International Standard 378

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Gymnastic equipment — Parallel bars

Engins de gymnastique — Barres parallèles

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 378 was developed by Technical Committee ISO/TC 83, *Sports and recreational equipment*, in co-operation with the International Gymnastic Federation (IGF), and it was circulated to the member bodies in June 1979.

It has been approved by the member bodies of the following countries :

Australia	Germany, F. R.	South Africa, Rep. of
Austria	India	Spain
Egypt, Arab Rep. of	Netherlands	Switzerland
France	Poland	USSR

The member body of the following country expressed disapproval of the document on technical grounds :

Italy

This International Standard cancels and replaces ISO Recommendation R 378-1964, of which it constitutes a technical revision.

Printed in Switzerland

Gymnastic equipment — Parallel bars

1 Scope and field of application

This International Standard specifies the functional and safety requirements for parallel bars for use in competitions and training, in order to permit a true comparison of performance.

2 Dimensions

The dimensions of the parallel bars shall be those indicated in figure 1. The dimensions not specified are left to the discretion of the manufacturer.

It is not necessary that the parallel bars correspond to figure 1.

3 Material

The bars shall be of wood, laminated (or at least have a surface of wood) with reinforcing core (in order to prevent total breakage) or any other hygroscopic material with the same functional characteristics as wood (impact strength, sweat absorbent, magnesia-neutral).

The frame, columns and supports shall be of steel or cast iron according to the discretion of the manufacturer.

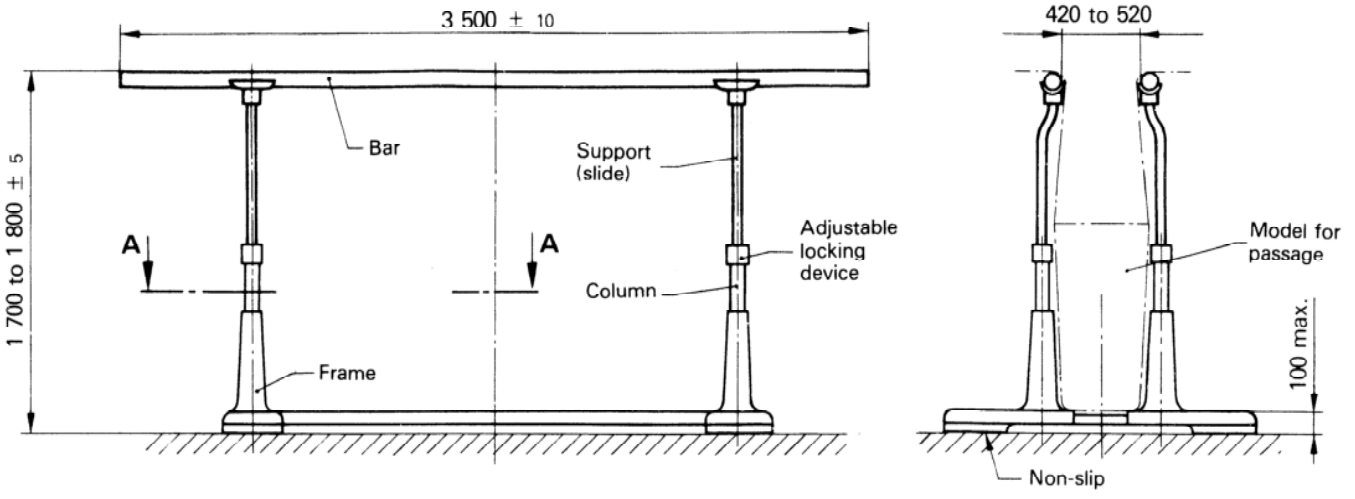
The non-slip material (of rubber or similar material) shall not mark the floor (colour or scratches).

4 Execution

The bars shall have no surface treatment, the rest shall be protected against corrosion.

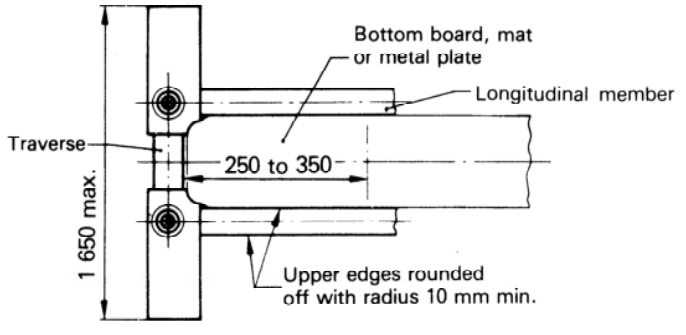
In order to avoid all possibility of contact with the traverse by swinging in a longitudinal direction or in case of fall, a transition shall be provided between the floor and the upper edge of the traverse, for example by means of bottom boards or a metal plate, or a mat shall be inserted. The bottom boards or the mat shall be inserted without clearance.

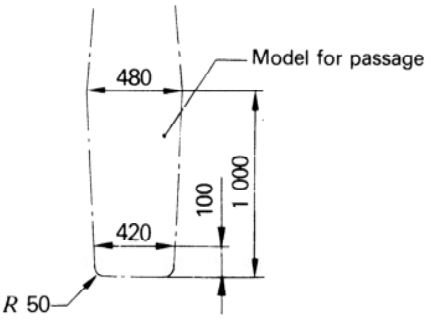
Dimensions in millimetres



a) Side view

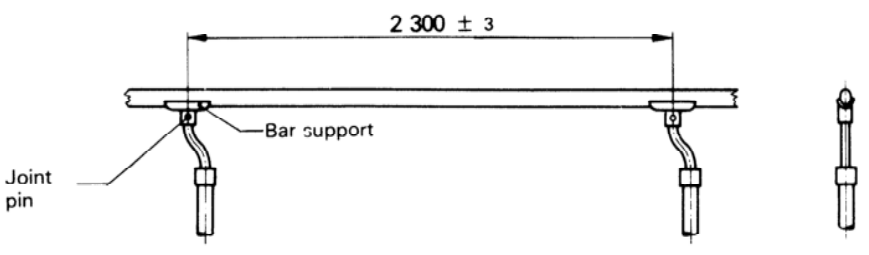
b) Front view



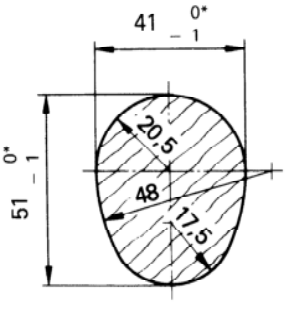


c) Section A-A

d) Model for passage



e) Bar support



* The tolerances of this dimension influence the radii.

f) Profile of bars

Figure 1 — Dimensions of parallel bars

5 Design

5.1 General requirements

All sharp edges, corners and rough surfaces which may cause injuries, shall be prohibited. The joint pins shall be secure and have no play. Screw heads and joint pins shall not project, in order to avoid all possibility of injury by contact with them.

5.2 Fixation of bars

The section of bars shall be constant along their length and shall not be reduced where they are fitted to the supports.

5.3 Deflection of bars

When loaded with a test force $F = 1\,350$ N in the centre of each of the bars, the bars being adjusted to a height of 1 750 mm, the bars shall have a deflection $f = 60 \pm 6$ mm. After removal of the load, the bars shall return to their original position.

An example of the method of test is given in figure 2.

5.4 Adjustment of bars

It shall be possible to adjust the height of the bars easily and safely by notches in steps of 50 mm.

For competitions the height of 1 750 mm is prescribed. It shall be possible to increase the height to 1 800 mm.

When the locking device is fastened, vertical and lateral adjustment shall no longer be possible. The locking device shall be doubly secured and so constructed that its efficiency will not be diminished during use.

5.5 Stability

The parallel bars, set at a height of 1 750 mm, not fixed to the floor, shall resist a horizontal test force $F = 900$ N without lifting. The test force shall be applied by means of two cables each 2 300 $\pm$ 15 mm long, attached to the points of support of the bars.

If the parallel bars do not pass the test, according to 5.5, a means of fixing the parallel bars to the floor shall be provided.

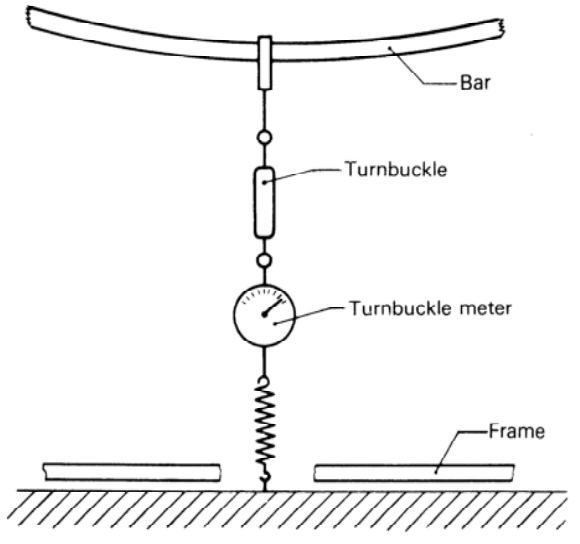


Figure 2 — Example for testing the deflection of the bars

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