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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. 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 11.1-94

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

No. 11.2-M89

Bursting strength — Ball burst test (ICS 59.080.30)

Nº 11.2-M89

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

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Non-fibrous materials on textiles (ICS 59.080.01)

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Matières non fibreuses sur les textiles (ICS 59.080.01)

No. 19.1-2004

Colourfastness to washing — Accelerated test — Launder-Ometer (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

Colourfastness to water (ICS 59.080.01)

Nº 20-M89

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

No. 21-M90

Colourfastness to sea water (ICS 59.080.01)

Nº 21-M90

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

No. 22-2004

Colourfastness to rubbing (crocking) (ICS 59.080.01)

Nº 22-2004

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

No. 24-2002

Colourfastness and dimensional change in commercial laundering (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

Dimensional change in wetting (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 33-94

Méthodes de pressage (ICS 59.080.30)

No. 36-M89

Air permeability (ICS 59.080.01)

Nº 36-M89

Perméabilité à l'air (ICS 59.080.01)

No. 57-M90

Determination of maximum safe ironing temperature (ICS 59.080.01)

Nº 57-M90

Détermination de la température maximale de repassage (ICS 59.080.01)

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Textile test methods

Methods of pressing

ICS 59.080.30

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NATIONAL STANDARD OF CANADA

CAN/CGSB-4.2
No. 33-94

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Textile test methods

Methods of pressing

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

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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:

7.1 **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
	Methods of Pressing	No. 33-94

Supersedes CAN/CGSB-4.2
Nos. 33-M86, 33.1-M86,
33.2-M86, 33.3-M86 and 33.4-M86
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1. PURPOSE AND SCOPE

1.1 Finishing

1.1.1 This method contains procedures for finishing (smoothing) fabric after washing or dry cleaning. Three principal methods of pressing and a procedure for restoration after dimensional change are described. These procedures are usually used as follows:

1.1.1.1 *Ironing* — This method is applicable to washable fabrics. Such fabrics generally consist of cotton, linen, silk, acetate, rayon, most synthetic fibres, or mixtures of these. Washable fabrics consisting wholly or chiefly of wool may be ironed, but are preferably steam-pressed.

1.1.1.2 *Steam Pressing* — This method is applicable to washable fabrics consisting wholly or chiefly of wool, and to other fabrics such as silk, acetate, rayon, most synthetic fibres, or mixtures thereof, that are normally processed in dry cleaning establishments (includes wet and dry cleaning).

1.1.1.3 *Steaming* — This method is applicable to pile fabrics and certain other materials which should not be compressed, e.g. insulation battings.

1.1.1.4 *Tension pressing* — This method describes a procedure intended to recover non-permanent dimensional change which can be present in some specimens after normal cleansing and pressing procedures. It is applicable to woven fabrics.

The procedure simulates the various amounts of tension practical to apply to a fabric during hand ironing, to remove any restorable types of shrinkage. This restorable type of shrinkage occurs when certain types of fabrics, notably crepes and some spun rayon fabrics, come in contact with moisture — e.g. in wetting, or wet processing. In such cases, pressing without tension (as in the standard shrinkage testing procedures) may give misleading results with respect to the shrinkage to be expected in normal hand ironing of wet-processed garments, or even in commercial finishing where tension may be applied during steaming or steam pressing in an attempt to restore a garment to its original dimensions.

1.2 **Relaxation** — The steaming procedure is also used to identify stress from the manufacturing process which may be present in a fabric. Steaming is used to relax a specimen and the resultant dimensional change is determined.

1.3 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 specimen, which has usually been washed or dry-cleaned previously, is given a smoothing treatment. The smoothing is usually followed by assessment of a property of the fabric.

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. 24 — Colourfastness and Dimensional Change in Commercial Laundering

No. 24.1 — Dimensional Change in Washing of Woven Fabrics — Accelerated Method

No. 24.2 — Dimensional Change in Commercial Type Laundering of Textiles (Washwheel)

No. 25.1 — Dimensional Change in Wetting

No. 57 — Determination of Maximum Safe Ironing Temperature

No. 58 — Colourfastness and Dimensional Change in Domestic Laundering of Textiles.

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

4. SPECIMENS

4.1 The size of the specimens will depend on the nature of the property assessment to be carried out.

5. PROCEDURES

5.1 Ironing

5.1.1 ***Apparatus***

Hand iron, electric, weighing approximately 1.4 kg

Padded ironing table

Hot-head flat-bed press (Note 1)

Heat sensing device for calibration.

5.1.2 ***Test Specimen*** — If the specimen is dry, it shall be dampened prior to ironing by spraying with water, or by wetting and then removing excess water by centrifuging or by squeezing between layers of white cotton cloth or white blotting paper.

5.1.3 ***Temperature Selection*** — Use a hand iron or a hot-head flat-bed press. Set the temperature of the iron or press head for the type of fibre of which the specimen is composed (Note 2). A guide to maximum temperatures is given in Table 1. In cases of dispute, the maximum safe ironing temperature shall be determined in accordance with CAN/CGSB-4.2 No. 57.

5.1.3.1 Measure the temperature with a surface thermocouple or other appropriate heat-sensing device positioned in the area where the specimen will be placed.

Note 1: Suitable hot-head flat-bed presses may be obtained from United States Testing Co., 1415 Park Avenue, Hoboken, NJ 07030, USA.

Note 2: The steam-heated laundry type of hot-head press is not suitable for ironing fabrics containing acetate or most synthetic fibres, although the temperature of the hot-head is generally only 155 *to* 157°C. *A high pressure is exerted on the fabric by the closed head, and this combination of pressure and temperature may cause softening and flow of these heat-sensitive fibres with resultant fabric damage.*

TABLE 1

Guide to Maximum Safe Ironing Temperature

Fibre	Temperature °C
Cotton and Linen	200
Nylon 6,6, polyester, rayon, triacetate, wool	150
Acetate, acrylic, modacrylic, nylon 6, polypropylene, silk, spandex	110

5.1.4 ***Hand Iron Method***

5.1.4.1 Lay the damp test specimen on a padded ironing table and iron with a hand iron until dry.

5.1.4.2 Where the hand iron is used for specimens in shrinkage tests, care must be taken to avoid distortion of the specimen in ironing. Smooth out heavy wrinkles with the hand, and then iron the specimen by raising and lowering the iron instead of sliding it over the specimen.

5.1.5 ***Hot-Head Press Method***

5.1.5.1 Lay the damp test specimen on the flat of the press. Smooth out heavy wrinkles with the hand, and then press the specimen by lowering the head of the press for one or more short periods as necessary to properly dry and finish the specimen.

5.2 **Steam Pressing**

5.2.1 ***Apparatus***

Hand iron, electric, weighing approximately 1.4 kg

Padded ironing table

Hot-head flat-bed press (Note 1)

Press cloth — Plain weave bleached cotton (approximately 150 g/m^2)

Steam press with padded head of the type used in the dry cleaning industry.

5.2.2 ***Procedure***

5.2.2.1 A hand iron or a hot-head flat-bed press may be used with a damp press cloth placed between the dry test specimen and the heated metal surface. Alternatively, a steam press with a padded head may be used.

5.2.2.2 *Damp Cloth Method* — Place the dry test specimen on a padded ironing table, or on the bed of the hot-head flat-bed press. Smooth out any heavy wrinkles with the hand and then cover the specimen with a press cloth that has been previously wetted and thoroughly wrung out. Press the assembly until dry either with a hand iron, or by lowering the head of the hot-head press onto the fabric for one or more short periods, as necessary. A temperature of 200 to 260°C for the heated metal surface is suitable for this method.

Where a hand iron is used for steam pressing specimens in shrinkage tests, care must be taken to avoid distortion of the specimen in pressing. The pressing should be carried out by raising and lowering the iron instead of sliding it over the specimen plus press cloth assembly.

5.2.2.3 *Steam Press Method* — Lay the dry test specimen on the bed of the steam press and smooth out heavy wrinkles with the hand. Lower the press head and hold it in contact with the fabric while steam is admitted from the bottom of the press for a period of 5 to 10 s followed by 10 s steam evacuation. Raise the press head and remove the sample. The gauge pressure of the saturated steam supplied to the press should be 450 to 480 kPa, corresponding to the temperature of 155 to 157°C.

5.3 **Steaming**

5.3.1 ***Apparatus***

Steam press or steam table.

5.3.2 ***Procedure***

5.3.2.1 The gauge pressure of the saturated steam supplied to the press or table should be 450 to 480 kPa, corresponding to a temperature of 155 to 157°C.

5.3.2.2 Lay the dry specimen with the pile surface uppermost on the bed of the steam press or on the steam table and pass the steam upwards through the specimen for 30 s. Allow the specimen to cool for at least 30 s before removal.

5.4 **Tension Pressing**

5.4.1 ***Principle*** — The specimen is dampened and specified tensions are applied to the fabric in warp and weft directions during the pressing operation.

5.4.2 ***Apparatus***

5.4.2.1 The Tension Presser (Note 3) consists of a 350 mm square pressing table with provision for holding two adjacent sides of the specimen in fixed position, and for applying known amounts of tension to the other two sides of the specimen (i.e. to the warp and weft of the fabric) by means of masses acting on movable holding devices, while the specimen is being pressed. The pressing table has a flat upper surface and is rigidly supported so that the surface just makes contact with the specimen when the latter is placed in the apparatus. The surface shall be of uncovered nonrusting metal. A hand iron is used to heat the 350 × 350 mm perforated aluminum plate used to dry the specimen.

5.4.2.2 A convenient form of holding device for the specimen consists of rigid metal rods (e.g. 5 mm diameter brass rod) slipped through 10 mm hems sewn across the end of each flap. The two rods forming the fixed holding devices are held in position between pairs of upright posts fastened to each end of two adjacent sides of the pressing table. The rods forming the movable holding devices are perforated near each end, or fitted with hooks, to accommodate the cords carrying the tensioning masses. The cords pass over pulleys supported by the framework of the pressing table.

5.4.3 ***Test Specimen***

5.4.3.1 Take a specimen measuring approximately 500 mm square from the conditioned fabric. A metal template with a 250 mm square opening and corners cut away, as shown in Figure 1, is convenient for marking out the specimen. Cut out the corners of the specimen, as shown, to accommodate the specimen in the tension presser. Mark the warp direction on the specimen.

5.4.3.2 If the type of holding device described in par. 5.4.2.2 is used, sew a 10 mm hem across the end of each flap of the specimen.

5.4.4 ***Procedure***

5.4.4.1 Dampen the required test specimen (par. 5.4.3) on which the warp and weft shrinkages have been determined by the applicable shrinkage test with its required tensionless pressing (e.g. CAN/CGSB-4.2 Nos. 24, 24.1, 24.2, 25.1 and 58) either by spraying with water, or by wetting and then removing excess water by centrifuging, or by squeezing between layers of white cotton cloth or white blotting paper. Place the two short flaps of the specimen in the fixed holding devices of the tension presser, and the longer flaps in the movable holding devices. Apply gradually the proper tensioning masses for the warp and the weft (par. 5.4.2.1), the smaller of the two masses being applied first. The mass to be applied in a given direction is divided into two equal parts, one-half being applied to each end of the movable holding device for that direction.

Note 3: The Tension Presser is available from United States Testing Co., 1415 Park Avenue, Hoboken, NJ 07030, USA.

5.4.4.2 The tensioning masses to be used for the warp and for the weft directions of the fabric depend upon the respective warp and weft shrinkage values obtained in the preceding shrinkage test with tensionless pressing (e.g. CAN/CGSB-4.2 Nos. 24, 24.1, 24.2, 25.1 and 58) and are as given in Table 2.

5.4.4.3 Dry the specimen while under tension by placing the perforated aluminum plate on the portion of the specimen lying over the pressing table, and heating the plate by means of a hand iron placed on it. Release of steam from the specimen is facilitated by a number of 1.5 mm holes in this aluminum plate.

5.4.4.4 When the fabric is dry, release the tension and remove the sample from the presser. Iron the outer portions of the specimen not covered by the metal plate until dry, care being taken to avoid distorting the specimen.

TABLE 2

Shrinkage values obtained with tensionless pressing, %	Total mass (±10%) of M_1 or M_2 to be applied in tension pressing, kg
>5.0	2.0* (equivalent to hand pressing with firm tension)
3.1 – 5.0	1.5 (equivalent to hand pressing with moderate tension)
1.1 – 3.0	0.5 (equivalent to hand pressing with light tension)
Any growth through 1.0 shrinkage	0.25 (equivalent to hand pressing with only sufficient tension to remove wrinkles)

**Considered to be equivalent to the maximum tension practical to apply in hand ironing.*

6. REPORT

Report the following information:

6.1 The procedure(s) used

6.2 The pressing temperature

6.3 The number of this method: CAN/CGSB-4.2 No. 33-94.

7. NOTES

7.1 **Source of Referenced Publications** — The publications referred to in par. 3.1.1 may be obtained from the Canadian General Standards Board, Sales Centre, Ottawa, Canada K1A 1G6. Telephone (613) 941-8703 or 1-800-665-CGSB (Canada only). Fax (613) 941-8705.

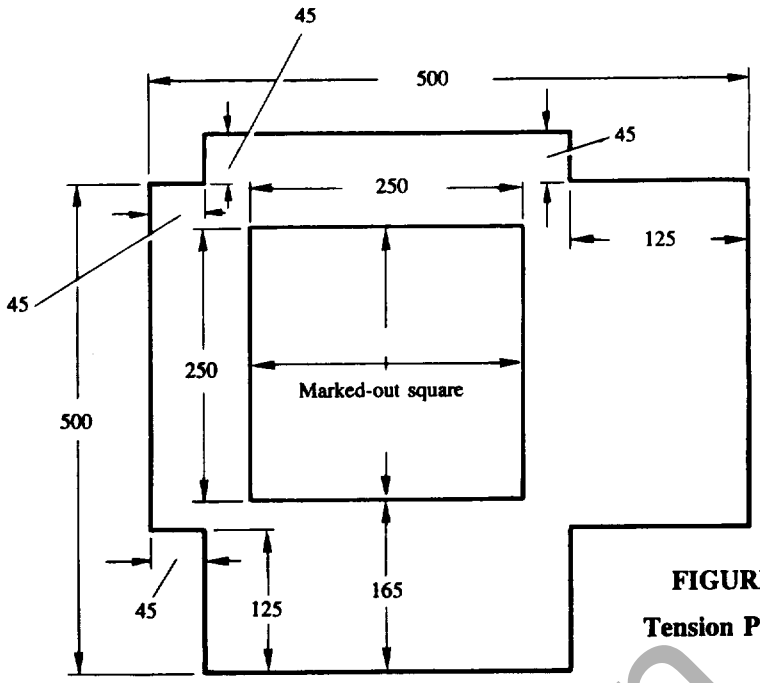

FIGURE 1
Tension Presser

All dimensions are in millimetres.

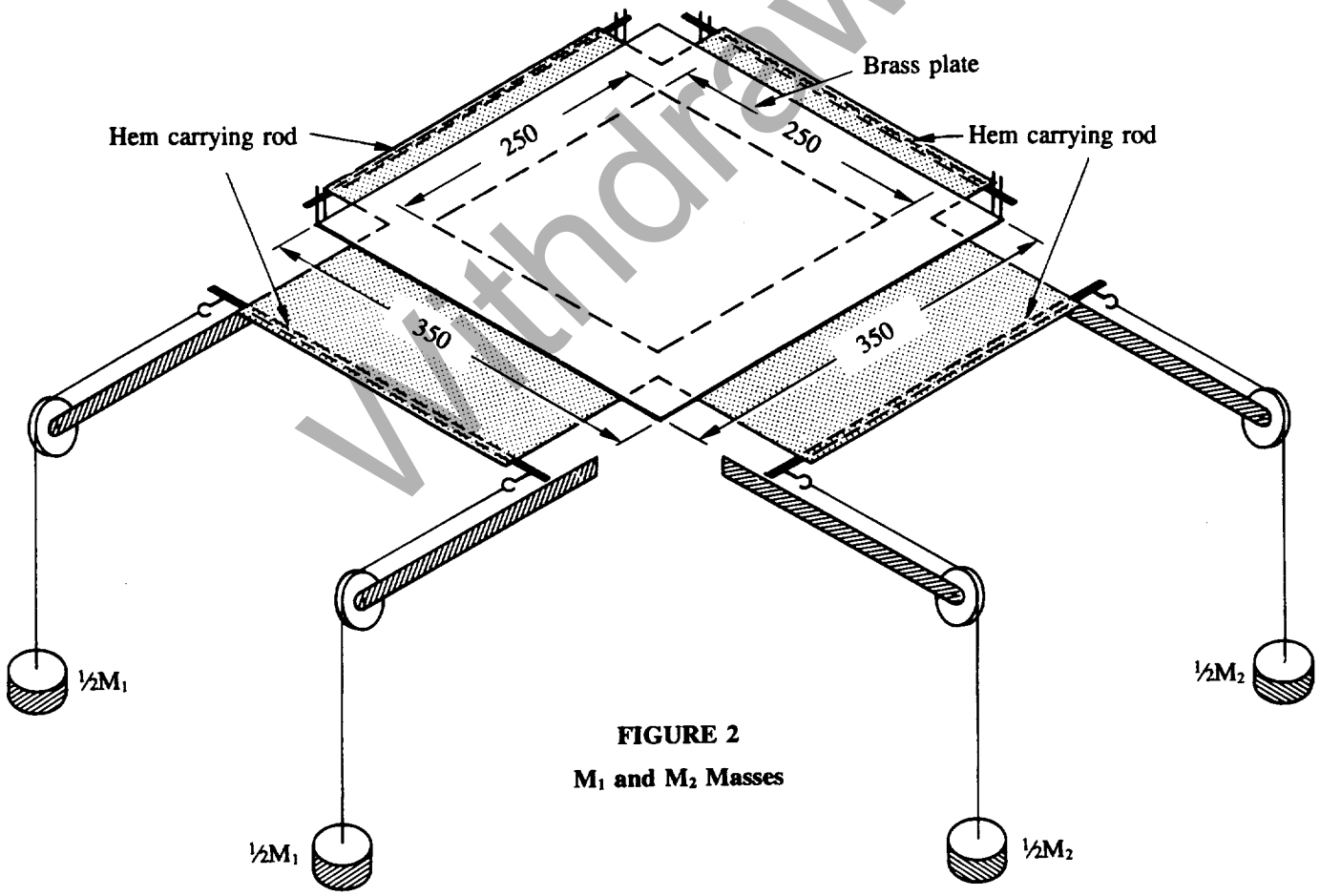

FIGURE 2
M_1 and M_2 Masses