent of the full scale load of the tester. The strength tester shall have:

   i) a rate of traverse of 300 mm per minute, and

   ii) clamps with jaw faces measuring 25·4 × 25·4 mm for holding the specimen.

NOTES

1 To convert strip test value into grab test value or *vice versa*, use the following formula:

$$\text{Grab test value} = \frac{\text{Strip test value}}{3{\cdot}1}$$

2 The tests may be carried out in the prevailing atmospheric conditions with relative humidity between 40 and 90 percent.

C-9 OIL CONTENT

C-9.1 From each cut or roll (**B-1.2**) take one representative strip, together weighing approximately 20 g and determine the oil content on dry deoiled material basis as per the procedure given in IS 2969 : 1974. Minimum two tests shall be carried out.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Revision of Indian Standards

Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent to BIS giving the following reference:

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