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“Step Out From the Old to the New”

IS 13713 (1993): Plastic chairs for general office purposes- [CED 35: Furniture]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

सामान्य कार्यालय प्रयोजनों के लिये
प्लास्टिक की कुर्सियाँ — विशिष्ट

Indian Standard

PLASTIC CHAIRS FOR GENERAL OFFICE
PURPOSES — SPECIFICATION

UDC 684.432.043 : 651.2

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Furniture Sectional Committee had been approved by the Civil Engineering Division Council.

In the light of the wide deforestation and its ecological impact, a need is felt for replacing wood with alternative materials for the manufacture of furniture. Plastic chairs, benches, stools, etc, are being manufactured in the country for the past two decades. The mechanical properties of plastic materials differ widely and this can be improved by the use of additives. This standard is being prepared to provide guidance to users and manufacturers with regard to dimensions, strength and stability of office chairs. This also provides testing the materials against fire. However, in case of fire, the plastic, like any other organic material that is wood, plywood, etc, get decomposed into toxic chemical gases.

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, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

The Committee responsible for the preparation of this standard is given at Annex C.

*Indian Standard***PLASTIC CHAIRS FOR GENERAL OFFICE
PURPOSES — SPECIFICATION****1 SCOPE**

This standard specifies materials, dimensions, methods of test and acceptance criteria for chairs made of plastic materials either in combination with the other materials or one piece plastic moulded chairs.

2 REFERENCES

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

3 MATERIALS

The chairs shall be made of filled and unfilled grade reinforced thermoplastic and thermosetting plastics.

4 DIMENSIONS

Dimensions of office chair shall conform to IS 3663 : 1991.

5 DESIGN

Design shall be as desired by the purchaser.

6 PERFORMANCE REQUIREMENTS**6.1 Sampling and Testing**

6.1.1 Sample shall be drawn at random from a lot in accordance with IS 5416 (Part 1) : 1988.

6.2 Testing**6.2.1 Strength Test**

The test sample (6.1) shall be tested for static test, fatigue test and impact test in accordance with IS 5416 (Part 1) : 1988. The test level depending

upon usage shall be 4 or 5 as specified in Table 3 of IS 5416 (Part 1) : 1988. After test, the sample shall not show any structural defects.

6.2.2 Stability Test

The test sample (6.1) shall be tested for stability in accordance with IS 5416 (Part 2) : 1988. The chair shall not overturn during testing.

6.2.3 Rigidity Test for Back

When the backrest is tested in accordance with Annex B, the point of application of force shall not deviate by more than 75 mm from its original position.

6.2.4 Colour Fastness to Daylight

The plastic shell of the chair when tested in accordance with IS 686 : 1985 shall be rated not less than standard 3.

6.2.5 Determination of Flammability by Oxygen Index

The oxygen index of the materials when tested in accordance with IS 13360 (Part 6/Sec 6) : 1992 shall not be less than 17.

7 PACKING

All components shall be packed in such a way that no damage is caused to them during transit.

8 MARKING

8.1 All chairs shall be marked with a suitable mark identifying the manufacturer.

8.2 The chairs may also be marked with the Standard Mark.

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	Title	IS No.	Title
686 : 1985	Method for determination of colour fastness of textile materials to daylight (<i>first revision</i>)	5416	Methods of test for strength and stability of chairs and stools:
		Part 1 : 1988	Part 1 Determination of strength
		Part 2 : 1988	Part 2 Determination of stability
3663 : 1991	Dimensions of tables and chairs for office purposes (<i>second revision</i>)	13360 (Part 6/ Sec 6): 1992	Methods of testing for plastics: Part 6 Thermal properties, Section 6 Flammability by oxygen index

ANNEX B

(Clause 6.2.3)

TEST FOR RIGIDITY OF SHELL

B-1 RIGIDITY OF SHELL

B-1.1 The test is conducted on one test specimen from a lot. The test specimen is secured to a plane, rigid mounting surface (*see Fig. 1*). The point of intersection of a plane passing at a distance of 300 mm (measured from the lowest point of the seat) and parallel to the mounting surface with the axis of symmetry of the backrest is marked (Point A). A

force F_1 of 300 N is applied to the backrest at Point A in a backward direction acting parallel to the mounting surface via a rigid bow (*see Fig. 1*). A sheet of rubber, projecting on all sides by at least 10 mm, of thickness 6 mm is placed between the bow and the backrest.

After stressing for 4 hours, the change in the position of Point A under the action of the force is measured.

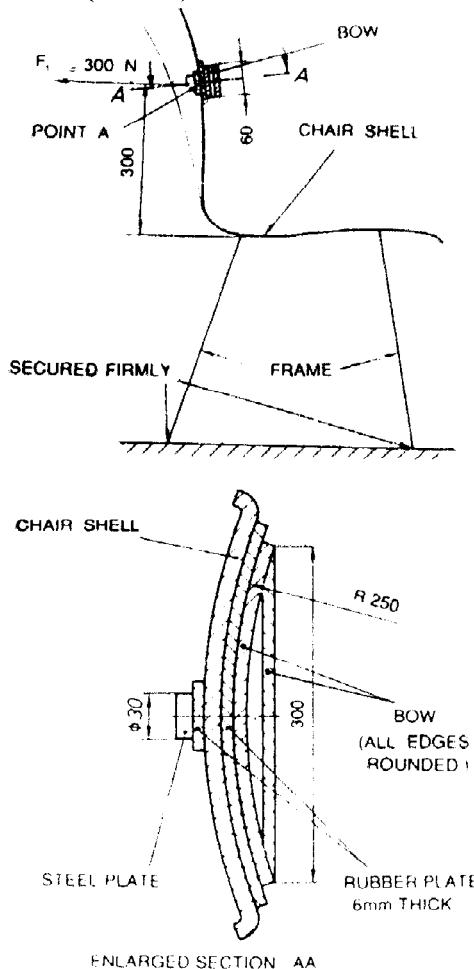


FIG. 1 TESTING OF RIGIDITY

ANNEX C (Foreword)

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