

INTERNATIONAL ISO
STANDARDS

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Protective clothing — Mechanical properties — Test method for the determination of the resistance to puncture and dynamic tearing of materials

Vêtements de protection — Propriétés mécaniques — Méthode d'essai pour la détermination de la résistance à la perforation et au déchirement dynamique des matériaux



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 13995 was prepared by the European Committee for Standardization (CEN) in collaboration with ISO Technical Committee TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 13, *Protective clothing*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this standard, read "...this European Standard..." to mean "...this International Standard...".

Annex A of this International Standard is for information only.

For the purposes of this International Standard, the CEN annex regarding fulfilment of European Council Directives has been removed.

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Foreword

The text of EN ISO 13995:2000 has been prepared by Technical Committee CEN/TC 162 "Protective clothing including hand and arm protection and lifejackets", the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 94 "Personal safety - Protective clothing and equipment".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2001, and conflicting national standards shall be withdrawn at the latest by June 2001.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

This European Standard test method is based on ASTM D 2582-90, "Standard test method for puncture-propagation tear resistance of plastic film and thin sheeting". The test has been modified to make it applicable to strong woven and knitted fabrics, coated fabrics and leather. The test is designed to assess the resistance to snagging and tearing of materials used for protective clothing. It is important to know the puncture and dynamic tear resistance of material used for protective clothing that is intended to be used in hazardous situations where the clothing forms a barrier between the wearer and the hazard, and breaching of the barrier can result in harm and the level of risk of harm is related to the size of hole resulting from the puncture and tear. Such clothing includes chemical and biological barrier clothing, spray suits, foul weather clothing and firefighting clothing.

Dynamic tearing of materials following puncture by a spike is a complex process. The test given in this European Standard has been devised to provide standard conditions under which materials can be compared. Experience with materials of known resistance will enable product standards writers and clothing designers to specify appropriate performance levels for particular end-uses. The standard provides for four performance levels.

It has been assumed in the drafting of this European Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people, for whose guidance it has been prepared. The apparatus described should only be used by competent persons and requires safeguards to prevent, as far as is reasonably practicable, injury to the operator and other persons.