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Silk — Electronic test method for defects and evenness of raw silk

Soie — Méthode d'essai électronique pour les défauts et la régularité de la soie brute

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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.

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 38, *Textiles*, Subcommittee SC 23, *Fibres and yarns*.

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Introduction

Seriplane test is currently used to test defects and evenness of raw silk. The test is carried out in an inspection room with a special lighting system. Due to the difference of the coverage area of the threads on the board, and the penetration and reflection of the light, the evenness or stripes, cleanness, and neatness can be visually judged by comparing the Seriplane boards with the standard photos.

The capacitive tester for raw silk detects the electrical capacitance variation correlated with the mass variation of the silk thread when running through the sensor split having a certain length. The dimension and classification of defects are defined by setting the parameters of mass variation.

The optical tester detects the photometric variation of the shadow of silk thread correlated with the cross sectional area variation of the thread. The dimension and classification of defects are defined by setting the parameters of cross sectional area variation. The optical tester can detect the shape of defects that cannot be done by capacitive tester, but the later tester can detect the evenness of the raw silk precisely, thus the two kinds of tests give to some extent parallel information (defects are detected and counted with both sensors) but give also complementary information not available with a single sensor alone.

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Silk — Electronic test method for defects and evenness of raw silk

1 Scope

This International Standard specifies a test method for defects and evenness of raw silk by capacitive and optical electronic testers.

This International Standard is applicable to raw silk with the yarn size between 13,3 dtex and 76,7 dtex or 12 denier and 69 denier, whether in skein or on cone, soaked or unsoaked.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 2060, *Textiles — Yarn from packages — Determination of linear density (mass per unit length) by the skein method*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
raw silk
silk filament yarn formed by conglutinating a number of bombyx mori cocoon baves by reeling machine according to a certain reeling technique and quality requirement

3.2
soaked silk
raw silk soaked in a formulation of additives according to a technical requirement

3.3
electronic test method
method for evaluating the defects and evenness by using capacitive and optical testers

3.4
slub
for the capacitive method, the defect whose length is equal to or greater than 1 mm and whose mass surpasses 80 % of the average mass of the testing sample; for the optical method, the defect whose length is equal to or greater than 1 mm and whose cross-sectional area surpasses 80 % of the average cross-sectional area of the testing sample

Note 1 to entry: Slub can be classified into big slub and small slub, which can be referred to A.1.1.

3.5
thick place
for the capacitive method, the defect whose length is equal to or greater than 10 mm and whose mass surpasses 35 % to 80 % of the average mass of the testing sample; for the optical method, the defect whose length is equal to or greater than 10 mm and whose cross-sectional area surpasses 30 % to 80 % of the average cross-sectional area of the testing sample

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