

# BISFA

THE INTERNATIONAL BUREAU  
FOR THE STANDARDISATION OF  
MAN-MADE FIBRES

## **Testing methods viscose, modal, lyocell and acetate staple fibres and tows**

2004 EDITION  
(This edition replaces the 1995 edition)

## SCOPE

These rules apply to man-made fibres of cellulose, or cellulose acetate delivered by the producers in bulk as staple fibres or sliver or tow.

The main generic categories of fibres are:

- viscose
- modal
- lyocell
- acetate

These rules do not apply to flock, or short-cut fibres.

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## INTRODUCTION

This booklet replaces the 1995 edition. Updating and refinement of the BISFA methods for testing cellulosic staple fibres had become necessary to take account of product developments as well as significant improvements to the testing procedures.

The generic fibre categories cupro and triacetate have been removed as these are no longer produced in staple and tow form.

Recently BISFA has been engaged in a thorough review of its "Terminology" booklet, particularly the list of terms used in other BISFA booklets, and their definitions. Where relevant, the updated terms and definitions have been incorporated into this booklet, in Chapter 2 and throughout the text.

The sampling system has been revised to take account of modern principles of statistics for calculating the limits of the confidence interval for the consignment mean. This means, *inter alia*, that samples taken from different places in the container must now be tested separately.

In addition statistical methods have been defined and applied to some of the methods contained in this booklet to check precision.

The general arrangement of each of the chapters has been made more logical; great care has been taken to make the texts as uniform as possible in presentation, and the texts as a whole, easy to understand.

These improvements should ensure that the procedures recommended by BISFA in this booklet and in its other publications retain their position as the most useful and up-to-date internationally agreed testing methods for man-made staple fibres.

## PREFACE

One of the principal aims of BISFA as set out in the statutes is to establish, for man-made fibres, rules for classification and nomenclature and standard methods of test to serve as a basis for sound trading practice.

The methods of manufacture used for such fibres allow a variety of new materials to be produced and it is therefore becoming increasingly necessary to establish and standardise concepts, which will promote harmonious technical and commercial relationships both at the national and international level

As new fibre products appear, BISFA endeavours to establish suitable new rules and methods for them. These rules and methods, embody concepts acceptable to producers, users and testing establishments alike. They currently describe testing methods for checking goods upon receipt and include :

- the determination of the commercial mass, linear density, and tensile properties for all products and in addition, the length for staple fibres; the shrinkage and twist for filament yarns; the amount of dip for tyre cord yarns and the antibacterial properties for bioactive fibres.

maximum tolerances for commercial mass and for certain other fibre related properties

for example, linear density, twist, fibre length

- the conventional allowance used in the calculation of commercial mass

The methods that BISFA advocates for measuring the above properties are described in detail in the various BISFA methods booklets for each specific fibre to enable comparable results to be obtained between laboratories.

BISFA defines the commercial mass of a consignment in a manner which is independent of the state in which the material is delivered and, in particular, of fluctuations in the moisture content of the material. The procedure ensures that the buyer can know within narrow technical limits what he is paying for, whatever may be the actual moisture content of the material at the time of delivery.

BISFA bases its calculation of commercial mass upon the oven-dry mass of fibre material that, depending on the fibre type, is essentially free of extractable material, which may be present to assist fibre processing. (e.g. spin finish, lubricant, size, adhesive). The oven-dry mass is corrected by a numerical constant referred to as the conventional allowance (see Chapter 2, "Definitions").

The invoice mass, since it is independent of the actual moisture content, is consequently often different from the mass found upon weighing the goods as delivered.

The detailing of the methods of test given by BISFA would be of no value unless the samples measured could be considered as representative of the entire consignment. BISFA has, therefore, also provided a sampling procedure that is dependent on the number of containers in the consignment. Consequently, the results of tests according to BISFA methods are valid for the entire consignment and not for individual items i.e. single packages, bales, spools etc.

Attention is drawn to other BISFA publications, in particular the booklet "Terminology relating to man-made fibres".

Users of BISFA booklets are responsible for ensuring that the latest and complete edition of the appropriate booklet is employed.

