

INTERNATIONAL  
STANDARD

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**Reinforcement fibres — Sampling plans  
applicable to received batches**

*Fibres de renfort — Méthodes d'échantillonnage pour le contrôle de  
réception de lots*



Reference number  
ISO 1886:1990(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 1886 was prepared by Technical Committee ISO/TC 61, *Plastics*.

This third edition cancels and replaces the second edition (ISO 1886:1980), of which it constitutes a technical revision.

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## Introduction

As indicated in the title, this International Standard is designed for received batches and not for inspection during manufacturing of a product. In the latter case, the manufacturer should have the necessary facilities available and a good knowledge of the product, thus allowing him to assure the quality through an appropriate control system.

For checking received batches, the customer has only limited information about a given product.

The sampling plans described hereafter are intended as "normal" plans, and require a certain number of results for the assessment of a batch to a given confidence level.

Other sampling plans, i.e. reduced or tightened plans, can be considered, depending on the product type, the application for which the product is intended, the test method and the degree of inspection required.

The choice of sampling plan and the extent of sampling depends on

- the knowledge of the product acquired by the customer during product qualification, plus information from routine inspections of received batches;
- the degree of confidence that the customer is prepared to accord the inspections undertaken by the manufacturer.

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# Reinforcement fibres — Sampling plans applicable to received batches

## 1 Scope

This International Standard specifies two methods of sampling — by attributes or by measurements (variables) — applicable to batches of reinforcement materials (in particular textile glass, carbon fibre and aramid fibre) in various forms (e.g. package, roll, bulk material). For both methods, this International Standard includes tables with acceptance and rejection criteria based on a given number of acceptable quality levels (AQLs) that are usually applied to the various reinforcement materials.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 472:1988, *Plastics — Vocabulary*.

ISO 2859-1:1989, *Sampling procedures for inspection by attributes — Part 1: Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection*.

ISO 3534:1977, *Statistics — Vocabulary and symbols*.

ISO 3951:1989, *Sampling procedures and charts for inspection by variables for percent nonconforming*.

## 3 Definitions

For the purposes of this International Standard, the definitions given in ISO 472, ISO 2859-1, ISO 3534 and ISO 3951 apply, plus the following definitions,

some of which are versions of definitions already published in ISO 3534, for instance, but reworded to suit the particular context of this International Standard.

**3.1 sampling plan:** A series of rules established to obtain, through the selection of a sample and its subsequent analysis, an evaluation which is as reliable as possible of the quality of a received batch, so as to determine, using criteria defined in the product specification, if this batch is acceptable.

For the purposes of this International Standard, two main sampling methods are considered: by attributes and by measurements (variables).

**3.2 elementary unit:** The smallest normally commercially available entity of a given product.

The description (form, dimensions, mass, etc.) of the elementary unit will normally be defined in the product specification. This unit may be supplied in one of several forms:

- package (single yarn, folded or cabled yarn, roving, etc.);
- roll (mat, woven fabric, veil, etc.);
- the smallest physical entity in a bulk product (e.g. chopped fibres, milled fibres).

NOTE 1 For a given product, the dimensions, mass or volume of the elementary unit may change, as fabrication techniques evolve, without necessarily causing any modification in the product properties or the way in which these properties vary throughout the elementary unit. As an example, while some years ago a bobbin of yarn had a weight of 2 kg, the same item can now be supplied as a 10 kg bobbin. In both cases, it is the bobbin which must be considered as the elementary unit.

**3.3 case:** The smallest conveniently handleable unit (i.e. a carton or other container), which may contain one or more elementary units of the same type and quality.