

International Standard



6836

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

ISO 6836-1983

Surface active agents — Mercerizing agents — Evaluation of the activity of wetting products for mercerization by determination of the shrinkage rate of cotton

Agents de surface — Adjuvants de mercerisage — Évaluation de l'activité des produits mouillants pour mercerisage par détermination de la vitesse de rétraction du coton

First edition — 1983-02-01

1983-02-01

UDC 661.185.7 : 620.1 : 677.017.635

Ref. No. ISO 6836-1983 (E)

Descriptors : surfactants, tests, determination, wettability, mercerizing, shrinkage, cotton spun yarns, test equipment.

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 6836 was developed by Technical Committee ISO/TC 91, *Surface active agents*, and was circulated to the member bodies in March 1982.

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

Austria	Iran	Poland
Egypt, Arab Rep. of	Italy	Romania
France	Japan	Spain
Germany, F. R.	Mexico	Switzerland
Hungary	Netherlands	USSR

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

Belgium

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0 Introduction

The effectiveness of strongly alkaline mercerizing liquor used for mercerization (or causticization) depends, amongst other things, on the rapidity with which the sodium hydroxide solution impregnates the material and penetrates into the cellulose fibre the swelling of which causes shrinkage in the longitudinal direction of the fibre under tension which is transmitted to the material and allows the mercerization effect as such to be achieved. In order to shorten the time required for penetration by the sodium hydroxide solution, special wetting agents are added to the mercerizing or causticizing liquor.

1 Scope and field of application

This International Standard specifies a method for evaluating the activity of wetting products for mercerization by determination of the shrinkage rate of cotton threads.

The method is only applicable to mercerizing or causticizing baths.

2 Reference

ISO 607, *Surface active agents and detergents — Methods of sample division*.

3 Definitions

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

3.1 mercerizing agent : A product used to improve the wetting power of mercerizing liquor and thus to speed up its uniform penetration into the fibres.

3.2 shrinkage rate : Modification of the length of the cotton yarn, expressed in millimetres per second under the influence of the mercerizing liquor.

4 Principle

Immersion in the liquor containing the agent being studied of a hank of smooth cotton held by a hook and with a weight fixed on the end of it.

Determination of the shrinkage of the hank at different intervals of time using one of the two pieces of apparatus described.

5 Reagents

During the test, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity.

5.1 Sodium hydroxide solution, ρ_{20} 1,24 g/ml.

Dissolve 270 g of sodium hydroxide in 1 litre of water.

NOTE — For each agent to be examined 1,5 litres of sodium hydroxide solution are required.

6 Apparatus and material

6.1 Cotton yarn, the type and designation of which are exactly defined in the test report. For comparative tests, see the note.

NOTE — As the shrinking ability depends upon the type of raw cotton, the fineness of the yarn (tex number), its twist and also, possibly, on the type of twist, comparative tests should only be carried out on one and the same yarn. Tests with different yarns of the same type but from different consignments or from different sources may give divergent values.

6.1.1 Preparation of the hanks of yarn

Using a winder with a perimeter of 1 m under the lowest possible tension, make the number of revolutions necessary to obtain a test hank of mass $1 \pm 0,2$ g. Then remove this hank from the winder, still without tension, and fold it in two so that it is approximately 24 cm in length.