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Series 4

Série des 4

WITHDRAWAL

March 2019

Selected standards in the series Textiles

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RETRAIT

Mars 2019

Sélection de normes de la série Textiles

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CAN/CGSB-4.2

Textile test methods

No. 4.5-M86

Retail packages of yarn — Determination of mass (ICS 59.080.20)

No. 5.2-M87

Linear density of yarn in SI units (ICS 59.080.20)

No. 9.2-M90

Breaking strength of fabrics — Grab method **—** Constant-time-to-break principle (ICS 59.080.30)

No. 9.3-M90

Breaking strength of high-strength fabrics — Constant-time-to-break principle (ICS 59.080.30)

No. 9.4-M91

Breaking strength of yarns — Single strand method (ICS 59.080.20)

No. 9.5-M89

Breaking strength of yarns — Skein method (ICS 59.080.20)

No. 9.6-93

Breaking strength of nonwoven textiles (ICS 59.080.30)

CAN/CGSB-4.2

Méthodes pour épreuves textiles

Nº 4.5-M86

Bobines de fil vendues au détail — Détermination de la masse (ICS 59.080.20)

Nº 5.2-M87

Masse linéique du fil en unités SI (ICS 59.080.20)

Nº 9.2-M90

Résistance à la rupture des tissus — Méthode d'arrachement — Principe de rupture à temps constant (ICS 59.080.30)

Nº 9.3-M90

Résistance à la rupture des tissus de haute résistance — Principe de rupture à temps constant (ICS 59.080.30)

Nº 9.4-M91

Résistance à la rupture des fils — Méthode à fil simple (ICS 59.080.20)

Nº 9.5-M89

Résistance à la rupture des fils — Méthode de l'écheveau (ICS 59.080.20)

Nº 9.6-93

Résistance à la rupture des non-tissés (ICS 59.080.30)

No. 10-M87

Elongation (ICS 59.080.30)

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Colourfastness to perspiration (ICS 59.080.01)

No. 25.2-M89

Dimensional change of textile fabrics to open-head steaming (ICS 59.080.30)

No. 26.1-M88

Water resistance — Static head penetration test (ICS 59.080.01)

No. 26.5-M89

Water resistance — High-pressure penetration test (ICS 59.080.30)

No. 28.2-M91

Resistance to micro-organisms — Surface-growing fungus test — Pure culture (ICS 59.080.01)

No. 28.4-M91

Resistance to micro-organisms — Fungus damage test — Pure culture — Qualitative (ICS 59.080.01)

No. 30.1-M89

Effect of solvents on the permanence of textile finishes (ICS 59.080.01)

No. 32.1-98

Resistance of woven fabrics to seam slippage (ICS 59.080.01)

Nº 10-M87

Allongement (ICS 59.080.30)

Nº 23-M90

Solidité de la couleur à la sueur (ICS 59.080.01)

Nº 25.2-M89

Changement dimensionnel des textiles à l'aide d'une presse à plateau inférieur vaporisant (ICS 59.080.30)

Nº 26.1-M88

Résistance à l'eau — Essai de pénétration sous pression constante (ICS 59.080.01)

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Résistance aux micro-organismes — Essai par fongus se propageant en surface — En culture pure (ICS 59.080.01)

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Effet des solvants sur la permanence des apprêts textiles (ICS 59.080.01)

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No. 45-M88

Textile fabrics — Determination of the recovery from creasing of a horizontally folded specimen by measuring the angle-of-recovery (ICS 59.080.01)

No. 49-99

Resistance of materials to water vapour diffusion (ICS 59.080.01)

No. 55-M90

Loss in strength and colour change of fabrics due to retained chlorine (ICS 59.080.01)

No. 56.1-M87

Unidirectional extension and recovery properties of elastic fabrics (ICS 59.080.30)

No. 60-M89

Resistance to snagging — Mace test (ICS 59.080.01)

No. 65-M91

Determination of strength of bonds of bonded, laminated and fused fabrics (ICS 59.080.10)

Nº 35.1-M90

Solidité de la couleur aux produits de combustion des gaz (ICS 59.080.01)

Nº 37-2002

Épaisseur des tissus (ICS 59.080.30)

Nº 42-M91

Teneur en cuivre des textiles (ICS 59.080.01)

Nº 45-M88

Étoffes — Détermination de l'auto-défroissabilité d'un spécimen plié horizontalement par mesurage de l'angle rémanent après pliage (ICS 59.080.01)

Nº 49-99

Résistance des textiles à la diffusion de vapeur d'eau (ICS 59.080.01)

Nº 55-M90

Perte de résistance et changement de couleur des tissus causés par la rétention de chlore (ICS 59.080.01)

Nº 56.1-M87

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Nº 60-M89

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Nº 65-M91

Détermination de la résistance du liage des tissus contre-collés, stratifiés et thermocollés (ICS 59.080.10)

No. 66-M91

Dimensional change and appearance after dry cleaning of coated, bonded, laminated and fused fabrics (ICS 59.080.40)

Nº 66-M91

Évaluation du changement dimensionnel et de l'aspect des tissus enduits, contre-collés, stratifiés et thermocollés à la suite de nettoyages à sec (ICS 59.080.40)

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Weather resistance — Xenon arc radiation (ICS 59.080.10)

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No. 78.1-2001

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Nº 78.1-2001

Évaluation de la protection thermique des matériaux de confection des vêtements (ICS 59.080.01)

CAN/CGSB-4.155-M88

Flammability of soft floor coverings — Sampling plans (ICS 59.080.60)

CAN/CGSB-4.155-M88

Résistance à l'inflammation des revêtements de sol mous — Plans d'échantillonnage (ICS 59.080.60)

CAN/CGSB-4.158-75

Designation of yarns (ICS 59.080.20)

CAN/CGSB-4.158-75

Désignation des fils (ICS 59.080.20)

CAN/CGSB-4.159-75

Universal system for designating linear density (Tex system) (ICS 59.080.20)

CAN/CGSB-4.159-75

Système universel de désignation de la masse linéique (système Tex) (ICS 59.080.20)

CAN/CGSB-4.160-75

Integrated conversion table for replacing traditional yarn numbers by rounded values in the Tex system (ICS 59.080.20)

CAN/CGSB-4.160-75

Table générale de conversion pour le remplacement des titres traditionnels des fils par des valeurs arrondies du système Tex (ICS 59.080.20)

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CAN/CGSB-4.2
No. 42-M91

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Method 42
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Textile test methods

Copper content of textiles

ICS 59.080.01

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NATIONAL STANDARD OF CANADA

CAN/CGSB-4.2
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Textile test methods

Copper content of textiles

CETTE NORME NATIONALE DU CANADA EST DISPONIBLE EN VERSIONS FRANÇAISE ET ANGLAISE.

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CAN/CGSB-4.2
No. 42-M91

Supersedes CAN/CGSB-4.2
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Preface to the National Standard of Canada

This National Standard of Canada has been extended and reaffirmed by the CGSB Committee on Textile Test Methods and Terminology. Editorial changes have been made by the correction of the following paragraph:

8.1 **Source of Referenced Publications** — The publications referred to in par. 3.1.1 may be obtained from the Canadian General Standards Board, Sales Centre, Gatineau, Canada K1A 1G6. Telephone 819-956-0425 or 1-800-665-2472. Fax 819-956-5740. E-mail ncr.cgsb-ongc@tpsgc-pwgsc.gc.ca. Web site www.tpsgc-pwgsc.gc.ca/ongc-cgsb.

National Standard of Canada

CGSB Ottawa Canada K1A 1G6	TEXTILE TEST METHODS	CAN/CGSB-4.2
	Copper Content of Textiles	No. 42-M91

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1. PURPOSE AND SCOPE

1.1 This method determines the amount of copper in textile materials using flame atomic absorption.

1.2 The testing and evaluation of a product against this method may require the use of materials and/or equipment that could be hazardous. This document does not purport to address all the safety aspects associated with its use. Anyone using this method has the responsibility to consult the appropriate authorities and to establish appropriate health and safety practices in conjunction with any existing applicable regulatory requirements prior to its use.

2. PRINCIPLE

2.1 The textile is ashed and residue dissolved in nitric acid. The atomic absorption of this solution is compared with a graph of the absorbance of standard copper solutions plotted against concentration of copper. The copper content of the textile is then calculated.

3. APPLICABLE PUBLICATIONS

3.1 The following publications are applicable to this method:

3.1.1 Canadian General Standards Board (CGSB)

CAN/CGSB-4.2 — Textile Test Methods:

No. 1-M — Precision and Accuracy of Measurements

No. 2-M — Conditioning Textile Materials for Testing.

3.2 Reference to the above publications is to the latest issues, unless otherwise specified by the authority applying this method. The source for these publications is shown in the Notes section.

4. APPARATUS AND REAGENTS

4.1 **Double Beam Atomic Absorption Spectrophotometer.**

4.2 **Nitric acid, concentrated:** relative density 1.421 at 20°C.

4.3 **Distilled** or **deionized water.**

5. TEST SPECIMENS

5.1 A minimum of two specimens shall be taken, at least 1 g each, representative of the material being tested (Note 1). In cases of dispute, the material shall be conditioned in accordance with CAN/CGSB-4.2 No. 2-M.

Note 1: If the precision with which the copper content to be determined is specified, refer to CAN/CGSB-4.2 No. 1-M for procedures to determine the number of test specimens required. If this is unknown, at least two specimens shall be taken as indicated.

6. PROCEDURE

6.1 Accurately determine the mass of each specimen, place it in a porcelain or silica dish and ash it, as far as possible, over a small flame. Complete the ashing in a muffle furnace at approximately 600°C. Dissolve the residue in 25 mL concentrated nitric acid. Filter the mixture into 100 mL volumetric flask, rinsing it with sufficient deionized water to insure complete transfer. Make up the 100 mL with deionized water.

6.2 Prepare at least three standard solutions containing known copper concentrations.

6.3 Install a copper lamp in the spectrophotometer. Set the wave length at 324.7 nm, the slit opening at 0.7 nm and adjust the air/acetylene ratio to obtain a lean flame.

6.4 Measure the absorption values of the standards and prepare a calibration curve, plotting absorption against copper content.

6.5 Measure the absorption of the specimen solution.

6.6 From the calibration curve, determine the copper content of the specimen and calculate the percentage of copper based on the original mass of the specimen.

7. REPORT

Report the following information:

7.1 The percentage of copper for each specimen and the average percentage copper.

7.2 State of the specimen, i.e., in equilibrium with ambient air or conditioned in accordance with CAN/CGSB-4.2 No. 2-M.

7.3 The number of this method: CAN/CGSB-4.2 No. 42-M91.

8. NOTES

8.1 **Source of Referenced Publications** — The publications referred to in par. 3.1.1 may be obtained from the Canadian General Standards Board, Sales Unit, Ottawa, Canada K1A 1G6. Telephone (819) 956-0425 or 956-0426. Fax (819) 956-5644.