

BUREAU OF INDIAN STANDARDS
(Eastern Region Office, Kolkata)

DRAFT PRODUCT CERTIFICATION MANUAL FOR COMMENTS

Our Ref: DDGE/22/IS 12650

Dated: 20 Feb 2014

Sub: Draft manual for IS 12650

This has reference to CMD circular CMD:1/31 dated:11 Nov 2013 on the above subject. In this connection, please find enclosed the draft product certification manuals as per details below:

JUTE BAGS FOR PACKING FOODGRAINS

Kindly examine the draft product certification manual and forward your comments on the draft to ERO at ero@bis.org.in , in the format given below:

Sl no	Clause no/page no	Comments

Last date for comments: 05 March 2014.

(Product Certification Officer)
ERO

MANUAL FOR CERTIFICATION OF JUTE BAGS FOR PACKING FOODGRAINS AS PER IS 12650:2003 (SECOND REVISION)

VERSION 2013



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FOREWORD

The product certification scheme of the Bureau of Indian Standards, now under Bureau of Indian standards Act 1986, is in operation for more than five decades covering a wide variety of products. The wide experience in the area has brought a fair amount of rationalization in the certification process. This has resulted in the formulation of the Operation Manual for Product Certification (referred to as OMPC in this manual) prescribing rules and practices generally applicable to all products. Product related rules/guide lines are periodically issued to cover the specific requirements of different products. Still, in view of the wide spread of the certification operations, differences are found in the application of these guidelines in the BIS certification offices in different parts of the country. Therefore, it has been decided to bring out Sectoral manuals as guideline documents covering certification requirements of specific products/group of products. This Manual, one in the series, has been prepared to ensure uniformity in the certification practices in respect of Jute Bags for Packing 50 kg Food Grains covered by IS 12650.

This manual is strictly an internal document intended for use by the certification marks officers of BIS. In this manual, some useful information relating to the product characteristics, a few design aspects, limitations and constraints in its use, which is considered useful to the user, are included in a brief manner. This manual takes into consideration the generally acceptable practices. This document is intended for internal use by BIS inspecting officers who should however do not treat such document as replacement for referred standards or that of relevant scheme for testing and inspection (STI). Standards and other documents (STI etc.) referred are as applicable at the time of preparation of manual however, latest standards/other documents as implemented shall be referred.

1 SCOPE

This Manual deals with the certification of Jute Bags for Packing 50 kg Food Grains as per IS 12650 (referred to as ‘standard’ or ‘specification’ or ‘IS 12650’ in this manual) under the BIS Product Certification Scheme. This manual is based on the Indian Standard IS 12650, the OMPC, and the guidelines specific to jute bags issued from time to time. It is intended to assist the certification personnel in understanding and appreciating the various requirements of the product as prescribed in IS 12650 and other related standards. This manual is not a substitute for the standards, OMPC and the guidelines mentioned above, to which reference may be made in case of doubt or any conflict and for complete information. At the time of writing this manual, IS 12650:2003 was in force. Therefore, although based on IS 12650:2003, the standard is referred to as IS 12650 without reference to the year of publication, so that any revisions to the manual as a result of further revisions in the standards becomes convenient.

2. DESCRIPTION OF PRODUCT

A jute sack is woven wholly from lower grades of jute fabrics and is usually available as plain and twill. The latter is produced by passing the weft threads over one and under two or more warp threads resulting to a type of textile patterned with diagonal lines. Known in the trade as "heavy goods," jute sack is loosely woven, weighs from 12 to 20 ounces a yard and comes in different widths, depending on the kind of goods intended to be packed. Jute sacks are usually utilized to pack bulky articles weighing 50 to 100 kilograms; more commonly are sugar, wheat, tea, rice etc.

3 SPECIFICATION

3.1 IS 12650 is one of the most widely implemented standards. It is a comprehensive specification covering the raw material, classification, dimensional requirements, physical and chemical characteristics, mechanical properties; sampling criteria, test requirements and acceptance criteria. The methods of test are covered in separate standards.

In the process of development and revisions from 1989 until the present revision in the year 2003, the following major modifications have been incorporated in the standard:

- a) Tolerances on length, width and mass of bag have been reduced for improved structure and serviceability,
- b) Sampling and criteria for conformity have been modified,
- c) Classified major and minor defects have been incorporated to minimize failures during storage and end use,
- d) Oil content percent has been reduced to 3 percent, and
- e) Use of joined bag is now not permitted in the standard.

A scheme for labelling environment friendly products known as ECO-Mark has been introduced at the instance of the Ministry of Environment and Forests (MEF), Government of India. The ECO-Mark would be administered by the Bureau of Indian Standards (BIS) under the B/S Act 1986. For a product to be eligible for ECO Marking, it shall also carry the Standard Mark of BIS besides meeting the additional -environment friendly requirements as applicable. However, these requirements shall be optional and manufacturing units shall be free to opt for Standard Mark alone also. Therefore, opportunity has been availed to incorporate environment friendly requirements applicable to Jute based.

IS 12650:2003 after incorporation of amendments No. 1 to 3 is given in **Annex I** for ready reference.

4. REFERRED STANDARDS

The following Indian Standards with the most recent editions of the standards are necessary adjuncts to this manual:

<i>IS No.</i>	<i>Title</i>
2873 : 1991	Textiles — Packaging of jute products in bales — Specification (second revision)
5476: 1986	Glossary of term relating to jute (first revision)
9113 :1993	Textiles — Jute sacking — General requirements {first revision)

5. CHECK LIST FOR SUBMISSION OF AN APPLICATION FOR GRANT OF LICENCE

A check list to ensure that applicant has submitted the necessary documents for processing the application for grant of licence is given in **Annex II**.

6. RAW MATERIALS

A list of raw materials required for manufacture of jute bags as per IS 12650 is given in **Annex III** for ready reference. The conformance of the raw material to any other standard is not specified in IS 12650 therefore during preliminary inspection information on how the applicant accepts the incoming raw material needs to be collected. It shall be clearly mentioned whether applicant relies on the test certificate from the raw material suppliers or test the raw material in-house for its quality parameters.

7. DESCRIPTION OF MANUFACTURING PROCESS

Description of the process of manufacture of jute bags is given in **Annex IV** where as the process flow chart is given in **Annex V**.

8 INFRASTRUCTURAL REQUIREMENTS

A list of machinery required for manufacture of jute bags is given in **Annex VI**. The quantum and make of machinery shall vary depending upon the installed capacity.

9. CERTIFICATION CRITERIA

For more than three decades, jute bags are being certified under the BIS Product Certification Scheme. The self- certification scheme is to be operated by the manufacturers having valid licenses to use the standard mark (ISI Mark) by following the Scheme of Testing and Inspection (referred to as STI in this manual) prescribed by the BIS, besides meeting other formalities. The scheme ensures a quality system with controls on raw materials, manufacturing and testing competence, storing facilities, complaints handling mechanism etc. It should be borne in mind that the certification is a means of providing assurance that a product complies with the specified standards. At the same time, being a primarily voluntary scheme, it should be treated as a quality assistance programme designed to render service to those opting for the scheme

9.1 Operating Manual for Product Certification (OMPC)

From the experience gained in the operation of the BIS Product certification scheme for a wide variety of products, it was felt imperative to specify systematic and uniform procedures to be followed by the various personnel connected with product certification activity all over the country. Publication of the Operating Manual for Product Certification was one of the first steps in this direction. The current version of the OMPC incorporates the guidelines issued to further rationalize the scheme and provides solutions to various situations that may arise during the operation of the scheme within the framework of the BIS Act, Rules and Regulations.

9.2 Sectoral Manual for certification of Jute bags for packing 50 kg Foodgrains

This (Sectoral) manual as an adjunct to the OMPC covers the certification aspects specific to jute bags for packing 50 kg food grains, and is based on the guidelines issued from time to time on application of certification principles to jute bags. In the following paragraphs, features specific to certification of jute bags have been dealt with, interpreting the requirements of the standard, the OMPC and the relevant STI as required.

9.3 Identification of Critical Requirements

IS 12650 does not specify requirements whether critical or otherwise so for the purpose of analysis of test results all requirements specified in the standard shall be deemed to be critical in nature.

9.4 Scheme of Testing and Inspection

The STI is a very important input in the certification process. It defines, within the framework of relevant standards, the lot, sample size, and frequency of testing for each of the requirements of the product specification. The STI also details the procedures for maintaining appropriate controls and checks supported by records at various stages in the process of product realization. The STI pertaining to certification of Jute Bags for Packing 50 kg Food Grains as per IS 12650:2003 is given in **Annex VII**. The proforma CM/PF 311 for acceptance of STI tailor made for jute bags for packing 50 kg food grains is given in **Annex VIII**.

9.5 Rates of Marking Fees

Rate of marking fee effective 06 Aug 2012 is given in **Annex IX** while the acceptance of rate of marking fee by the applicant prior to grant of licence in CM/PF 311 is given in **Annex X**.

9.6 Certification of Jute Bags for Packing 50 kg Food Grains

The guidelines and procedures given in the OMPC are general and apply to all products including jute bags. The relevance of these guidelines specific to Jute Bags for Packing 50 kg Food Grains is only discussed below. It is needless to say that all the other provisions of OMPC apply equally well to Jute Bags for Packing 50 kg Food Grains as for any other product.

a) Preliminary factory evaluation (2.7 of OMPC)

It is strongly recommended that the preliminary inspection be carried out when the factory is in production. It is imperative that inspecting officer should make himself well versed with the manufacturing process followed in the production of jute bags. A typical flow chart for production of jute bags is given in **Annex V** for reference only. The adequacy of the manufacturing set up to the stage where the standard mark is applied to jute bags along with other details may be considered and recorded. The observations may include the following:

- 1) Expertise developed by the firm in the manufacture of Jute Bags ,
- 2) Experience in the field of Jute Bags reflected by the production and supply records and the order books,
- 3) Number of brands used and the basic differences between them.
- 4) The brands the manufacturer proposes to cover in the license,
- 5) How substandard products are disposed off,

6) If the product is marked on line before testing, effectiveness of the method of removing the standard mark.

b) Verification of manufacturing machinery and testing equipment (2.3.4 of OMPC)

During the preliminary factory evaluation, physical verification of the manufacturing and testing machinery should be made and the ownership should be established with documentary evidence. A list of test equipments required for testing of jute bags as per IS 12650 is given in **Annex XI** for reference only while list of machinery required is given in **Annex VI** (See Clause 8 also)

c) Factory testing during preliminary factory evaluation (2.7.1.2 of OMPC)

Tests shall be conducted in the laboratory of the applicant/licensee to ensure the workability of the test equipments and also to judge the competency of the testing personnel handling these test equipments. Some of the tests specified in IS 12650 require use of several facilities singly or in association with other sensitive instruments. The test procedures also call for sample preparation, conditioning, elaborate test set up and measuring techniques.

The test for breaking load calls for conditioning of samples and conducting the actual test on the breaking load tester. It is therefore important that all these tests are conducted during the visit subject to availability of time. This way, the testing capability of the equipment and competence of the testing personnel are both established. The tests that take long duration may be initiated.

A typical test report for complete testing of jute bags is given in **Annex XII**.

d) Drawl of Samples (2.8.1 of OMPC)

1. Product Samples during preliminary factory evaluation

Having been satisfied with manufacturer's capability to produce the jute bags meeting the requirements of the specification, one sample from each of the types sought to be licenced should be drawn and tested in independent laboratories for the requirements of the specification. However, it should be ensured that the applicant has the necessary manufacturing and testing infrastructure and competence for both the types for which licence is being sought. The samples shall be drawn from the lot offered for inspection. Following sample shall be drawn for considering grant of licence for IT or inclusion of additional type in the licence :

- i) No. of Bags = 30
- ii) Basic fabric from which the bags are made = 2 metres for determination of fabric weight as per clause 4. 1 of IS 12650.
- iii) Jute Yarn, single ply = 100 m for determination of count of yarn as per 5.1.2 of IS 9113 when read in conjunction with clause 4.4 of IS 12650 and
- iv) Jute Yarn , three ply = 100 m for determination of count of yarn as per 5.1.2 of IS 9113 when read in conjunction with clause 4.2 of IS 12650.

Similar sample shall be drawn for ROM and inclusion of additional type irrespective of case being considered on factory test basis or IT basis.

During preliminary inspection/ROM/Inclusion the applicant/licensee as the case may be shall be asked to offer 2 lots of 20 bales each consisting of 500 bags for drawl of samples. Out of 20 bales in a lot

three bales shall be selected at random and opened for drawl of sample. These three bales shall also be tested as per Table 2 of IS 12650. From three bales thus opened 10 bags each shall be selected at random thus making up a total of thirty bags. All these thirty bags shall be tested for dimensions, ends, picks, MR, weight, hemming, stitches, defectives etc. On completion of these tests five bags shall be selected out of the 30 bags for testing for breaking strength and seam strength taking two specimen each from the five bags. Besides sample from any two out of thirty bags shall be taken for testing for oil content.

The sample size should be adequate for testing (and retesting should the need arises) the product for the specified requirements. Normally thirty bags would be adequate for carrying out all tests.

A counter sample should always be drawn and left with the licensee. The counter sample is to be used when the original sample is lost or damaged or for any specific testing purpose during the operation of the license. Use of counter sample should be resorted to only with specific approval from the competent authority.

e) Test Request (2.8.7.3 of OMPC)

The following information should be included in the test request:

- a) Type A or B,
- b) Bale Numbers,
- c) Date of Manufacture,
- d) Qty
- e) The standards/any amendment to be used for testing purpose,
- f) Tests to be carried out: All the tests, specific tests to be carried out etc.,

A typical test request for the purpose of jute bags as per IS 12650:2003 along with manner of sealing the sample is given in **Annex XIII** .

f) Testing of samples (3.9 of OMPC)

Samples drawn from the factory during surveillance audits and market samples should be tested for all requirements of the specification. The market samples, when not adequate for carrying all the tests, can be tested for selected requirements to monitor the process control and also study the performance (failure tendencies) of the jute bags. The samples drawn during investigation of complaints should first be tested for the requirements reported by the complainant to ensure fast redressal of complaint. The sample should be tested for all possible requirement for comparison with the recorded values at the factory.

g) Analysis of Test Report

Before proceeding with grant of licence or taking any punitive action with regard to test report received it and also to have objectivity in the interpretation of results it is imperative that test results are analyzed in a uniform manner by all concerned. An attempt has been made in this direction and analysis of test results leading to failure or conformance of the specified requirement and is given in **Annex XIV**

h) Endorsements to license

The list of endorsements to a typical license document is given in 3.12.12 of the OMPC. One of the very important endorsements deals with the varieties included in the license. Normally, the varieties covered at the time of granting the license are stated in the grant of license letter itself followed by the Schedule II to the license document. Further additions to the list of varieties are given in the endorsements. Some organized consumers and purchase organizations require that the manufacturers submit these endorsements at the time of tendering. Therefore, these endorsements should be comprehensive and accurately reflect the types included in the license.

j) Applying the Standard Mark and other details on the Bag

The features of the Standard mark and the methods of applying it are covered in detail in 2.6.2 and 2.6.3 of the OMPC. Several methods of marking are permitted, but jute bags are normally marked by stenciling or screen-printing method. The details of marking jute bags as given in the STI are in line with the requirements of the standard.

k) Brand name Declaration

CM/PF 307 for declaration of brand name is given at **Annex XV**. Information to this effect shall necessarily be collected during preliminary inspection.

ANNEX I
(Clause 3.1)

Indian Standard

TEXTILES — JUTE BAGS FOR PACKING 50 kg FOODGRAINS — SPECIFICATION
(Second Revision)

1 SCOPE

This standard prescribes constructional details and other requirements of jute bags for packing 50 kg foodgrains.

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below :

<i>IS No.</i>	<i>Title</i>
2873 : 1991	Textiles — Packaging of jute products in bales — Specification {second revision}
5476: 1986	Glossary of term relating to jute (first revision)
9113 :1993	Textiles — Jute sacking — General requirements {first revision}

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 5476 shall apply.

4 MANUFACTURE

4.1 The bags shall be made from single piece of double warp, 2/1 twill weave jute sacking of uniform construction having nominal mass of 579 g/m² with warp running along the length of the bag. There shall be a single blue stripe, or stripes woven along the length of the bag or the bag shall be without stripe as agreed to between the buyer and the seller. The constructional particulars of sacking used in the fabrication of the bags shall be such that the bags meet the requirements specified in Table 1

4.2 Seam

The sides of the bags shall be sewn with overhead or herakle stitches on selvedge through two layers of sacking as specified in IS 9113. The number of stitches per decimetre shall be 10 ± 1 .

4.3 Safety Stitch

If agreed to between the buyer and the seller, a line of safety union stitch shall be provided at the inner edges of the overhead or herakle stitches (see IS 9113). The number of safety union stitches per decimetre shall be 10 ± 1 .

4.4 Hemming at the Mouth

Provisions of IS 9113 shall apply.

4.5 Freedom from Defects

The bags shall meet the requirement of freedom from major defects as given in Annex A.

5 SPECIFIC REQUIREMENTS

5.1 The bags shall conform to the requirements specified in Table 1.

5.2 The bales containing the bags shall also conform to the requirements specified in Table 2.

5.3 The contract moisture regain shall be 20 percent.

5.4 Additional Requirements for Labelling as Environment Friendly Products

5.4.1 General Requirement

5.4.1.1 The bags shall confirm to the requirements for quality and performance prescribed under 5.1 to 5.3.

5.4.1.2 The manufacturers shall produce to BIS, environmental consent clearance from the concerned State Pollution Control Board as per the provisions of Water (Prevention and Control of Pollution) Act, 1974 and Air (Preventions and Control of Pollution) Act, 1981 along with the authorization, it required under the Environment (Products) Act, 1986 and the Rules made there under, while applying for ECO-Mark. Additionally, the manufacturer shall produce documentary evidence on compliance of the provisions related to noise level and occupational health under the provisions of Factory Act, 1948 and Rules made there under.

5.4.1.3 The product packaging may display in brief the criteria based on which the product has been labelled environment friendly.

5.4.1.4 The material used for product packaging shall be reusable or made from recyclable or biodegradable materials.

5.4.1.5 Fatty alcohol based non-ionics as emulsifier should be used wherever required.

5.4.1.6 Polyhalogenated based phenolic fire retardants shall not be used.

5.4.2 Specific Requirements

5.4.2.1 The bags shall confirm to the requirements given in Table 3.

6 PACKING

The bags shall be packed in bales as prescribed in IS 2873 or as specified in the agreement between the buyer and the seller.

Table 1 Requirements of Jute Bags
(Clauses 4. 1 and 5.1)

Sl. No.	Characteristic	Requirement		Tolerance	Method of Test, Ref. to Cl. Of IS 9113
		Type A	Type B		
(1)	(2)	(3)	(4)	(5)	(6)
i)	Dimensions (see Note)				8.3.2
	a) Outside length, cm	94	94	+4/-0 cm	
	b) Outside width, cm	57	57	+4/-0 cm	
ii)	Ends/dm	76	46	+4/-3	8.4.2
iii)	Picks/dm	28	50 (2 x 25)	+2/-2	8.4.2
iv)	Corrected mass/bag, g (see Note)	665	665	+ 8 percent -6.0 percent	8.5.2
v)	Average breaking strength of sacking (ravelled strip method),(10 cm X 20 cm), Min. N(kg) :				8.6.2
	a) Warpway	1570(160)	1570(160)	-	
	b) Weftway	1420(145)	1420(145)	-	
vi)	Average seam strength (5 cm X 20 cm ravelled strip), Min N(kgf)	490 (50)	490 (50)	-	8.7
vii)	Moisture regain, percent, Max	22	22	-	8.2
viii)	Oil content on dry de-oiled material basis, percent. Max	3	3	-	8.8

NOTE — The bags of specified dimensions are suitable for packing of wheat, rice and similar coarse grains. For packing of other materials, the buyer and the seller may agree to the dimensions other than those specified above. The mass of such bags may be calculated by the method given in 5.3 of IS 9113. However, tolerances specified in this table dimension and on the mass shall be permissible.

7 MARKING

7.1 The bales shall be marked as prescribed in IS 2873. Additional markings shall be made as stipulated by the buyer or required by regulation or law in force.

7.2 BIS Certification Marking

The bales may also be marked with the Standard Mark.

7.2. 1 The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1 986 and the Rules and Regulations made there under. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

7.3 The bales may also be marked with ECO-Mark in addition to Standard Mark if the requirements specified in 5.4 are also satisfied

**Table 2 Requirements of Packed Bales
(Clause 5.2)**

SI No. (1)	Characteristic (2)	Requirement (3)	Method of Test, Ref to CI of IS 9113 (4)
i)	Total number of bags per bale (see Note 1)	500	8.9
ii)	Number of bags per bundle {see Note 2)	25	-
iii)	Contract mass of a bale, kg (see Note 3)	332.5	-
iv)	Corrected net mass of a bale, kg	Not less than contract mass	8.1

NOTES

1 The number of bags per bale shall be 500 or as specified in an agreement between the buyer and the seller.

2 No joined bag shall be permitted in the bundles.

3 Contract mass of a bale is calculated as follows:

Contract mass of a bale = nominal mass of bag x specified number of bags per bale.

8 SAMPLING AND CRITERIA FOR CONFORMITY

8.1 Lot

All bales of jute bags of same size produced under similar conditions of production and delivered to a buyer against one dispatch note shall constitute a lot.

8.2 Sample Size and Criteria for Conformity

For assessing the conformity of lot to the requirements of this standard, bales shall be first selected from each lot at random in accordance with the col 2 and 3 of Table 4. All the bales so selected in the sample shall be tested for 'Gross mass of bales', 'Tare mass of bailing hoops and other packing materials' and 'Number of bundles per bale'. Two bundles of bags selected at random from each bale selected in the sample shall be tested for total number of bags per bundle.

The lot shall be considered as conforming to the requirements of this standard if all the following conditions are satisfied:

- a) Total corrected net mass of all the bales in the sample is not less than the total contract mass of all the bales.
- b) Total number of bags in each bale selected as per 8.2 meet the relevant requirement.

8.3 Sample Size for Bags

For freedom from defects, length, width, ends/dm, picks/dm, number of stitch/dm, mass per bag and moisture regain, 16 bags shall be selected at random from each of the bales selected as per 8.2. The total number of bags to be tested from each lot for these requirements is given in col 4 of Table 4.

8.4.1 Criteria for Conformity for Freedom from Defects

Each bag selected in the sample shall be tested for freedom from defects. A bag shall be termed as defective, if it contains two or more major defects (see Annex A). A lot shall be considered conforming to this requirement, if the number of defectives is less than or equal to the acceptance number given in col 6 of Table 4. Acceptance number given in Table 4 is on the basis of an AQL of 2.5 percent

Table 3 Specific Requirements for ECO-Mark
(Clause 5.4. 2.1)

Sl. No.	Parameter ¹⁾	Maximum Limit, Hessians and Sackings Mg/kg (ppm)
(1)	(2)	(3)
i)	Non-halogenated hydrocarbons	3 percent
ii)	Pesticides (Sum parameter) ²⁾	1.0
	Banned Pesticides	Nil
		(Below detectable limit)
iii)	pH of aqueous extract	6.0-7.0
iv)	Coupled aminess from azo-dyes (Sum parameters) ³⁾	50.0 (Detectable limit using GC-MS)

- 1) The methods of tests for ECO-parameters are being developed by BIS and Textiles Committee. Till the methods of tests are standardized, the manufacturer shall declare conformance taking into consideration the chemicals, auxiliaries and dyes used.

- 2) The list of pesticides used on jute, banned restricted or withdrawn is appended as Annex B.
- 3) The list of coupled amines released from azo-dyes is appended as Annex C.

Table 4 Sample Size and Acceptance Numbers
(Clauses 8.2, 8.3, 8.4.1 and 8.4.2)

Sl. No.	No. of Bales in the Lot	No of Bales in the Sample	For Length, Width, Number of Stitches/dm, Ends/dm, Picks/dm, Moisture Regain		
			No. of Bags from Each Bale	Total Number of Bags in Sample	Acceptance Number
(1)	(2)	(3)	(4)	(5)	(6)
i)	Upto 25	5	16	80	5
ii)	26-90	8	16	128	7
iii)	91-300	13	16	208	10
iv)	301-500	20	16	320	14

NOTE - If the number of bales in a consignment exceeds 500, the same shall be split into number of lots each comprising maximum of 500 bales.

8.4.2 Criteria for Conformity for Length, Width, Ends/dm, Picks/dm, Number of Stitches/dm and Moisture Regain

The lot which meets the requirements of 8.4.1 shall be tested for length, width, ends/dm, picks/dm, number of stitches/dm and moisture regain as per the plan. A bag shall be termed as defective, if it fails to meet any one or more of these requirements. The lot shall be considered as conforming to the requirements of length, width, ends/dm, picks/dm, stitches/dm and moisture regain, if the total number of defectives found in the sample is less than or equal to the corresponding acceptance number given in col 6 of Table 4.

8.4.3 Criteria for Conformity for Mass per Bag

The lot, which meets the above requirements, shall then be tested for mass of bag. The lot shall be declared as conforming to this requirement if :

- a) Average value of mass per bag, as obtained for sampled bags is not less than the nominal value specified, and
- b) Not more than 10 percent of the individual values of mass of bags is below the lower specified value.

8.5 Sample Size and Criteria for Conformity for Breaking Strength Requirement

The lot, which meets the above requirements shall then be tested for breaking strength requirements. For this purpose, one bag shall be selected at random from each bale selected in the sample. Suitable test specimens shall be taken from these bags and tested for warpway, weftway and seam strength. The lot shall be declared as conforming to these requirements if :

- a) Average values of warpway, weftway and seam breaking strengths respectively, as obtained for all test specimens are not less than the corresponding values specified, and
- b) None of the individual value is less than 20 percent below the specified value.

8.6 Sample Size and Criteria for Conformity for Oil Content

The lot, which meets the above requirements, shall then be tested for oil content. For this purpose two bags shall be selected out of two different bales selected as per 8.2. The lot shall be declared as conforming to this requirement, if both the bags meet the requirement of oil content.

8.7 The lot shall be considered as conforming to the requirements of this standard, if 8.2 and 8.4 to 8.6 are satisfied.

ANNEX A (Clause 4.5) CLASSIFICATION OF DEFECTS

<i>Type of Defect</i>	<i>Description</i>		<i>Major</i>	<i>Minor</i>
GAW	Portion over the whole width of the fabric completely unwoven with weft.	>1.5cm	x	
		0.5 cm to 1.5 cm		X
Multiple broken/missing warp (end)	Two or more contiguous, regardless of length		x	
	Single, more than 25 cm long		x	
	Single 25 cm long or less			X
Multiple broken weft (pick)	Two or more contiguous, regardless of length		x	
	One pick, full width			X
Cut, hole, tear or patch	Two or more warp or filling threads ruptured at adjoining points		x	
Float	A place in the fabric where warp and weft yarns escape the required interlacement	>2 sq cm	x	
		0.5 cm to 2 cm		X
Gap stitching	Stitches missing	>1.5cm	x	
		0.5 cm to 1.5 cm		X
Corner gap	Corner of the bag not properly stitched resulting in formation	>1.5cm	x	

	of hole	0.5 cm to 1.5 cm		X
Mildew	Staining of fabric due to fungal or bacterial growth visible to naked eye		x	

NOTES :

- 1 x - Major Defects
X - Minor Defects

2 Two minor defects shall be counted as one major defect.

ANNEX B (Table 3)

LIST OF PESTICIDES USED ON JUTE, BANNED, RESTRICTED OR WITHDRAWN

B-1 PESTICIDES REGISTERED FOR USE ON JUTE IN INDIA

HERBICIDES : Dalapon
FUNGICIDES : Carbendazim
INSECTICIDES : Carbaryl, Carbofuran,
Endosulfan, Lindane,
Phosaione, Quinalphos

B-2 EXTRACT FROM LIST OF PESTICIDES NOT APPROVED, RESTRICTED USE, WITHDRAWN OR BANNED IN THE COUNTRY AS ON 10.04.1992

B-2.1 Pesticides not Approved for Use

2,4,5-T

B-2.2 Pesticides Restricted for Use

Use of DDT in agriculture is banned. In very special circumstances warranting the use of DDT for plant protection, the State or Central Government may purchase it directly from M/s Hindustan Insecticides Ltd, to be used under expert Government supervision. Use of DDT for public health programme up to 10 000 MT per annum, except in case of any major outbreak, is restricted.

Use of Dieldrin shall be restricted for Locust Control in desert areas by Plant Protection Advisor to the Government of India.

B-2.3 Pesticides Banned/Withdrawn

Pentachlorophenol, Toxaphene and Aldrin.

ANNEX C (Table 3)

LIST OF COUPLED AMINES RELEASED FROM AZO — DYES

- i) 4-Aminodiphenyl
- ii) 2-Amino-4-nitrotouene
- iii) Benzidine
- iv) 4-Chloro-o-toluidine
- v) 2-Naphylamine
- vi) o-Aminoazotolune
- vii) p-Chloraniline
- viii) 2,4-Diaminoanisole
- ix) 4,4' - Diaminodiphenylmethane
- x) 3,3' - Dimethoxybenzidine
- xi) 3,3' - Dimethoxybenzidine
- xii) 3,3' - Dimethylbenzidine
- xiii) 3,3' -- Dimethyl-4,4' diaminodiphenylmethane
- xiv) p-kresidin (2-Methoxy 5-methylaniline)
- xv) 4,4' Methylene-bis-(2-chloranirne)
- xvi) 4,4' Oxydianiline
- xvii) 4,4' Thiodianiline
- xviii) o-Toluidine
- xix) 2,4, - Toluylenediamine
- xx) 2,4,5 - Trimethylaniline
- xxi) p-Amino-azobezene
- xxii) 2-Methoxyaniline

ANNEX II

(Clause 5)

BUREAU OF INDIAN STANDARDS	CHECK LIST FOR APPLICATION	CE	5
Name of Applicant :		Date of Receipt:	
IS No. :		Product	

CHECK LIST FOR PROCESSING OF APPLICATION FOR GRANT OF LICENCE

Sl. No.	Item	Check Point	Verification			Remarks
1	Address	Address given is complete valid document attached)	YES	NO	NA	
2	IS No.& Product	Clear Indication				
3	Top management	Composition of management given				
4	Manufacturing status	In case of SSI CA/SSI Regn certificate enclosed				
5	Machinery	Complete list of m/c as per PF 305				
6	Test Equipment	Complete list of T.E. as per PF 306				
7	QCI	Details of QCI enclosed (Appointment letter and qualification certificate				
8	Raw material details	Details attached				
9	Capacity	Installed capacity & Prod. figure given in Application				
10	Date of PI	Possible date of PI				
11	Location Plan	Enclosed				
12	Process Flow Chart	Enclosed				
13	Plant Layout	Enclosed				
14	Ex-Licensee	Information regarding earlier BIS licence held & relevant undertaking and Independent Test Report enclosed.				
		Earlier Licence document returned				
15	Ex-Applicant	Information regarding previous Application closed/rejected				
16	Factory test report	Copies indicating conformity of product enclosed				
17	Calibration	Valid calibration certificate of T.E. enclosed				
18	Undertaking	For Non-conforming Area				
19	Enforcement	Any Enforcement case is pending				
20	Weekly off	Declaration				

ANNEX III

(Clause 6)

LIST OF RAW MATERIALS USED IN MANUFACTURE OF JUTE BAGS

SL. NO.	NAME OF RAW MATERIAL	SUPPLIER'S NAME	WITH OR WITHOUT ISI MARK	TEST CERTIFICATE OF THE SUPPLIER	HOW RECEIVED
1	Raw Jute				
2	Jute Batching Oil				
3	Non-ionic Detergent				

ANNEX IV

(Clause 7)

PROCESS DESCRIPTION

RAW JUTE

Raw jute in the form of bales are processed in jute mills to produce hessian, sacking, jute yarn, bags, and other useful products. Raw jute bales from jute fields or suppliers, carried by trucks are unloaded are stacked in the jute mills godown.



Raw Jute fiber

SELECTION OF RAW JUTE

In the selection process, raw jute bales are opened to find out any defect and to remove the defective portion from the morah by experienced workers. Raw jute bales are of two types i.e. 150 kg weight and 180 kg weight with or without top portion cutting. The bales are assorted according to end use like Hessian weft, Sacking wrap, Sacking weft etc. After selection, jute bales are carried to softning section by workers called Gariwala and Bajawala.

SOFTNING PROCESS

In softning process jute morahs are made soft and pileable. Two methods are used for softning; use of softening machine and use of jute good spreader. Generally an emulsion plant with jute softner machine is used to lubricate and soften the bark and gummy raw jute. The emulsion plant consists of gear pump, motor, vat, jet sprayer, nozzles, emulsion tank and the jacket. In this softning process jute becomes soft and pliable and suitable for carding.

CARDING

Carding is a combining operation where jute reeds are splitted and extraneous matters are removed. Jute fibres are formed into ribbon called "sliver". There are three different carding sections:

i) Breaker carding

(ii) Inner carding

(iii) Finisher carding

In the Breaker carding machine soft jute after piling is feed by hand in suitable weight. The machine by action with different rollers turns out raw jute in the form of jute sliver for finisher carding. In this process root cutting is necessary before feeding the material to the hand feed breaker carding machine.

Finisher carding machine make the sliver more uniform and regular in length and weight obtained from the Breaker carding machine.

Finisher carding machine is identical to the Breaker carding machine, having more pair of rollers, staves, pinning arrangement and speed. Nearly 4 to 12 slivers obtained from Breaker carding machine is fed on this machine. The material thus obtained is sent to drawing section.

DRAWING

Drawing is a process for reducing sliver width and thickness by simultaneously mixing 4 to 6 sliver together. There are three types of Drawing Frame machine. In most mills 3 Drawing passages are used in Hessian and 2 Drawing passages are used in Sacking.

The slivers obtained from finisher carding machine is fed with four slivers on to the first drawing frame machine. The first drawing frame machine makes blending, equalizing the sliver and doubling two or more slivers, level and provide quality and color. This machine includes delivery roller, pressing roller, retaining roller, faller screw sliders, check spring, back spring, crimpling box etc.

In second drawing, the Second Drawing Frame machine obtain the sliver from the First drawing machine and use six slivers and deliveries per head. The Second Drawing machine makes more uniform sliver and reduce the jute into a suitable size for third drawing.

In the third drawing, the Third Drawing frame machine uses the sliver from second drawing. The Third Drawing machine is of high speed makes the sliver more crimped and suitable for spinning.

WINDING

The spun warp yarn as above is available on small bobbins which is wound onto bigger spools on Winding Machine to be subsequently fed to Beaming (Warping) Machine. At the

same time, the spun weft yarn wound in Cop Winding Machine which will feed on the loom as weft insertion.

BEAMING

The yarn spools around 500 – 600 Nos. is put on the Creel of the Beaming Machine. The yarn is passed through Sow Boxed filled with water/starch solution and a portion of the yarn through dyed yarn as per specifications. The same is passed through cylinder and wound into Beam Barrel called weaver's beam.

WEAVING

These beams are fed on Loom (Weaving machine) and with interlacement with weft yarn the cloth is produced.

DAMPING

After weaving, the cloth is unrolled in Damping Machine and water spray on the fabric to maintain required moisture on the fabric before feed on calendar machine the fabric may be inspected depending upon the weaving quality.

CALENDERING

After damping the fabric fed in to the calendar machine to improve the texture of the fabric and fabric fault will be rectified if any exists.

SEWING

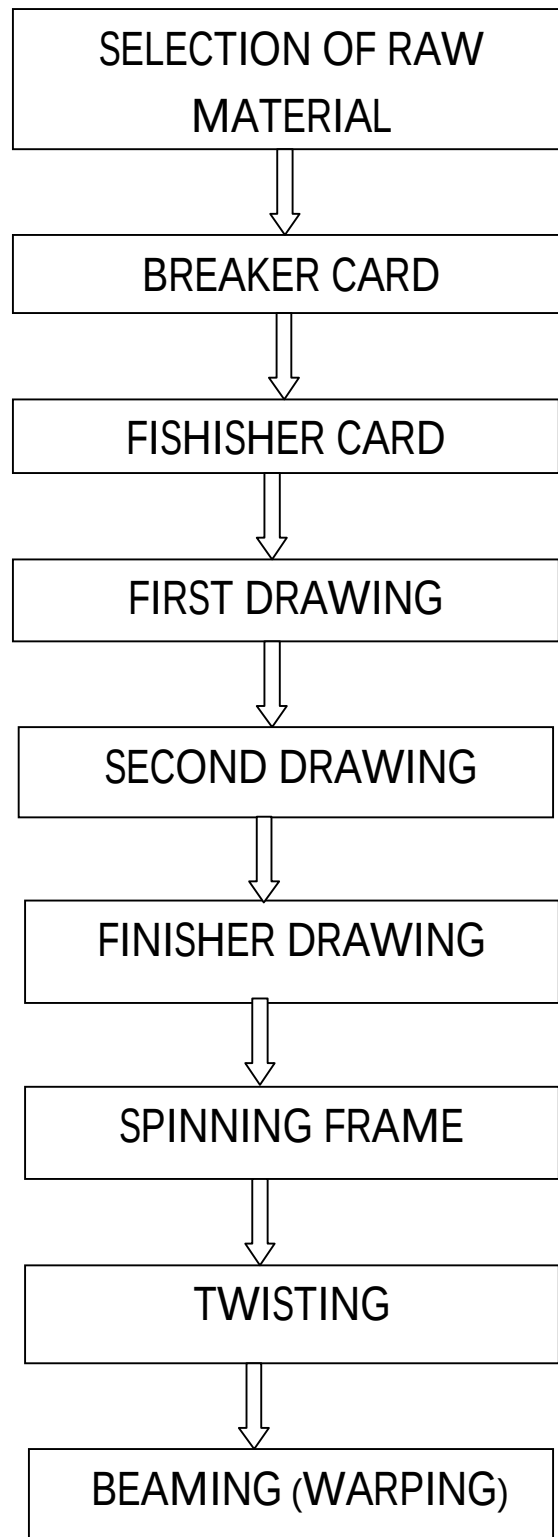
The cloth is cut as per size of the bag by hand cutting system and passed through Hemming Machine for hemming of mouth of bag and subsequently through Herakle/overlock stitching machine for sewing of sides. The said bags are checked, given hand knot to firm the stitching and tested to ensure conformity with relevant standard and then made into bundles of 25 bags each.

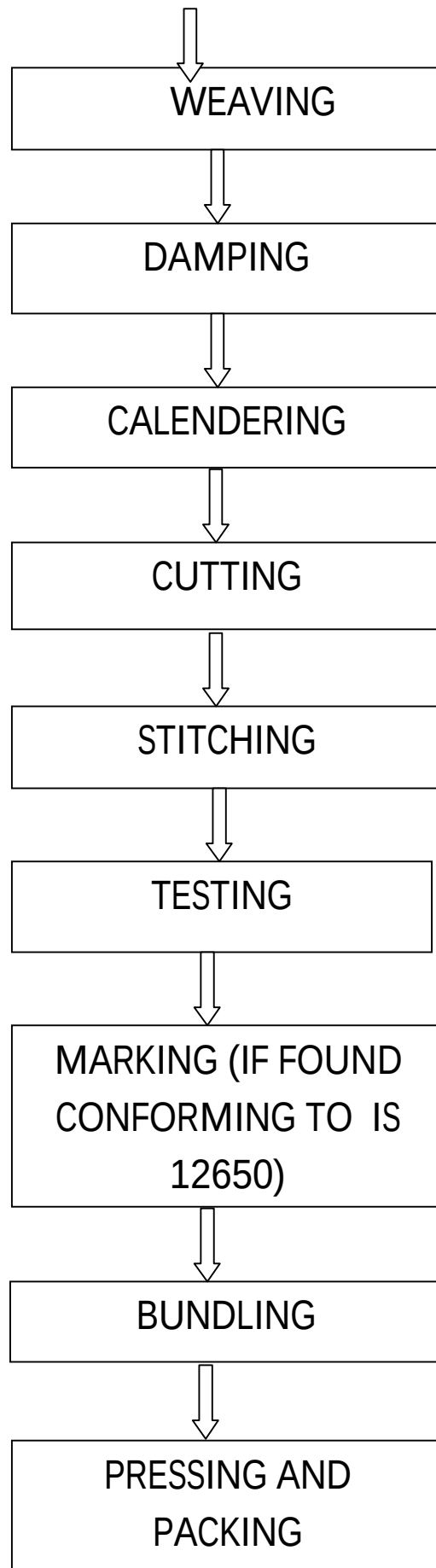
PRESS AND PACKING

The 20 bundles thus formed are i.e. 500 bags are stacked one over the other and put in to hydraulic pressing machine and tied with baling hooks and buckles and are ready for dispatch.

ANNEX V
(Clause 7)

PROCESS FLOW CHART





ANNEX VI

(Clause 8)

INFRASTRUCTURAL REQUIREMENTS FOR JUTE BAG PLANT

MACHINERY REQUIREMENT :

Spreader
Emulsion preparation and Spray Arrangement
Breaker Card
Finisher Card
Draw Frame
Spinning Frame
Winding machine
Warping Machine including Starching Machine
Weaving machines
Damping
Calendaring machine
Cutting tables
Stitching Machines
Press Bale

PROCESS CONTROL REQUIREMENTS :

Humidification in the manufacturing plant
Arrangement for proper illumination
Arrangement for quality control tools for in process quality checks such as weighting scale of required accuracy
Quality control Lab for testing as per IS 12650 (see Annex)

LOGISTICS REQUIREMENT

Arrangement for water
Arrangement for electricity
Arrangement for fire fighting (Optional)
Licence to operate a factory from the competent authority

ANNEX VII

(Clause 9.4)

SCHEME OF TESTING AND INSPECTION, AMENDMENTS

Doc:STI-12650-3

APR 2004

1. LABORATORY: A laboratory shall be maintained, which shall be suitably equipped and staffed where different tests given in the specification shall be carried out in accordance with the method given in the specification.

1.1 All the testing apparatus shall be periodically checked and calibrated and records of such checks/calibration maintained.

2. TEST RECORD: All records of tests and inspection shall be kept in suitable forms approved by the Bureau of Indian Standards.

2.1 Copies of any records and other connected papers that may be required by Bureau shall be made available at any time on request.

3. QUALITY CONTROL: It is recommended that, as far as possible, Statistical quality Control (SQC) methods may be used for controlling the quality of the product during production as envisaged in this scheme [See IS 397 (Part I): 1972, IS 397 (Part 2):2003 and IS 397 (Part 3):2003].

3.1 In addition, efforts should be made to gradually introduce a quality management system in accordance with the quality system module as per IS/ISO 9001.

4. STANDARD MARK: The standard mark(s) as given in column (1) of the first schedule of the license shall be stenciled with indelible ink, on each bale containing jute bags provided always that the bags in the bale to which this mark is thus applied conforms to every requirement of the specification.

5. MARKING AND PACKING: Unless otherwise specified by the buyers, each bale of bags shall be marked in conformity to IS 2873. Additional markings shall be made as stipulated by the buyer or required by the regulation or law in force.

5.1 In addition each bag shall be marked with a abridged version of the present certification marks license number in case of branded bags.

5.2 Unless otherwise specified in an agreement between buyer and seller, each bale of bags shall be packed in conformity with IS 2873 specification for packing of jute products in bales.

6. LEVELS OF CONTROL: The tests as indicate in Cl.6.2 and also in Table and at the levels of controls specified therein, shall be carried out on the whole production of the factory which is covered by this scheme and appropriate records and charts maintained in accordance with item 2 above. All the

production which conforms to the Indian Standard and covered under the scope of this license shall be marked with the Standard Mark.

6.1 CONTROL UNIT: For the purpose of this scheme, all the bags manufactured in a day or part thereof shall constitute a control unit.

NOTE: One of the sizes shall be tested for all the characteristics of the specification. For other sizes of bags, only length, width, mass of bag and stitching to be tested, if same fabric is used:

6.2 SAMPLING FOR FLOOR INSPECTION: One bag shall be drawn every hour of production and tested for freedom from defects, dimensions, mass, moisture regain, ends and picks per dm and stick per dm. If the sample fails in any of the criteria, double the sample shall be tested and in case of any failure in second sample production of that duration shall be rejected. Suitable corrective action shall be taken to avoid recurrence of the failure and its records shall be kept. Five bags and two bags shall be drawn at an equal interval and tested and breaking strength and oil content respectively and in case of any failure the entire control unit shall be declared unfit for marking with BIS certification Marks.

Moreover, cloth at each loom shall be checked for ends and Picks per dm and width at least twice daily. Bags from each stitching machine shall also be checked for stitch at least twice daily. Continuous checking for fabric defects shall be done at calendaring machine.

7.0 In respect of all other clauses of the specification and all stages of manufacture, the factory will maintain appropriate controls and checks to ensure that their product conforms to the various requirements of the specification including contract mass of the bale, total number of bags in a bale, number of bags per bundle and corrected net mass of bale.

8.0 It is recommended that routine analysis of each consignment of raw material received in the factory shall be carried out and records maintained.

9.0 ADDITIONAL REQUIREMENTS FOR LABELLING ENVIRONMENT FRIENDLY PRODUCTS

9.1 The bags shall conform to the requirements for quality and performance prescribed under Cl. 5.1 to 5.3 of IS 12650.

9.2 Environment consent clearance as per the provision of the water (Prevention and control of Pollution) Act 1974, the air (Prevention and control of Pollution) act, 1981 along with the authorization, if required under the Environment Products Act, 1986 shall be up to date and shall be produced to BIS. Accordingly, the manufacturer shall produce documentary evidence as compliance of the provisions related to noise level and occupational health under the provisions of Factory Act, 1948 and rules made there under.

9.3 The product packaging may display in brief the criteria based on which the product has been labeled environment friendly.

9.4 The material used for product packaging shall be reusable or made from recyclable or biodegradable materials.

9.5 Fatty alcohol based non-ionics as emulsifier should be used wherever required.

9.6 Polyhalogenated based phenolic fire retardant shall not be used.

10.0 REJECTION: A separate record providing the details information regarding the rejected control units and mode of their disposal shall be maintained. Such material shall in no case be stored together with that conforming to the specification.

11.0 SAMPLES: The licensee shall supply, free of charge, the sample(s) required in accordance with the Bureau of Indian Standards (Certification) Regulations, 1988, as subsequently amended from his factory or godowns. The BIS shall pay for the samples taken by it from the open market.

12.0 REPLACEMENT: Whenever a complaint is received soon after the goods with standard Mark have been purchased and used and if there is adequate evidence that the goods have not been misused, defective goods are replaced free of cost by the licensee, in case the complaint is proved to be genuine and the warranty period (where applicable) has not expired. The final authority to judge the conformity of the product to the Indian Standard shall be with BIS.

In the event of any damages caused by the goods bearing the standard mark, or claim being filed by the consumer against BIS standard Mark and not 'conforming to' the relevant Indian Standards, entire liabilities arising out of such non-conforming products shall be of licensee and BIS shall not in any way be responsible in such cases.

13.0 STOP MARKING: The marking of the product shall be stopped under intimation to the Bureau if, at anytime, there is some difficulty in maintaining the conformity of the product to the specification, or the testing equipment goes out of order. The marking may be resumed as soon as the defects are removed under intimation to BIS.

14.0 PRODUCTION DATA: The licensee shall send to BIS, as per the enclosed proforma, a statement of the quantity produced marked and exported by him and the trade value thereof during the half year ending 30 June and 31 December. this statement is required to be forwarded to BIS on or before the 31st day of July and January for the proceeding half-year.

TABLE 1 LEVELS OF CONTROL
TEXTILES-JUTE BAGS FOR PACKING 50 KG. FOODGRAINS
ACCORDING TO IS 12650:2003
(Clause 6 of the Scheme of Testing and Inspection)

TEST DETAILS				LEVELS OF CONTROL			Remarks
Clause	Requirements	Test Method		No. of Samples	Frequency	Lot Size	
		Clause	Reference				
4.2	Seam stitches	4.2	IS 12650:2003	One	Hourly	Each Control Unit	If the sample fails, two samples shall be tested. In case of any failure, the production shall be declared unfit for marking with BIS Certification mark.
4.3	Safety stitches.	4.3	-do-	One	Hourly	Each Control Unit	
4.4	Hemming at mouth.	4.4	-do-	One	Hourly	Each Control Unit	
4.5	Freedom free defects	Annex A	-do-	One	Hourly	Each Control Unit	
5.1 & Table 1	<u>Specific Requirements:</u>						
	i) Dimensions	8.3.2	IS 9113: 1993	One	Hourly	Each Control Unit	
	ii) Ends & Picks/dm corrected	8.4.2	-do-	One	Hourly	Each Control Unit	
	iii) Corrected mass per bag.	8.5.2	-do-	One	Hourly	Each Control Unit	
	iv)Average breaking strength of sacking (Wrap & weft way)	8.6.2	-do-	5bags min	One control unit	-do-	

TEST DETAILS				LEVELS OF CONTROL			Remarks
Clause	Requirements	Test Method		No. of Samples	Frequency	Lot Size	
		Clause	Reference				
5.1 & Table 1	v) Average seam breaking strength. 8.7 IS	8.7	IS 9113:1993	5bags min	One control unit	-do-	

	9113:1993					
	vi) Oil Content 2 bags -do- -do-	8.8 -do-	2 bags min	-do-	Each Control Unit	
5.2 & Table 2	Corrected net mass of a bale.	8.1 -do-	Each bale	Do	Each Control Unit	
	Number of joined bags per bundle of 25 bags.	Visual	Each bundle	-do-	-do-	
	vi) Moisture Regain.	8.2 -do-	One		Each control unit	
5.3	Contract moisture retain.	8.2 -do-				

SPECIFIC REQUIREMENT FOR ECO MARK

5.4.2.1 & Table 3	Non-halogenated hydrocarbons	5.4.2.1 IS 12650:2003				1) The methods of tests for ECO-parameters are being developed by BIS and Textiles Committee. Till the methods of tests are standardized, the manufacturer shall declare conformance taking into consideration the chemicals, auxiliaries and dyes used.
5.4.2.1 & Table 3	Pesticides (sum parameter) ² Banned Pesticides	5.4.2.1 IS 12650:2003				2) The list of pesticides used on jute, banned restricted or withdrawn is appended as Annex B
	pH of aqueous extracts	5.4.2.1 IS 12650:2003				
	Coupled amines from azo-dyes (Sum parameters) ³	5.4.2.1 IS 12650:2003				3) List of Coupled amines from azo-dyes is appended as Annex C.

ANNEX VIII

(Clause 9.4)

CM/PF 310

JUNE 1989

ACCEPTANCE OF SCHEME OF TESTING AND INSPECTION

This is with reference to your letter No. dated.....

We hereby agree that for the licence granted to us for Jute Bags for packing 50 kg Food Grains as per IS 12650:2003 , we shall follow the Scheme of Testing and Inspection (Doc : STI/12650 APRIL 2004) strictly and maintain all records properly.

Signature:

Name:

Designation:

Seal:

ANNEX IX

(Clause 7.5)

FIXATION OF RATE OF MARKING FEES

Sub: Rate of Marking Fee for Certification of Jute Bags for Packing 50 kg Food grains

The Rate of Marking Fee for Certification of Certification of Jute Bags for Packing 50 kg Food grains has been fixed as under :

Rs. 17.30 Per unit for all the units; (Unit = 01 Tonne) subject to a minimum of

Rs. 34000/= For Large Scale Manufacturing Units and

Rs. 29000/= For Small Scale Manufacturing Units

during an operative period of one year.

ANNEX X

(Clause 7.5)

CM/PF 311
June 1989

ACCEPTANCE OF RATE OF MARKING FEE

We hereby agree to pay marking fee to Bureau of Indian Standards after grant of licence to use the Standard Mark on Jute Bags for packing 50 kg Food Grains as per IS 12650:2003 at the following rates and in the manner stipulated as under :

i) Rate of marking fee:

Rs. 17.30 per unit for all units:

With a minimum marking fee of Rs. 34000 for Large Scale Industry and Rs. 29000 for Small Scale Industry for an operative period of one year.

(Unit = 1 Tonne)

ii) The marking fee is payable as follows:

A) Minimum marking fee for one operative year payable in advance which will be carried over to next renewal(s).

B) Actual marking fee for the first nine months of the operative period calculated on the unit rate on the production marked or the minimum marking fee whichever is higher shall be payable at the concerned Branch Office at the time of the first renewal of the licence. For subsequent renewals, the actual marking fee for 12 months period consisting of last three months of previous operative year and the first nine months of the current operative year or the minimum marking fee whichever is higher shall be payable.

Place:

Signature:

Date:

Name:

Designation:.....

Seal:

ANNEX XI

(Clause 9.6 b)

LIST OF TEST EQUIPMENTS

SL. NO.	TEST EQUIPMENT/ CHEMICAL	LEAST COUNT AND RANGE	CLAUSE NO. OF RELEVANT STANDARD
1	Tensile Testing Machine	Range 0 – 500 N or higher , LC 1 N	Table 1, Sl No. v)
2	Porter Gauge	Range = 1 dm	Table 1, Sl No. ii) and iii)
3	Steel Tape	0-3000 mm, LC 0.5 mm	Table 1, Sl No. i)
4	Steel Scale	0-300 mm, LC 1 mm	Table 1, Sl No. v)
5	Moisture Meter	9 – 40 %, LC 0.1	Table 1, Sl No. v)
6	Humidity Chamber	0 -100 %, LC 1 %	Table 1, Sl No. v)
7	Glass thermometer	-10 to + 110C, LC 1C	Table 1, Sl. No. viii)
8	Chemical balance	Upto 200 gm, LC 0.1 mg	Table 1, Sl. No. viii)
9	Weight Box	Upto 200 g	Table 1, Sl. No. viii)
10	Hot Air Oven	0-200C, LC 1C	Table 1, Sl. No. viii)
11	Heating Mantle	Upto 300C	Table 1, Sl. No. viii)
12	Desicator	150 mm Dia	Table 1, Sl. No. viii)
13	Dry and wet bulb thermometer	-10 to 50C, LC 1C	Maintenance of Humidity
14	Tri chloroethylene	Laboratory reagent	Table 1, Sl. No. viii)
15	Petroleum Ether	Laboratory reagent	Table 1, Sl. No. viii)
16	Burette	-	Table 1, Sl. No. viii)
17	Measuring Cylinder	-	Table 1, Sl. No. viii)
18	Soxhlet Apparatus	-	Table 1, Sl. No. viii)
19	Digital Electric Balance	0- 1000 g, LC 1 g	Table 1, Sl No. iv)
20	Digital Electric Balance	0-1000 kg, LC 100 g	Table 2
21	Air Conditioner	1.5 Tonnes	Maintenance of temp

ANNEX XII

(Clause 9.6 c)

FORMAT FOR COMPLETE TESTING AS PER IS 12650

TEST	SPECIFIED REQUIREMENTS	RESULTS
Constructions		
Fabric (Cl 4.1)	Type A / B	
	The Jute fabric shall be a made of single warp and double weft woven on modern shuttle less looms. (Type A) OR The Jute fabric shall be a made of Double warp and single weft woven on conventional looms. (Type B)	
	Weave	
	Construction of fabric shall be uniform	
	Nominal mass of sacking shall be 579 g/m ²	
	Stripes in blue colour shall be provided along the length of bag.	
Type of stitches (Cl 4.2)	Overhead / Herakle	
	For bag with hemming at the mouth, sides of the bag shall be sewn on selvages through two layers of fabric	
Count of jute twine (Cl. 4.2)	Two strands of 310 tex x 3 ply	
Safety Stitch (Cl 4.3)	If agreed to between the buyer and the seller, a line of safety union stitches shall be provided at the inner edges of the overhead or herakle stitches	
Count of jute twine	310 Tex x 2 ply	
Joined bag (Cl 4.5)		

TESTING FOR PHYSICAL PARAMETERS AS PER TABLE 1:

SL. NO.	OUISE LENGTH (cm)	OUTSIDE WIDTH (cm)	ENDS/ dm	PICKS/ dm	MOISTURE REGAIN %	OBSERVED MASS OF BAG (g)	CORRECTED MASS OF BAG AT 20 % MR	NO. OF STITCH ES	NO. OF SAFETY STITCHES	HEMMING AT MOUTH	
										I FOLD	II FOLD
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
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27											
28											
29											
30											

TEST FOR BREAKING STRENGTH AND SEAM STRENGTH (TABLE 1):

BAG NO.	SAMPLE NO.	BREAKING STRENGTH	SEAM STRNGTH
1	1		
	2		
2	1		
	2		
3	1		
	2		
4	1		
	2		
5	1		
	2		

TEST FOR OIL CONTENT :

BAG NO.	SAMPLE NO.	OIL CONTENT ON DE-OILED MATERIAL (%)
1	1	
2	1	

TEST FOR FREEDOM FROM DEFECTS :

<i>Type of Defect</i>	<i>Description</i>		<i>Major</i>	<i>Minor</i>
GAW	Portion over the whole width of the fabric completely unwoven with weft.	>1.5cm		
		0.5 cm to 1.5 cm		
Multiple broken/missing warp (end)	Two or more contiguous, regardless of length			
	Single, more than 25 cm long			
	Single 25 cm long or less			
Multiple broken weft (pick)	Two or more contiguous, regardless of length			
	One pick, full width			
Cut, hole, tear or patch	Two or more warp or filling threads ruptured at adjoining points			
Float	A place in the fabric where warp and weft yarns escape the required interlacement	>2 sq cm		
		0.5 cm to 2 cm		
Gap stitching	Stitches missing	>1.5cm		
		0.5 cm to 1.5 cm		
Corner gap	Corner of the bag not properly stitched resulting in formation of hole	>1.5cm		
		0.5 cm to 1.5 cm		
Mildew	Staining of fabric due to fungal or bacterial growth visible to naked eye			

REQUIREMENT FOR BALES (TABLE 2) :

SL. NO.	CHARACTERISTIC	REQUIREMENT	RESULT
1	Total No. of bags per bale	500	
2	Number of bags per bundle	25	
3	Contract Mass of bale, kg	332.5	

4	Corrected mass of bale, kg (This shall be calculated for three bales.)	Not less than contract mass	
---	---	--------------------------------	--

ANNEX XIII

(Clause 7.6 e)

BUREAU OF INDIAN STANDARDS TEST REQUEST

Our Ref:

Date

Sample(s) sent from _____ Regional Office to _____ Laboratory

Please test the following samples details of which are given in Annexure according to Indian Standard(s) mentioned and forward your test report(s) to us in duplicate/Triplicate:

Testing charges are to be borne by BIS/ M/s _____

Mode of disposal of sample(s) after test: may be disposed off/ sent to M/s _____

Date within which test report is required:

Code No.

Lab Code No.

Date of receipt of sample

Signature

Name

Nature of Packing : Wrapped in gunny cloth

Manner of sealing and signing : wax sealed

Designation

.....

ANNEXURE

Description of Sample(s) : Jute Bags for Packing 50 Kg Foodgrains

Type : A / B

Quantity :

Bale No. :

Date of Manufacture :

Test to be carried out and clause Ref. No. :

Relevant Indian Standard(s) and Amendments (if any) : IS 12650:2003

with upto amendment No. 03

Nature of Test(s) : Chemical and/or Mechanical

Code No. (To be filled by lab) :

Any other information such as declared : None

Nominal values by the manufacturer :

Additional information, if any. :

BIS Seal

INTACT/NOT INTACT/NOT SEALED

ANNEX XIV

(Clause 9.6 g)

ANALYSIS OF TEST REPORT

CLAUSE NO. OF IS 12650	TEST PARAMETER	REQUIREMENT	ANALYSIS
4.1	MASS OF FABRIC	NOMINAL MASS 579 G/M ²	Mass above 579 g/m ² may be considered pass
4.2	SEAM	NO. OF STITCHES SHALL BE 10 ± 1	All individual values shall lie between 9 and 11. Any individual value less than or above the specified shall mean failure of sample.
4.2 (read in conjunction with 5.1.2 of IS 9113)	Stitching Yarn	380 Tex x 3 Ply if Herakle stitching is done else 310 Tex x 3 Ply if Overhead type of stitching is done.	Count of stitching yarn less than 380 or 310 Tex as the case may be and plies less than 3 shall mean failure of sample.
4.4 (read in conjunction with 5.1.2 of IS 9113)	Hemming Twine	310 Tex x 1 Ply	Count of hemming twine less than 310 Tex shall mean failure of sample.
4.4 (read in conjunction with 5.1.3 of IS 9113)	Hem	Depth of First turn over shall be 18 mm and second turn over shall be 20 mm.	All individual values of first fold and second fold shall not be less than 18 and 20 mm respectively. Any value less than the specified shall mean failure of the sample.
4.3	SAFETY STITCH (OPTIONAL)	NO. OF STITCHES SHALL BE 10 ± 1	All individual values shall lie between 9 and 11. Any individual value less than or above the specified shall

			mean failure of sample.
4.3 (read in conjunction with 5.1.2 of IS 9113)	Safety Stitching Yarn (Optional)	310 Tex x 2 Ply	Average Count of safety stitching yarn less than 310 Tex and number of plies less than 2 shall mean failure of sample.
Table 1, Sl. No. i)	OUTSIDE LENGTH	94 +4/-0 CM	The length of at least 80 percent of the bags under test shall be in accordance with requirement specified that is outside length of at least 80 percent bags under test shall lie between 94 to 98 cm. However, 10 percent of bags under test can have outside length upto 92 cm but any value less than 92 and above 97 cm shall constitute failure of sample.
Table 1, Sl. No. i)	OUTSIDE WIDTH	57 +4/-0	The width of at least 80 percent of the bags under test shall be in accordance with requirement specified that is outside width of at least 80 percent bags under test shall lie between 57 to 61 cm. However, 10 percent of bags under test can have outside width upto 55 cm but any value less than 55 and above 61 cm shall constitute failure of sample.
Table 1, Sl. No. ii)	END/DM	76 +4/-3 for TYPE B bags And 46 +4/-3 for TYPE A bags	The average value of end/dm shall lie between 73 and 80. Any individual reading less than 73 shall mean failure of the sample. Individual value above 80 may be considered as pass. Similar explanations shall be applicable for Type A bags also.

Table 1, Sl. No. iii)	PICKS/DM	28 +2/-2 for TYPE B Bags and 50 +2/-2 for TYPE A Bags	The average value of picks/dm shall lie between 26 and 30. Any individual reading less than 26 shall mean failure of the sample. Individual value above 30 may be considered as pass. Similar explanations shall be applicable for Type A bags also.
Table 1, Sl. No. iv)	CORRECTED MASS OF BAG, g	665 + 8 % /- 6.0 % that is 625 to 78 g	Corrected mass of at least 80 percent of bags under test shall be in accordance with the specified requirement that is corrected mass of at least 80 percent of bags under test shall be between 625 to 718 grams. However, 10 percent of bags under test can have corrected mass less than 625 and 10 percent of bags under test can have mass greater than 718 grams but in any case the average corrected mass of all bags under test shall lie between 625 and 718.
Table 1, Sl. No. v)	AVERAGE BREAKING STRENGTH, MIN, N(KG)		
	a) WARP WAY	1570(160)	Average value of warp way breaking strength of all bags under test shall not be less than the specified value. Besides no individual value shall be less 20 percent below the specified value meaning there by that a) average value of warp way breaking strength of all bags under test shall not be less than 1570 (160) and b) No individual value shall

			be below 1256 (128).
	b) WEFT WAY	1420 (145)	Average value of weft way breaking strength of all bags under test shall not be less than the specified value. Besides no individual value shall be less 20 percent below the specified value meaning there by that a) average value of weft way breaking strength of all bags under test shall not be less than 1420 (145) and b) No individual value shall be below 1136 (116).
Table 1, Sl. No. vi)	AVERAGE SEAM STRENGTH, MIN, KG	490(50)	Average value of seam strength of all bags under test shall not be less than the specified value. Besides no individual value shall be less 20 percent below the specified value meaning there by a) average value of seam strength of all bags under test shall not be less than 490 (50) and b) No individual value shall be below 392 (40).
Table 1, Sl. No. vii)	MOISTURE REGAIN %, Max	22	Average moisture regain of all bags under test shall be 22 percent Maximum. However, 10 percent of the bags can have moisture regain up to 26 percent.
Table 1, Sl. No. viii)	OIL CONTENT, MAX, %	3	The average oil content of the bags under test shall be less than the specified value of 3 percent.

ANNEX XV

(Clause 9.6 k)

BRAND NAME DECLARATION

CMD/PF 307

January 1988

BUREAU OF INDIAN STANDARDS

APPLICANT'S DECLARATION OF BRAND NAMES/TRADE MARKS PROPOSED TO BE COVERED UNDER ISI MARK

1. Application No.

2. Name of the Manufacturer and Address

.....

3. Brand Names Being Used.

4. Brand Names which would carry ISI Mark	owned by self/others	Registered/Unregistered	Date of Introduction
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a)

b)

c)

d)

5. I/We understand that in the event of a dispute with any other manufacturer over the above brand Names/Trade Marks, the responsibility is entirely ours and BIS would not be involved in such disputes.

6. I/We also undertake that, as far as possible, the entire production under the above brands and which conforms to the specification shall be marked with the ISI mark.

Signature

Name

Designation

Dated: