

# INTERNATIONAL STANDARD

**ISO**  
**9221-1**

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## **Furniture — Children's high chairs —**

### **Part 1: Safety requirements**

*Ameublement — Chaises hautes pour enfants —  
Partie 1: Prescriptions de sécurité*



Reference number  
ISO 9221-1:1992(E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9221-1 was prepared by Technical Committee ISO/TC 136, *Furniture*, Sub-Committee SC 1, *Test methods*.

ISO 9221 consists of the following parts, under the general title *Furniture — Children's high chairs*:

- *Part 1: Safety requirements*
- *Part 2: Test methods*

# Furniture — Children's high chairs —

## Part 1: Safety requirements

### 1 Scope

This part of ISO 9221 specifies requirements relating to the safety of children's high chairs for domestic use, with the aim of minimizing accidents to children resulting from normal usage and reasonably foreseeable misuse of high chairs and multi-purpose high chairs when in the high chair mode.

Such chairs may be convertible to low chairs, low chairs and tables and for such uses as baby walking frames, pushchairs, swings, car chairs or reclining low chairs. These additional functions are not covered by ISO 9221. Nor does it deal with accidents or injuries which might result from the interaction of older children with children in the high chair or accidents which might result from abuse or misuse by persons over three years of age.

### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9221. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9221 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 105-E04:1989, *Textiles — Tests for colour fastness — Part E04: Colour fastness to perspiration.*

ISO 9221-2:1992, *Furniture — Children's high chairs — Part 2: Test methods.*

ISO/IEC Guide 37:1983, *Instructions for use of products of consumer interest.*

### 3 Definitions

For the purposes of ISO 9221, the following definitions apply.

**3.1 high chair:** Chair, normally used for children between 6 months and 3 years of age, which is made for the purpose of holding a child capable of remaining in a sitting position due to his or her own coordination and which may have a tray that is attached to the chair for feeding, eating or playing. The chair is designed to rest on the floor and to elevate the child to approximately the height of a dining table.

**3.2 fastening:** Device which enables one part of the high chair to be fixed to another by the user, e.g. a bolt and wing nut.

**3.3 crotch strap:** Device which prevents the child from slipping out of the chair.

### 4 Materials

#### 4.1 Timber

Timber and timber-based materials used in the high chair shall be free from decay and insect attack.

#### 4.2 Metal

All metals exposed when the high chair is assembled for use, including components such as springs, nuts, bolts and washers, shall be made from corrosion-resisting materials, such as aluminium or stainless steel, or be adequately protected against corrosion. When tested in accordance with subclause 5.2 of ISO 9221-2:1992, the degree of corrosion shall not be higher than Ri 1.

### 4.3 Dyed textiles

When tested in accordance with the method described in ISO 105-E04, dyed textiles shall not give a numerical rating for the change in colour of less than 4 or a staining of less than 3.

## 5 Construction

### 5.1 Application

The requirements in 5.2 apply to a high chair assembled in accordance with manufacturer's instructions. If parts of the high chair are designed to be removable (e.g. feeding tray, foot rest), the requirements apply to the chair with and without these part(s).

### 5.2 Requirements

**5.2.1** The high chair shall be made from materials complying with the requirements of clause 4. The high chair shall be capable of being wiped or sponged.

**5.2.2** There shall be no open-ended tubes. There shall be no projections, holes, loose washers, speed fixings, nuts or crevices in which a child's finger or flesh could become trapped when the high chair is in use. There shall be no exposed sharp edges, points or burrs.

**5.2.3** Wood screws shall not be used for the assembly of any components that are intended to be removed by the consumer when disassembling the high chair for purposes of transportation or storage.

**5.2.4** The high chair shall be designed and constructed so as to prevent injury from any scissoring, shearing or pinching when members of the frame or other components rotate or fold when the child is in the high chair, including attempting to move folding high chairs.

Fastening devices shall be inoperable by the child when seated in the high chair.

**5.2.5** No part of the high chair or any attachments shall be detached or damaged when a force of 90 N is applied in any direction to the part, except fastenings in the direction of normal operation of the fastening, where the minimum force shall be 20 N. In the case of plastics materials, testing shall be carried out at a temperature of  $20\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ .

**5.2.6** Harnesses, crotch straps or belts shall be provided. If they are required, the high chair shall be provided with attachment points in the form of loops or similar devices. These attachment points

shall be located in the shaded area shown in figure 1. The attachment points and any means of connection shall show no visible damage when tested in accordance with subclause 5.4 of ISO 9221-2:1992. The movement of one attachment point shall not affect the other and each shall at all times remain not more than 50 mm in front of the chair back and not more than 75 mm above the chair seat, when the test dummy complying with subclause 4.1 of ISO 9221-2:1992 is placed as far back in the seat as possible (see figure 1). The chair may, additionally, be provided with an integral, permanently attached harness assembly consisting of waist straps and shoulder straps of a minimum width of 15 mm.

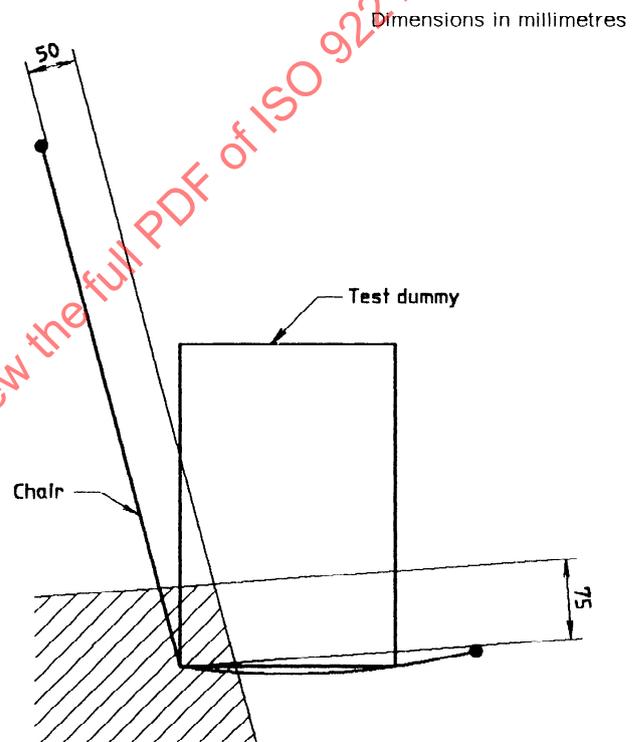


Figure 1 — Location of harness attachment points

**5.2.7** The design of the high chair shall be such as to prevent the child from slipping forward out of the seat both with and without the feeding tray in position.

This requirement is usually met by the provision of a crotch strap having a width of not less than 20 mm attached between the seat and the tray or between the seat and the horizontal bar or strap.

When tested in accordance with subclause 5.5 of ISO 9221-2:1992, the crotch strap shall be undamaged.

**5.2.8** When tested in accordance with subclauses 5.10.2 and 5.10.3 of ISO 9221-2:1992, any leg of the high chair shall not lift from the floor until the force is applied at a distance greater than 140 mm and 120 mm respectively.

When tested in accordance with subclauses 5.10.4 and 5.10.5 of ISO 9221-2:1992, any leg of the high chair shall not lift from the floor until the force used is greater than 200 N.

**5.2.9** When tested in accordance with subclause 5.6 of ISO 9221-2:1992, no part of the high chair shall be detached or damaged. When the chair is furnished with a tray, the tray shall not become disengaged during the test specified in subclause 5.6.7 of ISO 9221-2:1992.

**5.2.10** Folding high chairs, when tested in accordance with subclause 5.7 of ISO 9221-2:1992, shall not fold.

**5.2.11** Castors shall not be provided, except when the high chair can be converted into a baby walking frame. In this case, the castors shall be fitted in such a way that the chair cannot move when the child is sitting in it when in the high chair mode.

**5.2.12** When tested in accordance with subclause 5.8 of ISO 9221-2:1992, the mechanism allowing the back of the high chair to be adjusted shall not slip or allow any increase to the adjusted angle of seat and back.

## 6 Marking

Each high chair or multi-purpose high chair, for which claim for compliance with the requirements

of ISO 9221 is made, shall be durably and conspicuously marked with:

- a) the name, trade-mark or other means of identification of either the manufacturer, distributor or retailer;
- b) the statement:

**“WARNING. DO NOT LEAVE THE CHILD UNATTENDED.”**

Where provision is made for a safety harness, the following additional warning should be added:

**“THE CHILD SHOULD AT ALL TIMES WEAR A SAFETY HARNESS CORRECTLY FITTED AND ADJUSTED.”**

## 7 Instructions for use

Instructions concerning correct and safe assembly and use of the high chair or multi-purpose high chair shall be provided in accordance with ISO/IEC Guide 37. These instructions shall be headed:

**“IMPORTANT. RETAIN FOR FUTURE REFERENCE.”**

## 8 Packaging

Any plastics wrapping used as packaging shall be marked with the following warning:

**“TO AVOID DANGER OF SUFFOCATION, REMOVE PLASTICS COVER BEFORE USING THIS ARTICLE. THIS COVER SHOULD THEN BE DESTROYED OR KEPT AWAY FROM BABIES AND CHILDREN.”**

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