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INTERNATIONAL STANDARD 1139

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

Textiles — Designation of yarns

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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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, International Standard ISO 1139 replaces ISO Recommendation R 1139-1969 drawn up by Technical Committee ISO/TC 38, *Textiles*.

The Member Bodies of the following countries approved the Recommendation :

Australia	India	Portugal
Belgium	Iran	Romania
Canada	Ireland	South Africa, Rep. of
Chile	Israel	Spain
Czechoslovakia	Japan	Sweden
Denmark	Korea, Rep. of	Switzerland
Egypt, Arab Rep. of	Netherlands	Turkey
France	New Zealand	United Kingdom
Germany	Norway	U.S.A.
Hungary	Poland	U.S.S.R.

The Member Bodies of the following countries expressed disapproval of the Recommendation on technical grounds :

Brazil
Italy

Textiles – Designation of yarns

0 INTRODUCTION

The general introduction of the Tex System for expressing the linear density of yarns requires standardization of the notation for yarn construction. In designating yarns it has been customary – and it remains desirable – to reflect in a condensed form details of the components of a yarn including values of the linear densities, directions and amounts of twist, number of folds, etc. of these components and/or characteristics of the yarn resulting from this construction, such as its linear density indicated as *resultant linear density*.

The resultant linear density of folded and/or cabled yarns – in some cases with strong twisted filament yarns – will generally differ from the sum of the linear densities of the components and, even when starting from the same component yarns, using the same direction and amount of twist, number of folds, etc., yarns with different resultant linear densities may be produced due to differences in conditions during manufacturing of yarns, such as yarn tensions, types of machine used, moisture content of the yarns, atmospheric conditions, etc.

A yarn notation serves two purposes :

- a) it is used as a general indication of a yarn; in this case the values for linear densities, amounts of twist, etc. used in the yarn notation will be referred to as *nominal* values;
- b) it may be used for reporting the result of an analysis of a yarn; in this case the values derived from an authorised testing procedure for linear densities and amounts of twist used in the yarn notation will be referred to as *actual* values.

Attention is drawn to the fact that the application of the notation of yarns in the Tex System does not affect existing commercial practices in the trade.

Values of linear density and amount of twist used in commercial transactions are *nominal* unless explicitly stated as being actual.

Nominal linear densities and amounts of twist are subject to tolerances, the numerical values of which are usually agreed in the various branches of the textile industry or directly between seller and buyer.

In this International Standard two methods for the notation of yarns are specified, namely :

a) yarn notation starting from the linear density of the single yarn : it may be referred to as *single-to-fold notation*;

b) yarn notation starting from the linear density of the resultant yarn : it may be referred to as *fold-to-single notation*.

The symbols used in both systems are identical. The differences are in the order of presentation, the use of the multiplication sign (X) in the single-to-fold notation, and of the solidus (/) in the fold-to-single notation.

Distinction between these two methods does not apply to single spun yarns, monofilaments and multifilaments without twist, nor to multiple wound yarns. The notation of these yarns is given under the heading of the first method (see 4.1 and 4.2).

It is hoped that ultimately one method may be used to the exclusion of the other. In fact, ISO 858, dealing with yarns for fishing nets, employs only the single-to-fold method, although giving, in the abbreviations, only those items of information that are appropriate.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies two methods of indicating the composition of yarns, whether single, folded, cabled or multiple wound. The notation comprises linear density indicated in the Text System, number of filaments in filament yarns, direction and amount of twist, and number of folds.

This International Standard has not yet been extended to some special kinds of yarns, for example to fancy yarns, textured or bulked yarns or yarns produced by wrapping a textile or non-textile material round a core; nor does it deal with other features such as constituent fibres, after-treatment and type of package.

2 REFERENCES

ISO 2, *Textiles – Designation of the direction of twist in yarns and related products*.

ISO 858, *Netting yarns for fishing nets – Designation in the Tex System*.

ISO 1144, *Textiles – Universal system for designating linear density (Tex System)*.

ISO 2947, *Textiles – Integrated conversion table for replacing traditional yarn numbers by rounded values in the Tex System*.