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Indian Standard TEXTILES — CARAVAN AWNINGS — FUNCTIONAL REQUIREMENTS AND TEST METHODS

ICS 43.100,97.200.30

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Price Group 3

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Made-up Textiles (Including Ready-made Garments) Sectional Committee had been approved by the Textiles Division Council.

This standard is technically equivalent to International Standard ISO 8937 : 1991 'Caravan awning — Functional requirements and test methods' issued by the International Organization for Standardization (ISO) except the test temperature in 7.2.3 which has been specified as $27 \pm 2^{\circ}$ C in place of $20 \pm 2^{\circ}$ C specified in the International Standard keeping in view the tropical conditions prevailing in India.

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 values should be the same as that of the specified value in this standard.

Indian Standard

TEXTILES — CARAVAN AWNINGS — FUNCTIONAL REQUIREMENTS AND TEST METHODS

1 SCOPE

1.1 This standard specifies the functional requirements for the suitability for use of awnings for caravans and motors caravans. Caravans in this standard always means caravans and motor caravans.

1.2 It applies to the different types of awnings described in 5.

1.3 In addition to the requirements of this standard, the requirements of IS 15272 are to be observed.

1.4 Fabric requirements are not considered in this standard.

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:

IS No.	Title
12989 : 2000	Camping tents requirements and test methods – Type N (normal tents)
15272:2002	Caravan - Safety requirements

3 DEFINITIONS

For the purpose of this standard, the following definitions shall apply.

3.1 Caravan Awning — Tent attached to a leisure accommodation vehicle to extend its living area.

3.2 Base Area — Area limited by the outside walls of the awning and the caravan wall.

3.3 Perimeter — Horizontal distance between the caravan's side wall and the base of the front edges of the awning, measured from the ground vertically to the foremost point of the awning channel or other fixing systems, back to the rearmost point and vertically down to the ground when the caravan floor is raised by 5 cm by means of the corner steadies (*see* Fig. 1).



FIG. 1 PERIMETER

3.4 Awning Depth at Ground Level — Horizontal distance between the base of the caravan's side wall and the base of the front edges of the awning.

3.5 Awning Depth at Roof Level - Horizontal distance between the caravan wall and the awning front wall at roof level.

3.6 Overall Depth — Horizontal distance between the caravan side wall and the foremost part of the awning measured at right angles.

4 ADDITIONAL TERMS USED

Additional terms used in this standard are given in Fig. 2.

5 TYPES

- Type SN = snow awning (capable of bearing a heavy snow load).
- Type R = residential awning (suitable for all seasons, capable of bearing a light snow load).
- Type T = touring awning (suitable for touring under temperate weather conditions).

6 REQUIREMENTS

6.1 Awning Dimensions

6.1.1 Awning Depth

Type R awnings shall have a minimum roof depth of 200 cm, Type T of 180 cm and Type SN of 140 cm.

6.1.2 Awning Width

Type SN awning shall have a minimum width of 150 cm.

6.1.3 Entrance Dimensions

At least one entrance shall have a minimum height of 170 cm at its highest point and a minimum width of 50 cm.

6.1.4 Headroom

The headroom for Types R and T shall be a minimum of 180 cm over 80 percent of the roof surface.

6.1.5 Awning Perimeter Size

On each awning the range of perimeters within which it fits shall be indicated.

6.2 Zip Fasteners

6.2.1 The minimum transverse tear strength of the zip fasteners determined in accordance with 7.1 shall be:

- a) 700 N for zip fasteners in all load-bearing outside walls (for example, wind load-bearing walls); and
- b) 300 N for zip fasteners of windows, etc.



- b Entrance height
- c Awning depth at roof level
- d Awning depth at ground level
- e Awning width
- 1 Roof guying point
- 2 Pins
- 3 --- Canopy

- 5 Roof
- 6 Window cover
- 7 --- Window ventilation
- 8 Mud wall
- 9 --- Plastic window
- 10 Wall guying point
- 11 Ground anchorage

FIG. 2 ILLUSTRATIONS OF ADDITIONAL TERMS USED

6.2.2 The tape of the zip fasteners shall be compatible with the awning fabric.

6.3 Awning Frame

6.3.1 The whole assembly shall be fully adjustable.

6.3.1.1 If two frame components are fitted into each other, there shall be a minimum of 6 cm of overlap and the lower component shall not become detached when subjected to twice its own weight in the vertical position.

6.3.1.2 The upper part of a joint shall overlap the lower part to avoid the ingress of water.

6.3.2 Frame parts that are not interchangeable shall be permanently marked or accompanied by marking material.

6.3.3 When tested according to **7.2.1** the awnings shall withstand the following loads without damage:

Туре	N/m ²
Т	150
R	300
SN	1 500

6.3.4 Rigid frame-angled joints, when tested in accordance with **7.2.2**, shall be free from damage or permanent deflection.

6.4 Guying and Anchorage

6.4.1 Anchorage systems shall have a minimum breaking strength of 350 N, when tested in accordance with 7.3.

6.4.2 There shall be at least one guying point at each front corner of the roof.

6.4.2.1 For Type R awnings, fastenings for storm guys shall be provided at a suitable height (traditional window parapet) and shall be a maximum of 60 cm apart, excluding the door.

6.4.2.2 The anchorage system, including eyelet, upper and lower fastening and tensioning device (without ground tensioners), shall resist a minimum tensile force of 500 N.

NOTE — A higher strength has been chosen for the anchorage system than for the ground anchorage, in order to provide resistance to ageing as these parts cannot be replaced.

6.4.3 The distance between the anchorage points shall not exceed 75 cm (Type T), 65 cm (Type R), 50 cm (Type SN).

6.4.3.1 At the base of the zip fasteners a method shall be provided to relieve the lateral tension on the zip.

6.5 Metallic Parts

All metallic parts shall be corrosion resistant. This requirement is fulfilled, if when tested in accordance with 7.2.3, the filter-paper does not discolour.

6.6 Other parts

All the other parts shall be compatible with each other.

6.7 Awning Attachment to the Caravan

If the awning is provided with a cord it shall have a diameter of

$$0.7 \stackrel{+}{_{-}} \stackrel{0.05}{_{-}}$$
 cm

6.7.1 When tested in accordance with **7.4**, it shall not be possible to pull the cord out of the channel.

6.8 Environmental Ventilation

Ventilation shall allow the air to circulate, awnings with a coated roof shall be provided with a ventilator directly below the roof line.

6.9 Draught Exclusion

6.9.1 Mud Wall

6.9.1.1 The mud walls shall have a minimum width of 30 cm and shall overlap where they join. It shall be possible to peg the mud walls to the ground by means of pegs which are a maximum of 65 cm apart.

6.9.1.2 The mud walls shall have pegging points and these shall be resistant to tearing. This condition is fulfilled if the pegging points withstand the test in 7.5 without damage.

6.9.2 Rear Cover

The awning shall be supplied with a rear cover that provides wind protection for the awning.

6.10 Window Cover

The window cover shall overlap the window on all sides by at least 10 cm. The cover shall be provided with fastening points (for example, toggles) around its edges which are a maximum of 35 cm apart vertically and of 90 cm apart horizontally.

NOTE — In the case of zip fasteners, the overlap may be smaller.

6.11 Rain-Resistance

When testing in accordance with 7.6, no water shall penetrate the awning interior after a permissible light sprinkling during the first 120 s.

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6.12 Accessories

6.12.1 The accessories shall consist of the following:

- a) Pegs For each angle and each storm guy fastening point, one peg with a length of about 30 cm.
- b) *Wire pegs* For the remaining fastening points of the awning, one wire peg each with a length of about 22 cm.
- c) *Guys* For each guying point there must be one guy of a length sufficient to allow it to be fixed at least 100 cm from the base of the awning.

6.12.2 The accessories shall also include a bag for pegs.

7 TESTING

If no specific test is indicated in this clause, the requirements according to 6 are tested in a suitable way, for example by measurement.

7.1 Zip Fasteners

Test according to IS 12989.

7.2 Awning Frame

7.2.1 Test of the Load Capacity (see Fig. 3)

The whole roof area of the awning is covered by profiled soft-foam layers with a thickness of 6 cm and a density of approximately 35 kg/m³.

7.2.1.1 The layers shall be fixed and the smooth side of the layer shall touch the awning roof.

7.2.1.2 A quantity of sand, the weight of which is calculated by multiplying the roof area by the roof load specific to the type of awning (see 6.3.3) shall be provided.

7.2.1.3 The calculated quantity of sand shall be distributed uniformly over the profiled foam layers.

7.2.1.4 The loading time is 1 h.

7.2.2 Test of the Frame-Angled Joints

7.2.2.1 In order to test the assembly of the frame-angled joints, the test specimen is mounted according to Fig. 4. At a distance of 100 cm from the frame-angled joints, 500 reciprocating movements are carried out with a force of 100 N and a frequency of 30 min.

7.2.3 Corrosion Resistance

7.2.3.1 Assemble at least two specimens five times.

7.2.3.2 Use a 15 percent (m/m) sodium chloride solution to test the resistance to corrosion. Pour 100 ml of this solution into a porcelain bowl which is covered by a glass plate, leaving open a small gap. Immerse one end of a strip of filter-paper (10 cm wide and 15 cm long) in the solution. Place the other end on the glass plate until the strip becomes saturated with the solution. After this, place the test sample on the filter paper for 48 h. The test temperature shall be $27 \pm 2^{\circ}$ C.

7.3 Anchorage

Take three test specimens of the ground anchorage



FIG. 3 TEST OF THE LOAD CAPACITY



All dimensions in centimetres. FIG. 4 TESTING OF THE ASSEMBLY OF THE FRAME-ANGLED JOINTS

system in the form of 5 cm wide fabric strips. Clamp a specimen in a tensile testing machine by means of a peg, drawn through the eyelet and by the awning fabric at the opposite end of the strip.

Repeat for the remaining two specimens. Each specimen shall fulfil this requirement.

7.4 Awning Attachment

Carry out the test at the rate of 10 cm/min. Record the force at which fracturing occurs and the fabric is torn.

To test the resistance of the awning attachment to being pulled out, introduce a test specimen with a width of



All dimensions in centimetres.

FIG. 5 TEST OF THE RESISTANCE OF AWNING ATTACHMENT TO BEING PULLED OUT

20 cm into a test channel with a width of 10 cm and clamp the other end into a 5 cm wide jaw for tensile testing, with a static force of 1 000 N (see Fig. 5).

7.5 Mud Wall Pegging Point

Load a pegging point of the mud wall with a load of 50 N for 5 min using a 5 mm thick metal hook.

7.6 Rain Resistance

Test according to IS 12989 (see 6.11).

8 INSTRUCTIONS FOR USE

Each awning shall be accompanied by printed instructions for use which shall contain the following information:

- a) General design indications as to awning and frame components.
- b) Instructions for erecting and taking down with clear sketches.
- c) Instructions for maintenance and storage, making particular mention of:
 - 1) storage of the frame;

- 2) storage of the fabric;
- 3) cleaning agents;
- 4) rolling/folding of the fabric;
- 5) re-proofing;
- 6) storage of wet awning; and
- 7) major/minor repairs.
- d) General advice on the use of the awning where there are strong winds and also for use in winter.

9 MARKING

Awning according to this standard shall be marked with at least the following information:

- a) Reference of this standard;
- b) Name or trade-mark of the manufacturer or importer;
- c) Awning type (complete text and abbreviation);
- d) Awning size according to the perimeter; and
- e) Awning depth (ground and roof).

The awning depth may be indicated on the packaging in brochures, etc.

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