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**CAN/CGSB-98.2-2018**

Supersedes CAN/CGSB-98.2-2011



# National flag of Canada (indoor use)

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**NATIONAL STANDARD OF CANADA**

**CAN/CGSB-98.2-2018**

Supersedes CAN/CGSB-98.2-2011

## **National flag of Canada (indoor use)**

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

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# National flag of Canada (indoor use)

## 1 Scope

This standard applies to the design, colour, materials, construction and performance requirements of the National flag of Canada intended for indoor use.

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

## 2 Normative references

The following normative documents contain provisions that, through reference in this text, constitute provisions of this National Standard of Canada. The referenced documents may be obtained from the sources noted below.

NOTE The addresses provided below were valid at the date of publication of this standard.

An undated reference is to the latest edition or revision of the reference or document in question, unless otherwise specified by the authority applying this standard. A dated reference is to the specified revision or edition of the reference or document in question.

### 2.1 Canadian General Standards Board (CGSB)

CAN/CGSB-4.2 — *Textile Test Methods*:

No. 4.1 — *Textiles — Fabrics — Determination of Width and Length*

No. 5.1 — *Unit Mass of Fabrics*

No. 18.3/ISO 105-B02 — *Textiles — Tests for Colourfastness — Part B02: Colourfastness to Artificial light: Xenon Arc Fading Lamp Test* (withdrawn in December 2016)

No. 19.1 — *Colourfastness to Washing — Accelerated Tests — Launder-Ometer*

No. 22 — *Colourfastness to Rubbing (Crocking)*

No. 25.1 — *Dimensional Change in Wetting*

No. 27.1 — *Flame Resistance — Vertical Burning Test* (withdrawn in December 2016)

No. 29.1 — *Colourfastness to Dry Cleaning Solvent* (withdrawn in December 2016)

CAN/CGSB-54.1 Part 1/ISO 4915 — *Stitches and Seams — Part 1: Textiles — Stitch Types — Classification and Terminology*

CAN/CGSB-86.1 — *Care Labelling of Textiles* (withdrawn in October 2017).

### **2.1.1 Source**

The above 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](mailto:ncr.cgsb-ongc@tpsgc-pwgsc.gc.ca). Web site [www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html](http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html).

## **2.2 ASTM International**

ASTM D1388-14e1— *Standard Test Method for Stiffness of Fabrics*

ASTM E308 — *Standard Practice for Computing the Colors of Objects by Using the CIE System.*

### **2.2.1 Source**

The above may be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, U.S.A., telephone 610-832-9585, fax 610-832-9555, Web site [www.astm.org](http://www.astm.org), or from IHS Markit, 200-1331 MacLeod Trail SE, Calgary, Alberta T2G 0K3, telephone 613-237-4250 or 1-800-267-8220, fax 613-237-4251, Web site [www.global.ihs.com](http://www.global.ihs.com).

## **2.3 International Commission on Illumination (CIE)**

CIE S 014-1/E2006 / ISO 11664-1 *Colorimetry — Part 1 : CIE Standard Colorimetric Observers*

CIE S 014-2/E2006 / ISO 11664-2 *Colorimetry — Part 2 : CIE Standard Illuminants.*

### **2.3.1 Source**

The above may be obtained from the CIE Central Bureau, Kegelgasse 27, A-1030 Vienna, Austria. Telephone +43 1 71432870. Fax +43 1 714318718. Web site [www.cie.co.at](http://www.cie.co.at).

## **2.4 US Department of Defence**

A-A-59826 — *Thread, Nylon*

A-A-59963 — *Thread, Polyester.*

### **2.4.1 Source**

The above may be obtained from DLA Document Services, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094. Address questions to ASSIST Help Desk at 215-697-6396 [DSN: 442-6396], Website: <http://quicksearch.dla.mil/>.

## **3 Classification**

The flag shall be supplied in the following types, classes and sizes as specified (see 8.1).

### 3.1 Types

Type	Subtype	In accordance with figures
1- Header with open-sleeve	1A Integral header	6 and 9 (Sections A-A, B-B, D-D)
	1B Separate header	6 and 11 (Sections A-A, B-B, D-D)
2- Header with open-sleeve and tie tapes	2A Integral header	7 and 9 (Sections A-A, B-B, C-C, E-E)
	2B Separate header	7 and 11 (Sections A-A, B-B, C-C, E-E)
3- Header with open-sleeve and leather tabs	3A Integral header	8, 9 (Sections A-A, B-B), and 10 (Section F-F)
	3B Separate header	8, 11 (Sections A-A, B-B), and 12 (Section F-F)

### 3.2 Classes

Class A — With ornamental fringe, cord and tassels

Class B — Without ornamental fringe, cord and tassels.

### 3.3 Sizes

Size 1 — 12 x 24 cm

Size 5 — 45 x 90 cm

Size 2 — 15 x 30 cm

Size 6 — 65 x 130 cm

Size 3 — 20 x 40 cm

Size 7 — 82 x 164 cm

Size 4 — 30 x 60 cm

Size 8 — 90 x 180 cm.

## 4 General requirements

The flag shall be free of defects in materials and workmanship that may affect its appearance or serviceability.

## 5 Detailed requirements

### 5.1 Design

The flag shall be of the proportions two by length and one by width, containing in its centre a white square the depth of the flag, with a single red maple leaf centred therein, in accordance with Figure 1.

### 5.2 Colours

The red and white colours shall have the following CIE (International Commission on Illumination) colour coordinates when measured in accordance with ASTM E308 using CIE Standard Illuminant D65 and the CIE 1964 Standard Colorimetric Observer with specular reflection excluded:



Table 1 — Equivalent chromaticity coordinates

	Chromaticity coordinates			CIELAB space units		
	x	y	Y	L *	a *	b *
Red	0.576	0.315	9.5	36.93	55.61	28.98
White	0.328	0.344	78.0	90.78	0.50	7.97

### 5.3 Colourfastness

The colourfastness of the flag shall be in accordance with the requirements of Table 2.

Table 2 — Finished flag fabric requirements

Property	Requirement	Test method CAN/CGSB-4.2 <sup>a</sup>
Weave	Plain, 1 x 1	—
Mass, g/m <sup>2</sup> , min.	120	No. 5.1
Dimensional change in wetting, % limit — warp — weft	2 2	No. 25.1
Colourfastness, min. to light <sup>b</sup> to washing <sup>d</sup> — colour change for red portion — staining for white portion to dry cleaning <sup>d</sup> — colour change for red portion — staining for white to crocking, dry <sup>e</sup> — colour change — staining	AATCC L5 or L7, Grey Scale 4 Grey Scale 4  Grey Scale 4  Grey Scale 5	No. 18.3/ISO 105-B02 <sup>c</sup> No. 19.1, Test No. 1  No. 29.1  No. 22
Flammability (average for 5 samples)	Char length — 100 mm After flame — 2 s No burning drips or debris	No. 27.1
Flexural rigidity	No less than 200 mg/cm (Option A)	ASTM D1388-14e1

<sup>a</sup> Unless otherwise indicated.

<sup>b</sup> To be specified (see 8.1).

<sup>c</sup> Soda-lime/borosilicate system.

<sup>d</sup> Sample shall be ½ red and ½ white.

<sup>e</sup> Repeat dry crocking test rubbing half-red and half-white each time. There shall be no observable streaking, smearing or staining onto the half-white rubbed parts.

## 5.4 Length (L) and width (W)

The flag shall be of the length and width specified (see 3.3 and Tables 3 and 4) when measured in accordance with CAN/CGSB-4.2 No. 4.1.

**Table 3 — National flag dimensions**

All dimensions are in centimetres.

Flag size <sup>a</sup>	Width $X^b$	Length $L^b$	Red $Y^b$	White $Z^b$
1	$12 \pm 0.3$	$24 \pm 0.5$	$6.0 \pm 0.2$	$12 \pm 0.2$
2	$15 \pm 0.3$	$30 \pm 0.5$	$7.5 \pm 0.2$	$15 \pm 0.2$
3	$20 \pm 0.3$	$40 \pm 0.5$	$10.0 \pm 0.2$	$20 \pm 0.2$
4	$30 \pm 0.5$	$60 \pm 1.0$	$15.0 \pm 0.3$	$30 \pm 0.3$
5	$45 \pm 0.5$	$90 \pm 1.0$	$22.5 \pm 0.3$	$45 \pm 0.3$
6	$65 \pm 1.0$	$130 \pm 1.5$	$32.5 \pm 0.5$	$65 \pm 0.5$
7	$82 \pm 1.0$	$164 \pm 1.5$	$41.0 \pm 0.5$	$82 \pm 0.5$
8	$90 \pm 1.0$	$180 \pm 1.5$	$45.0 \pm 0.5$	$90 \pm 0.5$
<sup>a</sup> See 3.3. <sup>b</sup> See Figures 2, 3 and 4.				

**Table 4 — Header dimensions**

All dimensions are in centimetres.

Flag size <sup>b</sup>	Header dimension $W^a$ $cm \pm 2\%$	
	Type 1, 2 <sup>c</sup> $V^d$	Type 3 <sup>c</sup> $V^d$
1-2	4.0	6.5
3-8	6.5	6.5
<sup>a</sup> See Figures 2, 3 and 4. $W = V$ in Figures 9 and 11 (Sections D-D and E-E). <sup>b</sup> See 3.3. <sup>c</sup> See 3.1. <sup>d</sup> See Figures 9 and 11 (Sections D-D and E-E).		

## 5.5 Materials

### 5.5.1 Flag

The flag shall be made of woven fabric in accordance with Table 2.

### **5.5.2 Header**

The header material shall be white fabric in accordance with Table 2.

### **5.5.3 Sewing thread**

The flag shall be sewn with red and/or white thread in accordance with A-A-59826 and A-A-59963, as specified (see 8.1).

### **5.5.4 Tie tapes (Type 2 only)**

There shall be two 16 x 400 mm woven or braided white tapes, with a mass of  $3.50 \pm 0.25$  g/m when tested in accordance with CAN/CGSB-4.2 No. 5.1. The free length of the tie tape shall be approximately 18 cm.

### **5.5.5 Leather tabs (Type 3 only)**

The leather tabs shall be black or brown leather with the shape and dimensions specified in Figure 8.

### **5.5.6 Ornamental fringe, cord and tassels (Class A only)**

The ornamental fringe shall be gold, 5 to 7 cm wide. The ornamental cord shall be 3 ply, 6 mm diameter gold cord finished with a gold tassel 7 to 8 cm long at each end. The cord and tassels shall visually match the colour of the ornamental fringe.

## **5.6 Construction**

### **5.6.1 General**

The flag shall be dye-printed or appliquéd. Construction of the flag shall be in accordance with the following:

- a) One-piece flag — Figures 2 and 5 (Sections A-A and B-B)
- b) Three-piece flag — Figures 3 and 5 (Sections A-A, B-B and C-C)
- c) Four-piece flag — Figures 4 and 5 (Sections A-A, B-B and C-C).

### **5.6.2 Printed flags**

The tolerance for bowing of the vertical red panel edges of printed flags are as follows:

- a) Size 1 (12 x 24 cm) through size 4 (30 x 60 cm): 6 mm
- b) Size 5 (45 x 90 cm) through size 8 (90 x 180 cm): 12 mm.

### **5.6.3 Appliquéd flags**

For all appliquéd flags, the appliqué shall be applied to both sides of the flag.

For all flags printed in one piece, the length of the flag shall be parallel to the warp direction of the fabric. For flags of more than one piece, the length of the flag shall be parallel to the weft direction of the fabric.

### **5.6.4 Seams and stitching**

All seams and stitchings shall be lockstitch or chain stitch (Type 301 or Type 401, respectively, in accordance with CAN/CGSB-54.1, Part 1/ISO 4915) with not less than 2.5 and not more than 3.6 stitches per centimetre. The ends of all stitchings and any breaks in the sewing thread during stitching shall be securely backstitched.

For Class A flags, the ornamental fringe shall be sewn to the top, bottom and fly edges of the flag in such a manner as not to pucker the flag fabric.

## 6 Preparation for delivery

### 6.1 Packaging and packing

Unless otherwise specified (see 8.1), packaging and packing shall conform to normal commercial practice.

### 6.2 Labelling

The flag shall have affixed to the header, a label upon which at least the following information, in both English and French, is printed in a type height not less than 6 mm and not more than 12 mm:

<p>Manufacturer's name and mailing address or CA number</p> <p>"CANADA"</p> <p>Size</p> <p>Date of manufacture</p> <p>Cleaning and drying instructions (in accordance with CAN/CGSB-86.1).</p> <hr/> <p>Nom et adresse du fabricant ou le numéro d'identification CA</p> <p>« Canada »</p> <p>Dimension</p> <p>Date de fabrication</p> <p>Directives de nettoyage et de séchage (conformément à la norme CAN/CGSB-86.1).</p>
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The label shall be legible and permanent to the conditions of use of the flag and shall have no detrimental effect on the flag.

## 7 Inspection

### 7.1 Sampling

Sampling for inspection and testing shall be left to the discretion of the inspection authority, unless a specific sampling plan is specified (see 8.1).

## 8 Options

8.1 The following options shall be specified in the application of this standard:

- a) Type, class and size of flag (see 3.1 to 3.3)
- b) Colourfastness to light requirement (see 5.3, Table 2)
- c) Colour and type of sewing thread (see 5.5.3)
- d) Packaging and packing, if other than as specified (see 6.1)
- e) Sampling, if a specific plan is specified (see 7.1).

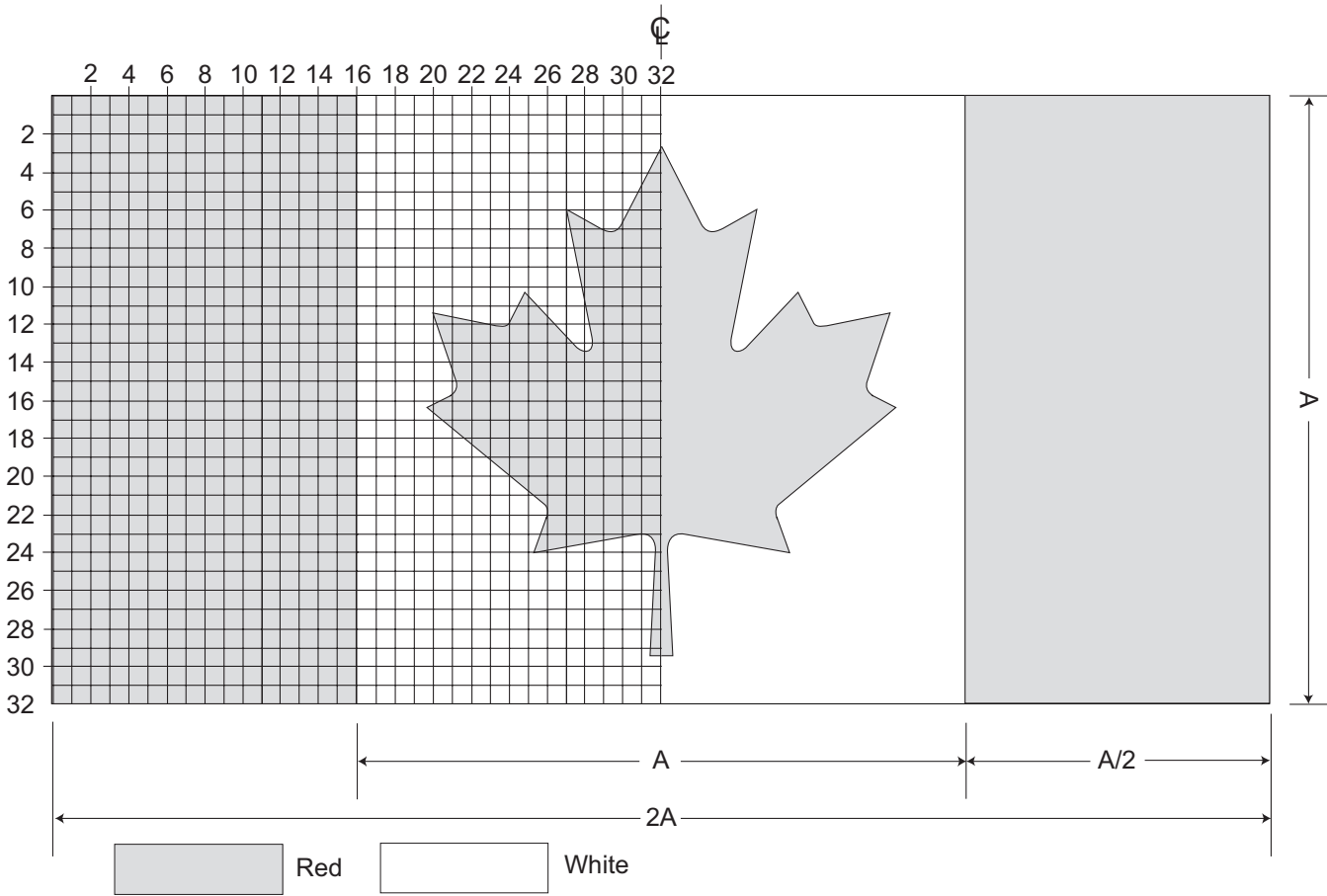


Figure 1 — Design of the National Flag of Canada

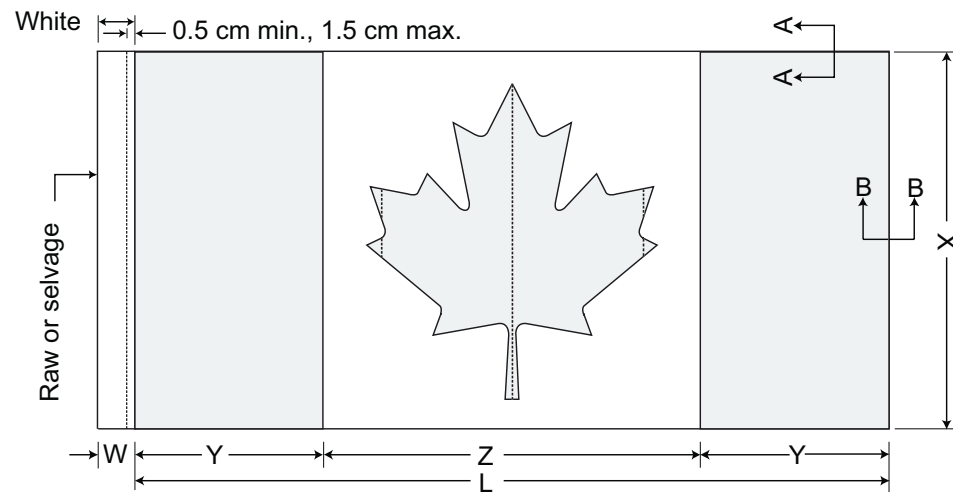


Figure 2 — One-piece flag construction

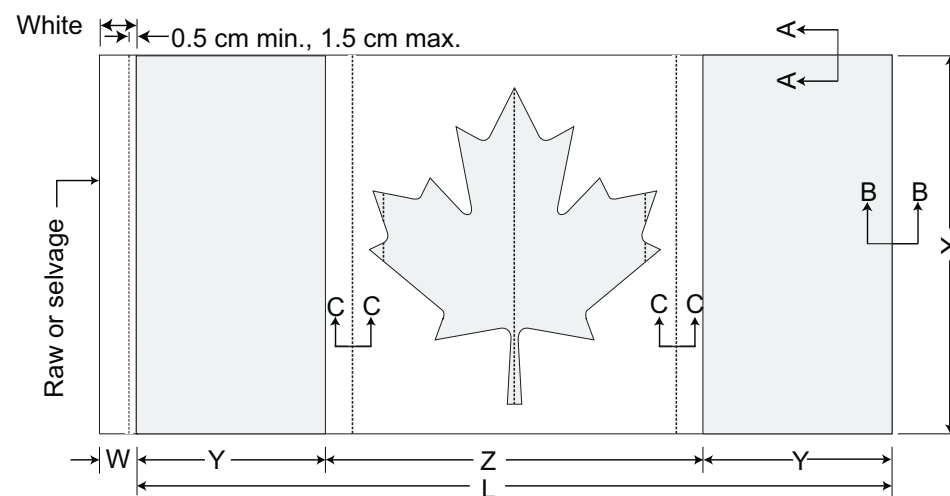


Figure 3 — Three-piece flag construction

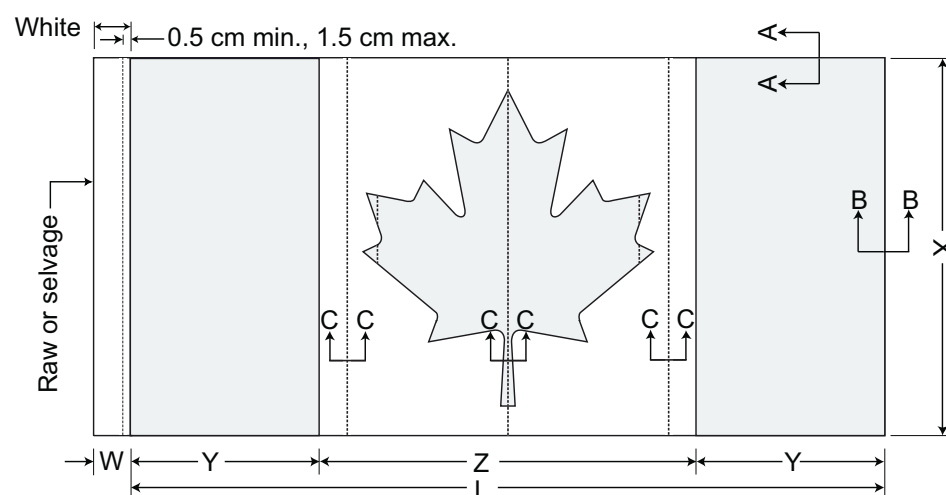


Figure 4 — Four-piece flag construction

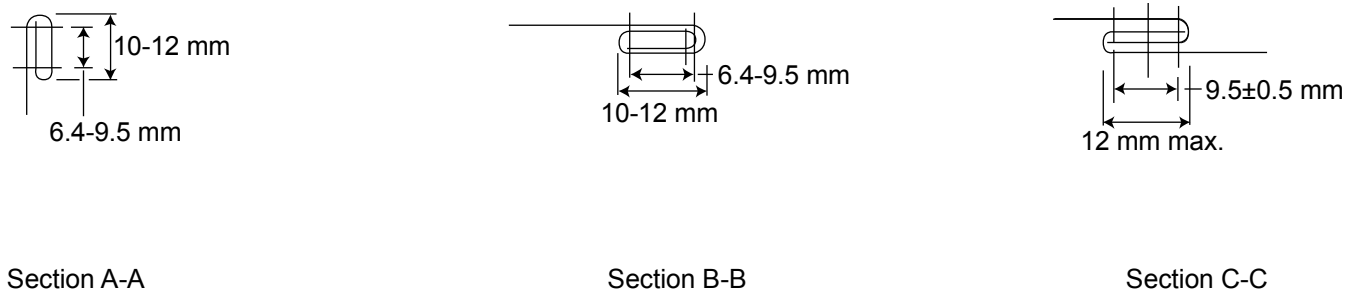


Figure 5 — Construction details

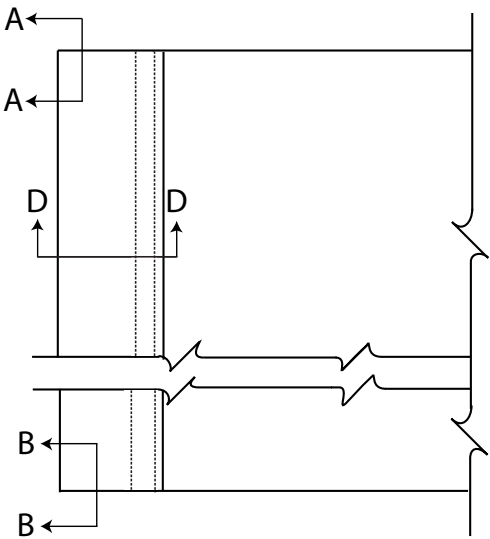


Figure 6 — Type 1 — Header, open-sleeve

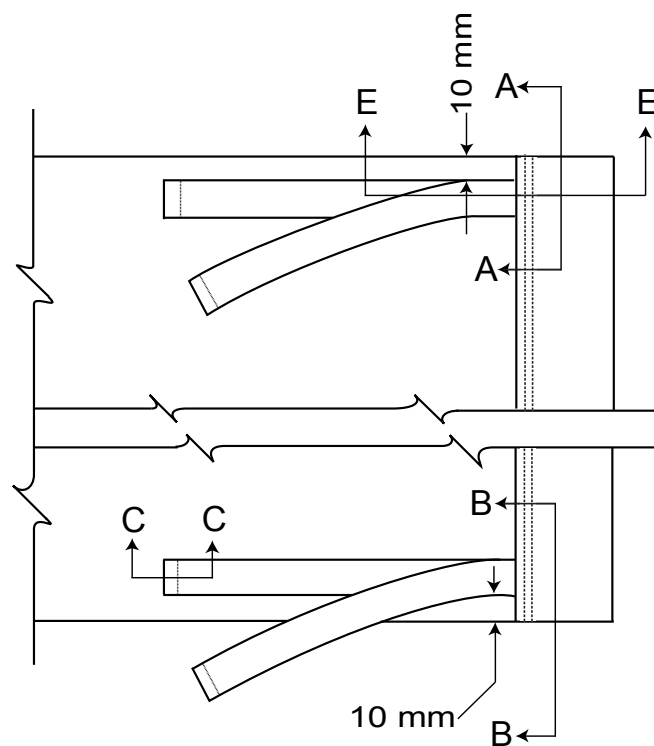


Figure 7 — Type 2 — Header, open-sleeve with tie tapes



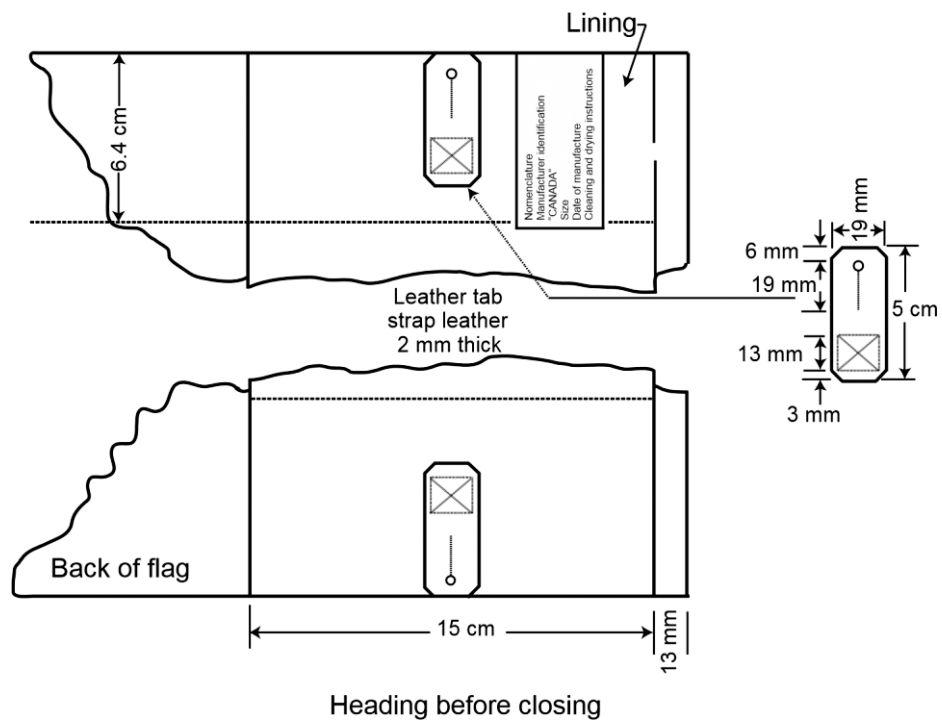
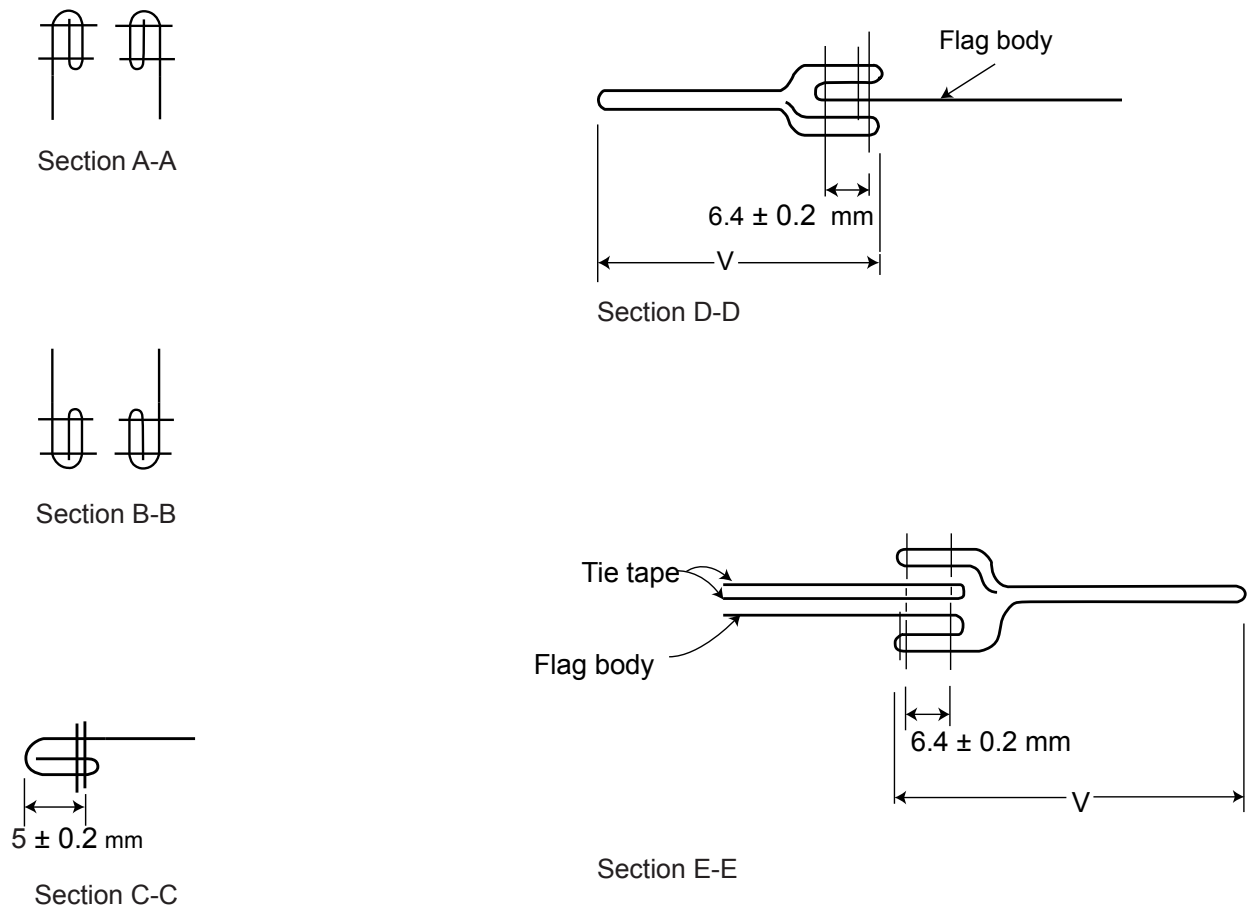
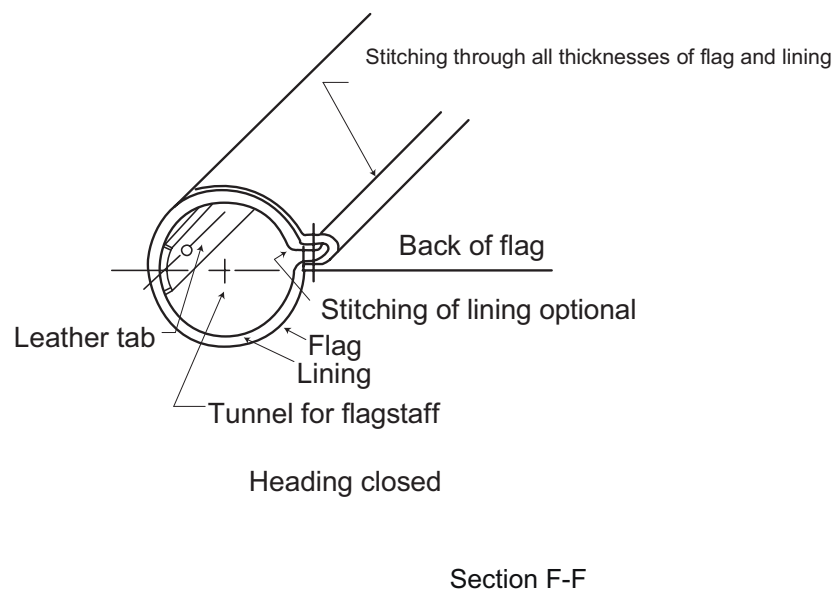


Figure 8 — Type 3 — Header, open-sleeve with leather tabs

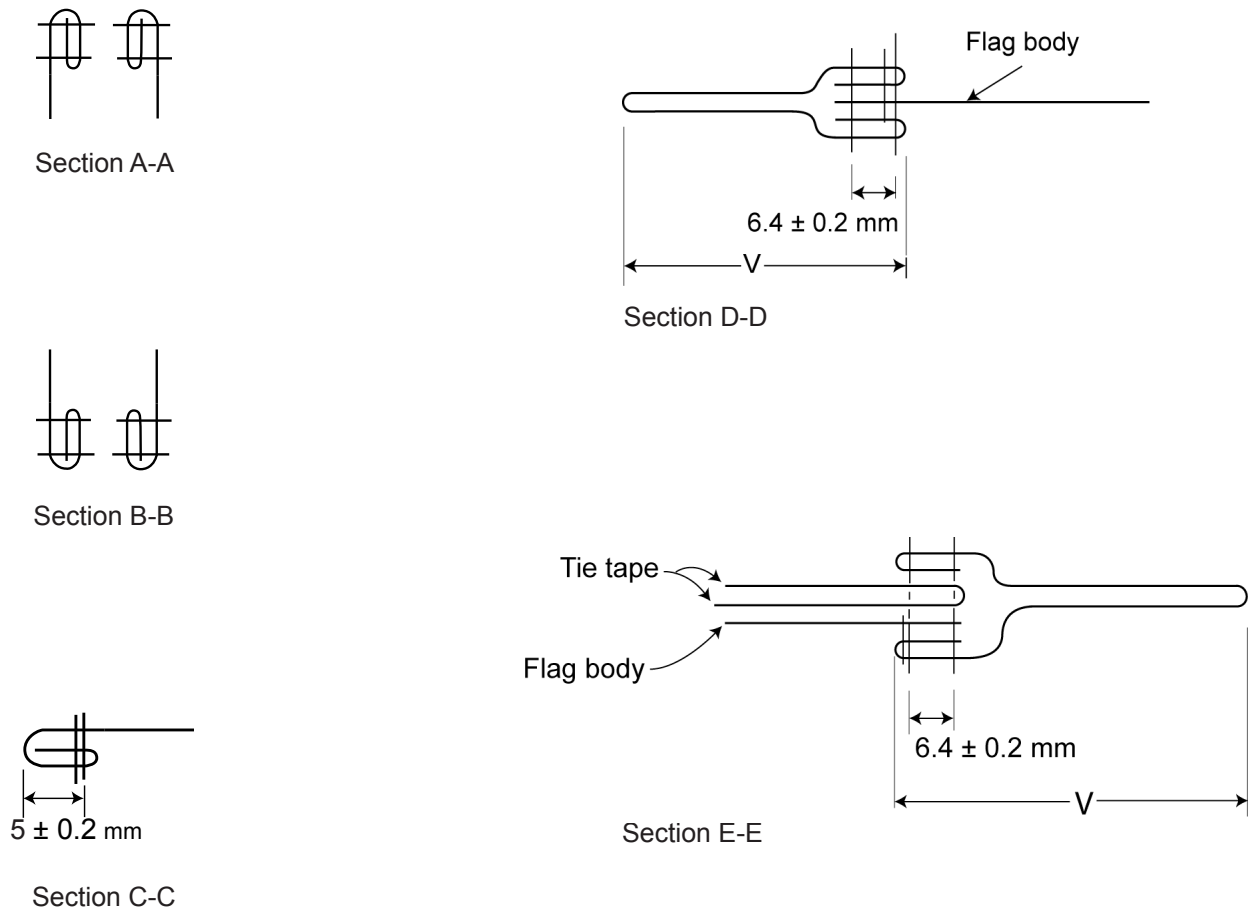


Unless otherwise specified, dimensions are in centimetres.

**Figure 9 — Construction details — Subtypes 1A, 2A and 3A flags**

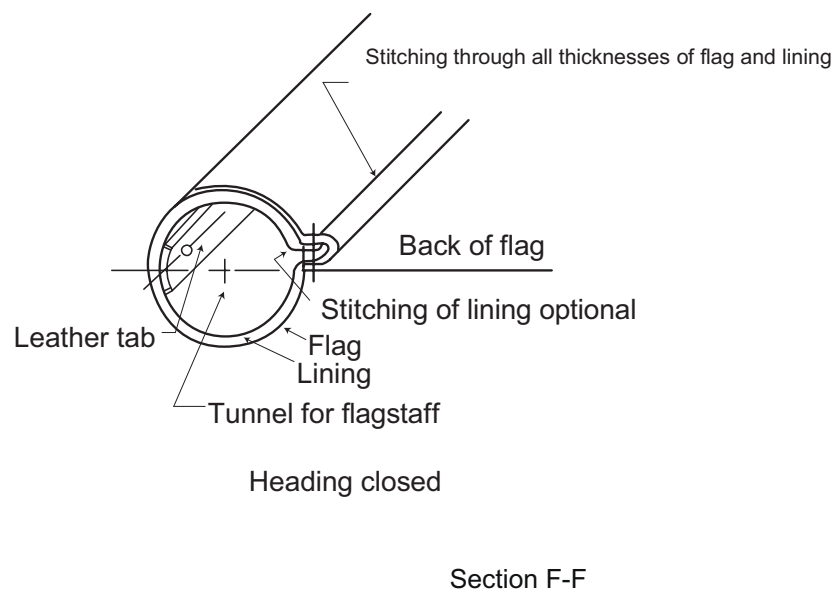


**Figure 10 — Construction details for flag type — Subtype 3A flag**



Unless otherwise specified, dimensions are in centimetres.

**Figure 11 — Construction details — Subtypes 1B, 2B and 3B flags**



**Figure 12 — Construction details for flag type — Subtype 3B flag**

## Bibliography

- [1] Canadian Heritage, *Flag etiquette in Canada*, c2000, revised 2001, Catalogue Number CH4-1/5-2001. Available at <http://www.publications.gc.ca>
- [2] Department of Justice Canada, *National Flag of Canada Manufacturing Standards Act*. Available at <http://laws-lois.justice.gc.ca>