

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा
हार्नेस चमड़ा — विशिष्टि

(IS 580 का तीसरा पुनरीक्षण)

Draft Indian Standard

Harness Leather — Specification

(Third Revision of IS 580)

(ICS 59.140.20)

Leather, Tanning Materials and Allied Products Sectional Committee,
CHD 17

Last Date for Comments: 29-01-2024

Leather, Tanning Materials and Allied Products, Sectional committee CHD 17

FORWORD

(Formal clause will be added later)

This standard was first published in 1954 and subsequently revised in 1962. This type of leather is extensively used for waist belts and various other forms of pliable straps, rifle and revolver cases, etc. Large quantities are also required for making various types of leather goods for the military.

This revision has been taken up in order to bring out the standard in latest style and format of the Indian Standards. The relevant clauses have been added and the references have been updated.

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 : 2022 Rules for rounding off numerical values (*second revision*). The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Draft Indian Standard
HARNES LEATHER — SPECIFICATION
(*Third Revision*)

1 SCOPE

This standard prescribes the requirements and methods of sampling and test for harness leather in natural and dyed condition used for making harness and saddlery. This leather is also used for almost all purposes where a strong and pliable leather is required.

2 REFERENCES

The standards listed in Annex A 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:

3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 1640 shall apply.

4 REQUIREMENTS

4.1 Raw Materials — The material shall be well preserved bovine hides of good substance.

4.2 Tanning

The hide shall be tanned with vegetable tanning materials with or without syntans or mineral tanning agents such as chromium or aluminium. The leather shall be fully tanned. A sharp cut made by knife shall show uniform tannage when examined visually.

4.3 Currying

The material shall be thoroughly dressed by hand or drum stuffing with a suitable mixture of oils, fats and waxes.

4.4 Finishing

The grain shall be tight and shall be well set out to make it smooth and even and shall be free from brand marks and warble holes. The flesh side shall be clean, smooth and free from flay cuts. The material shall be tight and pliable. It shall be supplied in the form of butts, bends as required by the purchaser. The material shall be of uniform thickness.

4.5 Protection Against Mildew

The material when tested as prescribed in LB:2 of IS 6191 shall not show any growth of mildew.

4.6 Physical Requirements

The material shall also comply with the physical requirements given in Table 1.

4.7 Chemical Requirements

The material shall comply with the chemical requirements given in Table 2.

Table 1 Physical Requirements for Harness Leather
(*Clauses 4.6*)

SI No.	Characteristic	Requirement	Method of test
(1)	(2)	(3)	(4)
i)	Apparent density, <i>Min</i>	0.8	IS 5914 (Part 4)

ii)	Water absorption, percent, <i>Max</i>		LP: 12* of IS 5914
	a) in 30 min	45	
	b) in 2 h	50	
	c) in 24 h	55	
iii)	Resistance to cracking	Shall not crack on mandrel No. 1 and shall not show any sign of permanent loosening of the grain in the form of wrinkles	IS 5914 (Part 7)
iv)	Tensile strength, kg/cm ² <i>Min</i>	210	IS 5914 (Part 8)
v)	Thickness	As agreed, to between the purchaser and the supplier with a tolerance of ± 0.2 mm	LP: 2 of IS 5914

* The value shall be expressed in terms of Q (*see* 6.1 of LP: 12 of IS 5914)

Table 2 Chemical Requirements for Harness Leather

(*Clause 4.7*)

Sl. No	Characteristic	Requirement	Method of test
(1)	(2)	(3)	(4)
i)	Total ash, percent by mass, <i>Max</i>	2.5	IS 582 (Part 3)
ii)	Solvent extractable substance, percent by mass, <i>Max</i>	6.0	IS 582 (Part 14)
iii)	Water soluble matter, percent by mass, <i>Max</i>	20.0	IS 582 (Part 2)
iv)	Metal content (as metal oxide), percent by mass, <i>Max</i>	1.0	IS 582 (Part 10/ Sec 1)
v)	pH of water solubles	Not below 3.5	IS 582 (Part 9)
vi)	Differential number, <i>Max</i>	0.6	IS 582 (Part 9)
vii)	Degree of tannage, <i>Min</i>	50	LC: 21 of IS 582

NOTE — Calculation of requirements for characteristics Sl No (i) to (iv) shall be done on zero percent moisture basis.

5 PACKING AND MARKING

5.1 PACKING

The material shall be packed as agreed to between the purchaser and the supplier.

5.2 MARKING — The packages shall be marked with the following

- a) Name and type of the material;
- b) Name of the manufacturer and/or trade-mark, if any;
- c) Quantity (number of pieces of the material);
- d) Month and year of manufacture; and
- e) Batch number.

5.2.1 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

6 SAMPLE AND CRITERIA FOR CONFORMITY

The scale of sampling and criteria for conformity of the material to this standard shall be prescribed in IS 5868.

ANNEX A

(Clause 2)

LIST OF REFERRED STANDARDS

<i>IS/ISO No</i>	<i>Title</i>
IS 582 : 1970	Method of chemical testing of leather (<i>first revision</i>)
Part 2 : 2024/ ISO 4098 : 2018	Determination of Water-Soluble Matter, Water-Soluble Inorganic Matter and Water-Soluble Organic Matter (<i>first revision</i>)
Part 3 : 2017 ISO 4047 : 1977	Determination of sulphated total ash and sulphated water - Insoluble ash (<i>second revision</i>)
Part 9 : 2022 ISO 4045 : 2018	Determination of pH and difference figure
Part 14 : 2022	Determination of matter soluble in dichloromethane and free fatty acid content
IS 1640: 2007	Glossary of terms relating to hides, skins and leather (<i>first revision</i>)
IS 5868: 1983	Method of sampling for leather (<i>first revision</i>)
IS 5914 : 1970	Methods of physical testing of leather
Part 4 : 2023/ ISO 2420 : 2017	Determination of apparent density and mass per unit area
Part 7 : 2023/ ISO 3378 : 2002	Determination of resistance to grain cracking and grain crack index
Part8 : 2023/ ISO 3376 : 2020	Determination of tensile strength and percentage elongation
IS 6191: 1971	Micro- Biological colour fastness and microscopical tests for leather