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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

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CAN/CGSB-4.2

Textile test methods

No. 0-2001

Moisture regain values, SI units used in CAN/CGSB-4.2 and fibre, yarn, fabric, garment and carpet properties (ICS 59.080.01)

No. 1-M87

Precision and accuracy of measurements (ICS 59.080.01)

No. 2-M88

Conditioning textile materials for testing (ICS 59.080.01)

No. 3-M88

Determination of moisture in textiles (ICS 59.080.01)

No. 5.1-M90

Unit mass of fabrics (ICS 59.080.30)

No. 9.1-M90

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

CAN/CGSB-4.2

Méthodes pour épreuves textiles

Nº 0-2001

Valeurs de reprise d'humidité, unités SI utilisées dans CAN/CGSB-4.2 et propriétés des fibres, fils, tissus, articles d'habillement et tapis (ICS 59.080.01)

Nº 1-M87

Précision et exactitude des mesures (ICS 59.080.01)

Nº 2-M88

Conditionnement des textiles pour fins d'essais (ICS 59.080.01)

Nº 3-M88

Détermination de l'humidité dans les textiles (ICS 59.080.01)

Nº 5.1-M90

Masse des tissus (ICS 59.080.30)

Nº 9.1-M90

Résistance à la rupture des tissus — Méthodes des bandes effilochées — Principe de rupture à temps constant (ICS 59.080.30)

No. 11.1-94

Bursting strength — Diaphragm pressure test (ICS 59.080.30)

No. 11.2-M89

Bursting strength — Ball burst test (ICS 59.080.30)

No. 15-2003

Non-fibrous materials on textiles (ICS 59.080.01)

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No. 20-M89

Colourfastness to water (ICS 59.080.01)

No. 21-M90

Colourfastness to sea water (ICS 59.080.01)

No. 22-2004

Colourfastness to rubbing (crocking) (ICS 59.080.01)

No. 24-2002

Colourfastness and dimensional change in commercial laundering (ICS 59.080.01)

No. 25.1-97

Dimensional change in wetting (ICS 59.080.01)

Nº 11.1-94

Résistance à l'éclatement — Essai à l'éclatomètre à membrane (ICS 59.080.30)

Nº 11.2-M89

Résistance à l'éclatement — Essai d'éclatement à la bille (ICS 59.080.30)

Nº 15-2003

Matières non fibreuses sur les textiles (ICS 59.080.01)

Nº 19.1-2004

Solidité de la couleur au lavage — Essai de vieillissement accéléré — Appareil Launder-Ometer (ICS 59.080.01)

Nº 20-M89

Solidité de la couleur à l'eau (ICS 59.080.01)

Nº 21-M90

Solidité de la couleur à l'eau de mer (ICS 59.080.01)

Nº 22-2004

Solidité de la couleur au frottement (Dégorgement par frottement) (ICS 59.080.01)

Nº 24-2002

Solidité de la couleur et changement dimensionnel au blanchissage commercial (ICS 59.080.01)

Nº 25.1-97

Variation dimensionnelle au trempage dans l'eau (ICS 59.080.01)

No. 33-94

Methods of pressing (ICS 59.080.30)

No. 36-M89

Air permeability (ICS 59.080.01)

No. 57-M90

Determination of maximum safe ironing temperature (ICS 59.080.01)

Nº 33-94

Méthodes de pressage (ICS 59.080.30)

Nº 36-M89

Perméabilité à l'air (ICS 59.080.01)

Nº 57-M90

Détermination de la température maximale de repassage (ICS 59.080.01)

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CAN/CGSB-4.2
No. 0-2001

Supersedes CAN/CGSB-4.2
No. 0-M88
Reaffirmed
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ICS 59.080.01

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NATIONAL STANDARD OF CANADA

CAN/CGSB-4.2
No. 0-2001

Supersedes CAN/CGSB-4.2
No. 0-M88
Reaffirmed
November 2013

Textile test methods

Moisture regain values, SI units used in CAN/CGSB-4.2 and fibre, yarn, fabric, garment and carpet properties

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

Prepared by the
Canadian General Standards Board

Approved by the
Standards Council of Canada
Conseil canadien des normes

Published May 2001 by the
Canadian General Standards Board
Gatineau, Canada K1A 1G6

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Acknowledgment is made for the translation of this National Standard of Canada by the Translation Bureau of Public Works and Government Services Canada.

CAN/CGSB-4.2
No. 0-2001

Supersedes CAN/CGSB-4.2
No. 0-M88
Reaffirmed
November 2013

Preface to the National Standard of Canada

This National Standard of Canada has been reaffirmed by the CGSB Committee on Textile Test Methods and Terminology. It is published without editorial changes.

National Standard of Canada

CGSB Ottawa Canada K1A 1G6	TEXTILE TEST METHODS	CAN/CGSB-4.2
	Canadian Commercial Moisture Regain Values[1]	**No. 0-2001** **Table 1**

Supersedes Table 1, CAN/CGSB-4.2
No. 0-M88
Reaffirmed
November 2013

For a comprehensive view of Table 1, refer to the following pages.

[1] *These values reflect those in ASTM D 1909-96, Standard Table of Commercial Moisture Regains for Textile Fibers.*

Fibre	Regain Value, %
Acetate	6.5
Acrylic	1.5
Aramid for	[a]
plastic reinforcement	3.5
filtration fabrics and safety apparel	4.5
reinforcement of rubber goods	7.0
Azlon	10.0
Cotton	
raw cotton	[b]
natural cotton yarn	7.0[c]
dyed cotton yarn	8.0[c]
mercerized cotton yarn	8.5[c]
Flax	
raw	12.0[d]
linen	8.75
Fluorofibre	0.0
Glass	0.0
Hemp	12.0[d]
Jute	13.75[d]
Metallic	0.0
Modacrylic[e]	
class I	0.4
class II	2.0
class III	3.0
Nylon (polyamide)	4.5
Olefin	0.0
Polyester	0.4
Ramie	
raw	7.6
scoured	7.8
Rayon (regenerated cellulose)	11.0
Rubber	0.0
Saran	0.0
Silk	11.0
Spandex	1.3
Triacetate (primary)	3.5

Fibre	Regain Value, %
Vinal	4.5
Vinyon	0.0
Wool (all forms)	13.6[f, g]

[a] *Aramid polymers are manufactured for specific but diverse end uses and have nominal regains that vary in the range 1.5 to 7.0%. The values listed in the table are the commercial regains of fibres currently produced.*

[b] *There is no commercial regain value for raw cotton in U.S. trade. The value specified in Rule 15 of the Egyptian sales contracts and in Rule 105 of the Liverpool sales contract for Egyptian and Syrian cotton is 8.5. The value 8.5 is also used customarily for the cotton components of blends containing cotton in the process of performing quantitative analysis.*

[c] *Commercial Standard CS11-63, which is issued by the National Bureau of Standards, recommends these values to be used for cotton yarns by dyers and finishers.*

[d] *These values are the official commercial regains listed in British Standards Handbook 11, Methods of Test for Textiles, Section 1, 1963.*

[e] *Class III modacrylic fibres include such fibres as Verel modacrylic fibre. Class II includes such fibres as SEF modacrylic fibre. Class I modacrylic fibres inclued all other modacrylic fibres.*

[f] *A moisture content of 12.0%, which is equal to the moisture regain of 13.6, has been recommended for all wool yarns in Practice D2118. However, certain other regain values are commonly used. Other values, which should perhaps be classified as commercial allowance values, are listed below for information only.*

Woolen yarn *13.0*

Woolen hand knitting yarn *11.1*

Worsted yarn (dry spun) *15.0*

Worsted yarn (oil spun) *13.0*

[g] *For the commercial moisture contents of wools to which various specific commercial designations are applied, see Recommended Practice D2720.*

CGSB Ottawa Canada K1A 1G6	TEXTILE TEST METHODS	CAN/CGSB-4.2
	SI Units Used in CAN/CGSB-4.2	No. 0-2001 Table 2

Supersedes Table 2, CAN/CGSB-4.2
No. 0-M88
Reaffirmed
November 2013

For a comprehensive view of Table 2, refer to the following pages.

Property to be Measured	Non-SI Unit	Conversion Factor	SI Unit	SI Symbol
Air permeability	cubic foot of air per square foot of fabric per minute	× 0.508	cubic centimetre of air per square centimetre of fabric per second	$cm^3/cm^2 \cdot s$
Area	square inch	× 6.451 6	square centimetre	cm^2
	square foot	× 0.092 903 04	square metre	m^2
	square yard	× 0.836 127 4	square metre	m^2
Capacity	gallon (Canadian)	× 4.546 090	litre	L (1 L = 1 dm^3)
	gallon (U.S.)	× 3.785 412	litre	L
	fluid ounce	× 28.413 062	cubic centimetre	cm^3
Density	pound per cubic foot	× 16.018 46	kilogram per cubic metre	kg/m^3
	pound per cubic inch	× 27.679 90	gram per cubic centimetre	g/cm^3
Fluidity	reciprocal poise	× 0.1	reciprocal pascal second	$(Pa \cdot s)^{-1}$
Force	pound-force	× 4.448 222	newton	N
Length	foot	× 0.304 8	metre	m
	inch	× 2.54	centimetre	cm
	inch	× 25.4	millimetre	mm
	yard	× 0.914 4	metre	m
Light: illuminance	foot candle lumen per square foot	× 10.763 91	lux	lx
Mass	grain	× 64.798 91	milligram	mg
	ounce (avoirdupois)	× 28.349 523	gram	g
	pound (avoirdupois)	× 0.453 592 37	kilogram	kg
Mass per unit area	ounce per square yard	× 33.905 7	gram per square metre	g/m^2
Pressure or stress (force per unit area)	pound force per square inch (psi)	× 6.894 757	kilopascal	kPa
Temperature	degree Fahrenheit	Celsius temperature $= \frac{°F-32}{1.8}$	degree Celsius	°C
Time	hour		hour	h
	minute		minute	min
	second		second	s
Velocity (speed)	foot per second	× 0.304 8	metre per second	m/s
	inch per second	× 0.025 4	metre per second	m/s
Volume	cubic inch	× 16.387 064	cubic centimetre	cm^3
	cubic foot	× 28.316 85	cubic decimetre	dm^3
	cubic yard	× 0.764 555	cubic metre	m^3
Volume rate of flow	cubic inch per second	× 16.387 1	cubic centimetre per second	cm^3/s
	cubic inch per minute	× 0.273 117 7	cubic centimetre per second	cm^3/s
	cubic inch per second	× 28.316 85	cubic decimetre per second	dm^3/s
	cubic inch per minute	× 0.471 947 4	cubic decimetre per second	dm^3/s
Wavelength	angstrom	× 0.1	nanometre	nm

CGSB Ottawa Canada K1A 1G6	TEXTILE TEST METHODS	CAN/CGSB-4.2
	Fibre, Yarn, Fabric, Garment and Carpet Properties	**No. 0-2001** **Table 3**

Supersedes Table 3, CAN/CGSB-4.2
No. 0-M88
Reaffirmed
November 2013

Table 3 is composed of the following three sections:

a. Fibre and Yarn Properties

b. Fabric and Garment Properties

c. Carpet Properties.

For a comprehensive view of these three sections, refer to the following pages.

a. Fibre and Yarn Properties

Property to be Measured	Non-SI Unit	Conversion Factor	SI Units and Other Terms and Units to be used with SI	Symbol
Bending/Twisting rigidity	gram-force square millimetre	× 9.81	millinewtons square millimetre	$mN \cdot mm^2$
Breaking strength	pound-force	× 4.45	newton	N
	gram-force	× 9.81	millinewton	mN
Initial modulus	gram-force per denier at 100% extension	× 88.3	millinewtons per tex at 100% extension	mN/tex 100% ext.
Linear density	various yarn numbering systems	[a]	tex	tex
Tenacity or yarn tension	gram-force per denier	× 88.3	millinewtons per tex	mN/tex
	gram-force per denier	× 8.83	centinewtons per tex	cN/tex
	gram-force per denier	× 0.883	centinewtons per decitex	cN/dtex
	gram-force per denier	× 8.83	millinewtons per decitex	mN/dtex
Twist	turns per inch	× 39.37	turns per metre	turns/m
	turns per inch	× 0.393 7	turns per centimetre	turns/cm
Twist factor	$\frac{\text{turns per inch}}{\sqrt{\text{cotton count}}}$	× 9.57	(turns per centimetre) × $\sqrt{\text{tex}}$	(turns/cm) × $\sqrt{\text{tex}}$
Work of rupture	gram-force centimetre	× 0.009 81	newton centimetre	N·cm

[a] *See Guide to Metric Conversion for Textiles, par. 3.3.4.*

b. Fabric and Garment Properties

Property to be Measured	Non-SI Unit	Conversion Factor	SI Units and Other Terms and Units to be used with SI	Symbol
Bond peel strength	gram-force per inch-width	× 0.003 86	newtons per centimetre-width	N/cm width
Bursting pressure	pounds-force per square inch	× 6.89	kilopascal	kPa
Cover factor (woven fabrics)	$\frac{\text{threads per inch}}{\sqrt{\text{cotton count}}}$	× 9.57	threads per centimetre × $\sqrt{tex}$	(threads/cm) × $\sqrt{tex}$ or (threads/cm)·(tex)$^{1/2}$
Knitted fabric thread counts				
wales	wales per inch	× 0.394	wales per centimetre	wales/cm
courses	courses per inch	× 0.394	courses per centimetre	courses/cm
Mass per unit area	ounces per square yard	× 33.9	grams per square metre	g/m^2
Sewing	stitches per inch	× 0.394	stitches per centimetre	stitches/cm
Stitch and course length	inch	× 25.4	millimetre	mm
Stitch density (knitting)		× 0.115	stitches/cm^2	stitches/cm^2
Tearing strength, seam strength or breaking strength	pound-force	× 4.45	newton	N
Woven fabric thread counts				
warp	ends per inch	× 0.394	ends per centimetre	ends/cm
weft (filling)	picks per inch	× 0.394	picks per centimetre	picks/cm

c. Carpet Properties

Property to be Measured	Non-SI Unit	Conversion Factor	SI Units and Other Terms and Units to be used with SI	Symbol
Bond peel strength	pounds-force	× 4.45	newtons	N
Foam density	pounds per cubic foot	× 16.018	kilograms per cubic metre	kg/m^3
Length	yards	× 0.914 4	metres	m
Pattern repeat	inches per repeat	× 2.54	centimetres per repeat	cm/repeat
Pile density	kilotex per square centimetre		kilotex per square centimetre	$ktex/cm^2$
Pile height	inches	× 25.4	millimetres	mm
Pitch (gauge or columns)	(units) per inch	× 3.937	(units) per ten centimetres	(units)/10 cm
Precoat	ounces per square yard	× 33.905 7	grams per square metre	g/m^2
Prime carrier	ounces per square yard	× 33.905 7	grams per square metre	g/m^2
Rows (stitches)	rows per inch	× 3.937	rows per ten centimetres	rows/10 cm
Secondary backing	ounces per square yard	× 33.905 7	grams per square metre	g/m^2
Shipping mass	pounds	× 0.453 592	kilograms	kg
Total loop length	inches	× 25.4	millimetres	mm
Tuft bind	pounds-force	× 4.45	newtons	N
Tuft density	tufts per square yard	× 0.011 96	tufts per hundred square centimetres	$tufts/100\ cm^2$
Yarn size (linear density)	various	[a]	tex	tex
Width	feet	× 30.48	centimetres	cm

[a]*See Guide to Metric Conversion for Textiles, par. 3.3.4.*