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# International Standard



# 5902

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

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## Alpine skis — Determination of the elastic properties

*Skis alpins — Détermination des caractéristiques élastiques*

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**Descriptors** : sport equipment, alpine skis, elastic properties, tests, mechanical tests, bend tests, torsion tests, laboratory tests.

## Foreword

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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 5902 was developed by Technical Committee ISO/TC 83, *Sports and recreational equipment*, and was circulated to the member bodies in January 1978.

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

|                     |                       |            |
|---------------------|-----------------------|------------|
| Egypt, Arab Rep. of | Mexico                | Turkey     |
| France              | New Zealand           | USA        |
| Germany, F. R.      | Poland                | USSR       |
| India               | Romania               | Yugoslavia |
| Italy               | South Africa, Rep. of |            |

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

Austria

# Alpine skis — Determination of the elastic properties

## 1 Scope and field of application

This International Standard specifies laboratory measurement methods to determine the elastic properties of alpine skis. Its purpose is to calculate the resistance of defined parts of the ski to bending and torsion.

The standard measurement procedures are recommended in order to ensure comparability between laboratory measurement data, determined and published by ski manufacturers, institutions and others. In this International Standard no attempt is made to relate the measurement data to the quality of the ski.

## 2 Reference

ISO 5901, *Alpine skis — Geometry — Terms, definitions and measuring conditions*.

## 3 Definitions

For the purpose of this International Standard the following definitions apply.

**3.1 spring constant,  $c$**  : The ratio of the force  $F$  applied to the ski, to the corresponding deflection  $f$  :

$$c = \frac{F}{f}$$

Depending on the individual parts of the ski on which the force  $F$  is applied, one can define :

- the centre spring constant,  $c_M$ ;
- the shovel spring constant,  $c_S$ ;
- the rear spring constant,  $c_R$ ;
- the afterbody spring constant,  $c_A$ ;
- the forebody spring constant,  $c_B$ .

**3.2 spring constant balance,  $B$**  : The ratio of the afterbody spring constant,  $c_A$ , to the forebody spring constant,  $c_B$  :

$$B = \frac{c_A}{c_B}$$

**3.3 torsional spring constant,  $c_T$**  : The ratio of the torque applied to the ski to the corresponding torsion angle  $\alpha$ .

$$c_T = \frac{M}{\alpha}$$

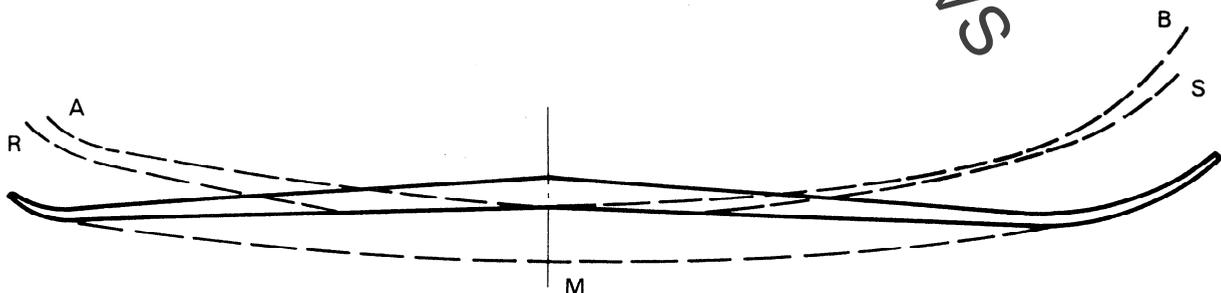


Figure 1 — Indices for spring constants