भारतीय
मानक
Indian Standard

बॉक्सिंग दस्ताने — विशिष्टि

Boxing Gloves — Specification

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली - 110002
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI - 110002
www.bis.gov.in www.standardsbis.in

December 2025 **Price Group**

Sports Goods Sectional Committee, PGD 41

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Sports Goods Sectional Committee had been approved by the Production and General Engineering Division Council.

Boxing gloves are essential protective equipment used across training, sparring, amateur and professional competition. The design, materials, and performance of boxing gloves have evolved significantly since the original IS 3874:1987 specification. This revision brings the standard into conformity with modern materials science, design principles, international test methods, and the rules of leading boxing authorities.

a) IS 3874:1987 : Specification of Boxing Gloves (*first revision*)

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.

Indian Standard

BOXING GLOVES — SPECIFICATION

1 SCOPE

This Standard prescribes requirements for boxing gloves intended for use in training, sparring and competitive boxing.

2 TERMINOLOGY

2.1 Outer Shell -The strong outer cover of the glove, usually made of leather or synthetic material.

2.2 Padding - The soft layers inside the glove that absorb force when you punch.

2.3 Wrist Strap - The part that wraps around your wrist to keep the glove tight and steady.

2.4 Thumb Lock - A small piece that keeps the thumb attached to the glove so it doesn't bend the wrong way.

2.5 Lining - The inner cloth of the glove that touches your hand and keeps it dry and comfortable.

3 CLASSIFICATION

3.1 Boxing gloves shall be classified by intended use and weight category:

a) Training Gloves — Recommended for bag work and fitness (typically 12–18 oz).
b) Professional Competition Gloves — Recommended for Pro Fights (lace-up or Velcro gloves) . They usually weigh 8 oz for fighters up to 147 lb and 10 oz for heavier fighters. (WBC / WBO Weight Rules).
c) Kid / Youth /Exhibition **:** Recommended for youth (lighter than 8 oz) or for exhibition use.

4 REQUIREMENTS

4.1 Materials

4.1.1 *Shell*

The outer shell shall be made of either

Natural Leather - Cowhide or equivalent, thickness 0.6–1.2 mm, smooth-finished grain side.

Synthetic Leather - PU or microfiber, abrasion-resistant, equivalent thickness to natural leather.

4.1.2 *Padding*

Padding shall consist of high-density polyurethane (PU) or ethylene vinyl acetate (EVA) foam in 3–5 laminated layers, evenly distributed over the knuckles, back of the hand, and thumb.

Gel inserts or additional shock-absorbing materials may be used beneath or within the foam layers to enhance impact absorption.

4.1.3 *Lining*

The inner lining shall be made of breathable, moisture-wicking textile such as cotton drill, polyester, or nylon, with a pH value between 3.5 and 9.5.

The lining may be treated with anti-microbial or anti-odor finishes, provided such treatments meet IS/ISO safety standard.

4.1.4 *Thread*

All stitching shall be done using high-tensile polyester or polyamide core-spun thread. The thread shall have a minimum single-thread breaking load of 25 N.

4.2 Closures

4.2.1 *Lace-up closure*

Gloves using lace-up designs shall include eyelets with lacing covering 10–15 cm of the wrist area.

4.2.2 *Hook-and-loop (Velcro) closure*

Gloves using Velcro shall have straps at least 10 cm wide, and the closure system shall withstand a minimum of 2,000 fastening/unfastening cycles.

4.3 Surface Inks & Dyes

All inks and dyes used for markings or logos on the glove shall be non-toxic, abrasion-resistant, and compliant with applicable IS/ISO safety regulations.

5 MANUFACTURING AND WORKMANSHIP

5.1 Construction Methods

a) Hand-stitching,
b) Machine-stitching, and
c) Hybrid (machine sewn, hand finished)

5.1.1 The glove shall be constructed from appropriately shaped panels back, palm and wrist strap each from one piece and thumb from two with 3–5 layers of high-density foam (and optional gel) evenly inserted over the knuckles, back of hand and thumb; all seams machine-stitched with 3–4

stitches/cm; and fastened by either lace-up eyelets spaced over 10–15 cm of wrist or hook-and-loop straps at least 10 cm wide.

6 PERFORMANCE TEST

6.1 Impact Attenuation Test

Each glove (training or competition) is mounted on a firm hand form and struck on the knuckle area with a weighted striker from a fixed height per ISO 21924-7. The peak force passing through the glove must stay below the ISO limit (approx. 2 500 N). Five gloves are tested to confirm consistent protection.

6.2 Closure Durability Test

For lace-up gloves, the eyelets and laces are tightened and loosened 2 000 times. For Velcro gloves, the straps are fastened and unfastened 2 000 times. After cycling, closures must still hold securely with no tears or loss of grip. as per ISO 21924-7:2017.

6.3 Seam Strength Test

A tensile load is applied to each major seam (back, palm, wrist strap) up to 200 N. Seams must not split or allow padding to spill. This ensures the glove stays intact under repeated punching and flexing.

6.4 Material & Chemical Safety Tests

6.4.1 *Material Safety*

pH Test: Applies to shell leather and textile lining; pH must be between 3.5 and 9.5 as per ISO 4045/ISO 3071

Azo Dye Test: Applies to colored leather and fabrics; no carcinogenic azo dyes present as per ISO 17234-1/ISO 14362-1

Breathability Test: Applies to leather shell or textile lining when claimed; leather must transmit at least 5 mg/(cm²·h) of water vapour , and textile must have water-vapour resistance no greater than 30 m²·Pa/W as per ISO 14268/ISO 11092

6.4.2 Chemical Safety

Chromium VI Test (leather): Cr^{6+} must be less than 3 mg per kg of genuine leather as per IS/ISO 16259.

Nickel Release Test (metal): nickel release from eyelets or fittings must be less than 0.5 µg per cm² of metal per week as per EN 1811

DMF Test (PU foam/synthetic leather): dimethylformamide must be less than 1 000 mg per kg of material as per EN 16778

PAH Test (rubber/plastic): each carcinogenic PAH must be less than 1 mg per kg of material as per ISO/TS 16190

Table 1 Requirements for Boxing Gloves

To establish a standardized sizing chart for boxing gloves across three levels—A (Professional Competition), B (Training/Sparring), and C (Kids) .

Sl No.	Size	Requirements	Level 1	Level 2	Level 3
(1)	(2)		(4)	(5)	(6)
i)		glove size	8 - 10 oz	12 -16 oz	4-6 oz
ii)		Hand Circumference, cm	17-23	21-27	15-19
iii)		Glove weight ,g	225–340	340–510	113–226
iv)		Glove length ,cm	28–30	30-33	24-28

7 PACKING AND MARKING

7.1 Packing

The boxing gloves shall be kept in pairs (left + right), palm to palm, tip to wrist, tied with twine, and packed .

7.2 Marking

7.2.1 Each glove—or its immediate packaging—shall be indelibly marked with:

i. Manufacturer’s name, initials, or trade-mark

ii. Glove size (oz) and Level (1/2/3)

iii. Month and year of manufacture

iv. Batch/lot number

7.2.2 *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 product(s) may be marked with the standard mark.