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Flammability and labelling requirements for tents

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Flammability and labelling requirements for tents

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Preface

This document is the first edition of the National Standard of Canada CAN/CGSB-182.1.

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Introduction

Context

Canada has a regulatory framework in place to protect Canadians from product-related hazards and to promote the safe use of products. Flammability and labelling requirements for tents intended for consumer use are set out in the *Tents Regulations* under the *Canada Consumer Product Safety Act*. The Regulations incorporate specific sections of the Industrial Fabrics Association International standard CPAI-84[1], entitled *A Specification for Flame-Resistant Materials Used in Camping Tentage*. CPAI-84 was introduced in 1972 to address fire hazards posed by highly flammable tent materials, such as waxed or oiled cotton canvas, which were commonly used at the time. The majority of tents available in today's consumer market are made of lighter, synthetic materials that exhibit significantly different flammability properties. A need was identified to update the flammability and labelling requirements for tents intended for consumer use to more appropriately address the current flammability risks.

Objectives

This first edition of the National Standard of Canada CAN/CGSB-182.1, entitled *Flammability and labelling requirements for tents*, was developed to update flammability and labelling requirements for tents intended for consumer use, with the aim to minimize fire hazards and improve safety. The standard also reduces testing variability and allows for a greater degree of innovation of tents to meet consumer expectations.

Language

In this Standard, "shall" expresses a requirement, "should" expresses a recommendation and "may" expresses an option or that which is permissible within the limits of this Standard.

[1] CPAI-84 *A Specification for Flame-Resistant Materials Used in Camping Tentage* can be obtained from Industrial Fabrics Association International, 1801 County Road B W, Roseville, MN 55113-4061, USA.

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Flammability and labelling requirements for tents

1 Scope

This standard applies to consumer tents for outdoor use (including tents intended for both indoor and outdoor use), such as camping tents, backpacking tents, suspended tents, teepees, children's tents, tent trailers, ice-fishing tents, dining shelters, sun shelters and screen houses.

NOTE Examples of children's tents intended for outdoor use include, but are not limited to, youth camping tents, youth sun shelters and play tents that resemble a camping tent or other shelter.

This standard establishes performance requirements and test methods to evaluate the flammability of tent materials when exposed to a flame under three states (as received, after leaching and after weathering). Each fabric or other pliable tent material with a surface area greater than 1,000 cm^2, based on a length by width measurement, is evaluated.

This standard also establishes labelling requirements for tents, including fire safety warnings and safe use instructions to mitigate the flammability risk.

Tent components or accessories made of fabric or other pliable material, and intended to be used with the tent, such as side panels, curtains, footprints (ground cloths), flies and gear lofts, whether sold with the tent or sold separately, are subject to the flammability requirements. Packaging (such as tent bags, pole bags or stake bags), threads, zippers, ropes, hook and loop fasteners, webbing and labels or logos with a surface area less than 1,000 cm^2, based on a length by width measurement, are excluded from the requirements of this standard (refer to Annex A).

This standard does not apply to consumer tents intended for indoor use only, tents that are not intended to shelter people, tents used for commercial purposes only or tents subject to the *National Building Code of Canada*.

This Standard does not preclude or override any applicable regulatory or legal requirement.

The testing and evaluation of a product against this standard 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 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.

Units of measure – Quantities and dimensions in this standard are given in SI units.

2 Principles

2.1 All materials

2.1.1 A defined flame from a specified burner is applied to the bottom edge of a vertically-oriented specimen for a specified time. Damage length, mass loss and the presence of flaming debris are determined.

2.2 Flooring materials

2.2.1 For specified flooring materials that fail the vertical test, a methenamine tablet is placed at the centre of a horizontally-oriented specimen, ignited and the shortest distance between the burned area and the inside edge of the specified frame is measured.

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3 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.

3.1 ASTM International

ASTM D4329 — *Standard Practice for Fluorescent Ultraviolet (UV) Lamp Apparatus Exposure of Plastics*

ASTM G154 — *Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials*

3.1.1 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, 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.

4 Terms and definitions

For the purposes of this National Standard of Canada, the following terms and definitions apply.

4.1
damage length (*longueur endommagée*)
for materials tested in the vertical test, the distance from the end of the specimen that has been exposed to the flame to the end of a lengthwise tear through the highest peak of the damaged area; charred or melted areas are not considered.

4.2
flaming debris (*débris enflammés*)
portion that breaks off, or residue that drips from, the specimen and that continues to flame after reaching the floor of the test cabinet.

4.3
flooring material (*matériau pour sol*)
fabric or other pliable material that constitutes the floor of a tent and that may extend up the side of a tent a distance of up to but not including 305 mm, as measured in Annex B. Flooring material includes a footprint (ground cloth) intended to be used with a tent.

For testing purposes, flooring materials exclude the following, which are treated as wall materials:

- flooring material that extends a distance of 305 mm or more up the side of a tent, see Annex B;
- flooring material that does not contact the ground during use of the tent, e.g., suspended tent or tent cot.

The maximum distance that flooring material may extend up the side of a tent before being considered to be wall material is based on the lengthwise direction of a vertical test specimen (305 mm).

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4.4
fluorescent ultraviolet (UV) and condensation apparatus (*appareil à ultraviolets (UV) et à condensation fluorescent*)
apparatus designed to perform artificial accelerated weathering using controlled irradiance, temperature and humidity.

4.5
shortest intact length (*longueur intacte la plus courte*)
for flooring materials tested in the horizontal test, the shortest distance from a point on the intact part of the specimen that is immediately adjacent to the burned area to the inside edge of the frame.

4.6
standard atmospheric conditions (*conditions atmosphériques standard*)
65% ± 5% relative humidity and 20 °C ± 2 °C.

4.7
tent (*tente*)
outdoor shelter for people, including a shelter for both indoor and outdoor use, with a top and at least one side that may constrain the means of egress during the reasonably foreseeable use of the shelter, and made of fabric or other pliable material.

5 Flammability requirements

5.1 Apparatus

5.1.1 All tests

5.1.1.1. Laboratory fume hood

5.1.1.2 Scale: graduated in 1 mm intervals.

5.1.2 Vertical test

5.1.2.1 Balance: with a readability of 0.001 g.

5.1.2.2 Vertical specimen template: 70 mm x 305 mm.

5.1.2.3 Specimen holder: galvanized sheet metal or other suitable metal, fabricated in accordance with Figure 1.

5.1.2.4 Metal specimen holder clamps

5.1.2.5 Test cabinet: galvanized sheet metal or other suitable metal chamber, fabricated in accordance with Figure 2. The interior back wall shall be painted black.

5.1.2.6 Needle valve burner: barrel inner diameter of 9 mm ± 1 mm positioned directly below centre of specimen in accordance with Figure 3.

5.1.2.7 Pilot light tube: located vertically next to the burner with inner diameter of approximately 1.6 mm spaced approximately 3 mm from burner edge in accordance with Figure 3.

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5.1.2.8 Flame height gauge: opposite to the pilot light tube and spaced approximately 13 mm from the barrel and extending above the burner, metal prongs marking the distances of 19 mm and 38 mm above the burner in accordance with Figure 3.

5.1.2.9 Gas controls and connections: stopcock or solenoid valve capable of being fully opened or closed in 0.2 s in accordance with Figure 4.

5.1.2.10 Gas regulator system: delivery rate designed to furnish gas to the burner under a pressure of 17.2 kPa ± 1.7 kPa at the burner inlet.

5.1.2.11 Methane gas: 99% purity or greater.

5.1.2.12 Timing device: capable of measuring to the nearest 0.2 s.

5.1.2.13 Hooked weights: approximately 75 mm long, 19-gauge steel wire or equivalent, bent approximately 13 mm at one end to 45° and fastened to a mass on the other end (refer to Table 3 for hooked weight masses).

5.1.3 Horizontal test

5.1.3.1 Horizontal specimen template: 230 mm x 230 mm.

5.1.3.2 Test chamber: open-top, draft-free hollow box made of non-combustible material with inside dimensions of 305 mm ± 5 mm x 305 mm ± 5 mm x 305 mm ± 5 mm and walls at least 6 mm thick.

5.1.3.3 Secondary floor: removable rigid board that fits the bottom of the test chamber, made of the same material as the test chamber.

5.1.3.4 Supporting frame: steel plate, 230 mm ± 5 mm x 230 mm ± 5 mm x 6 mm ± 0.3 mm with a 203 mm ± 0.3 mm diameter hole in the centre and a 25 mm ± 0.3 mm x 25 mm ± 0.3 mm x 1.5 mm ± 0.3 mm thick shim affixed to the underside of each corner.

5.1.3.5 Flattening frame: as per 5.1.3.4, without the shims.

5.1.3.6 Punch: capable of making a 6 mm ± 0.3 mm diameter hole.

5.1.3.7 Methenamine for timed burning tablet[2]: white, bevelled, 6.35 mm diameter with a mass of 149 mg ± 5 mg and burn time of 130 s ± 13 s, stored in a desiccator over desiccant for 24 h prior to use.

5.1.3.8 Centring device: an instrument used to centre the hole on the specimen. Refer to Figure 6.

5.1.4 Leaching

5.1.4.1 Water container: of a shape and size that will permit full submersion of specimens (not less than 2 L of water for each 0.1 m^2 of specimen).

5.1.4.2 Means to keep specimens submerged.

[2] One of the supplier of this tablet is Vesta Pharmaceuticals, 5767 Thunderbird Road, Indianapolis, IN 46236, 1-888-55-VESTA or 1-888-558-3782, https://www.vestamethenamine.com/.

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5.1.5 Weathering

5.1.5.1 Fluorescent UV and condensation accelerated weathering device: equipped with automatic light monitor and water spray option conforming to ASTM G154.

5.1.5.2 Weathering frames with backing panels: made from corrosion-resistant material.

5.2 Vertical test (all materials)

Flooring materials that extend a distance of 305 mm or more up the side of a tent shall meet the performance requirements in 5.2.1.

Flooring materials that do not come into contact with the ground during use of the tent, such as flooring materials of suspended tents or tent cots, shall meet the performance requirements in 5.2.1.

All other flooring materials that do not meet the performance requirements in 5.2.1, including flooring materials that extend up the side of a tent a distance of up to but not including 305 mm, shall meet the performance requirements in 5.3.1.

5.2.1 Performance requirements

Materials shall, at a minimum, meet the performance requirements for either damage length (5.2.1.1) or mass loss (5.2.1.2), as well as the criteria for flaming debris (5.2.1.3). Damage length, mass loss and flaming debris shall all be reported.

5.2.1.1 Damage length

5.2.1.1.1 Average damage length, as determined in 5.2.5, shall not exceed the values shown in Table 1 for each state (as received, after leaching and after weathering).

Table 1 — Average damage length requirements

Material mass per area g/m²	Maximum average damage length mm
More than 340	115
More than 270 but not more than 340	140
More than 200 but not more than 270	165
More than 135 but not more than 200	190
More than 100 but not more than 135	215
More than 50 but not more than 100	225
50 or less	230

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5.2.1.2 Mass loss

5.2.1.2.1 Average mass loss, as determined in 5.2.4, shall not exceed the values shown in Table 2 for each state (as received, after leaching and after weathering).

Table 2 — Average mass loss requirements

Material mass per area g/m²	Maximum average mass loss %
More than 340	n/a
More than 270 but not more than 340	3.0
More than 200 but not more than 270	3.7
More than 135 but not more than 200	5.0
More than 100 but not more than 135	7.0
More than 50 but not more than 100	10.0
50 or less	20.0

5.2.1.3 Flaming debris

5.2.1.3.1 Not more than three out of ten specimens shall exhibit flaming debris for each state (as received, after leaching and after weathering).

5.2.2 Specimen preparation

5.2.2.1 A total of ten specimens are tested for each state (as received, after leaching and after weathering).

5.2.2.2 As received

5.2.2.2.1 Trace five specimens from the lengthwise direction with different yarns and five specimens from the crosswise direction with different yarns using the vertical specimen template. For plastic windows, trace five specimens from the lengthwise direction and five specimens from the crosswise direction. Cut out specimens.

5.2.2.2.2 Condition specimens at standard atmospheric conditions for a minimum of 12 h.

5.2.2.2.3 Record the mass of each specimen to the nearest 0.001 g.

5.2.2.2.4 Mount specimens in specimen holders, ensuring the bottom edge of the specimen is flush with the bottom of the frame. Secure with four clamps, one on each bottom side of the frame and one on each upper side of the frame at the top of the specimen. Refer to Figure 2a.

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5.2.2.3 Leaching

5.2.2.3.1 Prepare specimens as per 5.2.2.2.1.

5.2.2.3.2 Prepare a water bath with a pH between 6 and 8 and a temperature between 15.5 °C and 21.1 °C.

5.2.2.3.3 Submerge specimens in a single layer in the water bath.

5.2.2.3.4 Completely change the water bath six times over the course of 72 h. Change the water to allow at least 8 h and no longer than 16 h over a period of 24 h between 2 changes of water.

5.2.2.3.5 Dry at standard atmospheric conditions.

5.2.2.3.6 Condition specimens at standard atmospheric conditions for a minimum of 12 h.

5.2.2.3.7 Record the mass of each specimen to the nearest 0.001 g.

5.2.2.3.8 Mount specimens as per 5.2.2.2.4.

5.2.2.4 Weathering

5.2.2.4.1 Prepare specimens as per 5.2.2.2.1. Depending on the weathering apparatus and associated weathering frames, specimen dimensions may need to be cut larger than the specimen template in order to be properly secured in the frames.

5.2.2.4.2 Mount specimens in weathering frames with no wrinkles or gaps. For wall and top materials, the exterior side shall be exposed to the light source. For flooring materials, the interior side shall be exposed to the light source.

5.2.2.4.3 Secure backer panels on the reverse of the weathering frames with stainless steel retainer rings or equivalent.

5.2.2.4.4 Weathering shall be performed in accordance with ASTM D4329 and the following parameters:

a) Irradiance set point: 0.89 W/m² at 340 nm using UVA-340 lamps.

b) One cycle: 8 h UV exposure with black panel temperature (BPT) at 60 °C, 4 h condensation with BPT at 50 °C, 5 min spray.

c) Test duration: 54 h

5.2.2.4.5 BPT and cycle changes shall be monitored with a recording device.

5.2.2.4.6 After the required exposure, remove specimens from the apparatus and dry at standard atmospheric conditions.

5.2.2.4.7 If specimens were prepared larger for weathering, use the specimen template to cut specimens to the correct dimensions for testing.

5.2.2.4.8 Condition specimens at standard atmospheric conditions for a minimum of 12 h.

5.2.2.4.9 Record the mass of each specimen to the nearest 0.001 g.

5.2.2.4.10 Mount specimens as per 5.2.2.2.4.

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5.2.3 Testing

5.2.3.1 Perform testing in the draft-free fume hood at standard atmospheric conditions or within 4 min of removal from standard atmospheric conditions. If testing cannot be carried out immediately after conditioning, place conditioned specimens in a sealed container and test within 4 min of removal from the sealed container.

5.2.3.2 Regulate the line pressure such that a flame height of 38 mm ± 3 mm can be achieved.

5.2.3.3 Adjust the flame by means of the needle valve at the base of the burner to produce a flame height of 38 mm ± 3 mm with the stopcock or solenoid valve fully open. Ensure the uppermost portion (top) of the flame is level with the tip of the metal prong. Turn off the flame. Refer to Figure 3b.

5.2.3.4 Suspend specimen vertically in the test cabinet such that the lower edge of the specimen is 20 mm above the top of the burner. Close the test cabinet door. Turn on the flame.

5.2.3.5 Apply the flame vertically at the centre of the lower edge of the specimen for 12 s ± 0.2 s.

5.2.3.6 Observe and record whether flaming debris is present.

5.2.3.7 After each specimen is removed from the test cabinet, clear the cabinet of smoke, fumes and residue prior to testing the next specimen.

5.2.4 Determination of mass loss

5.2.4.1 Condition tested specimens at standard atmospheric conditions for a minimum of 12 h.

5.2.4.2 Record the mass of each specimen to the nearest 0.001 g.

5.2.4.3 Calculate percent mass loss, to the nearest tenth of a percent, for each specimen using the following equation:

$$\frac{\textit{mass (g) – after mass (g)}}{\textit{mass (g)}} \textit{ x 100\%}$$

5.2.5 Determination of damage length

5.2.5.1 Fold specimen lengthwise and parallel to the sides of the specimen. Crease by hand along a line through the highest peak of the damaged area.

5.2.5.2 Puncture the specimen approximately 6 mm from the bottom edge and the side edge of the specimen with the appropriate hooked weight based on the mass of the material (refer to Table 3).

Table 3 — Hooked weights for determining damage length

Material mass per area g/m²	Hooked weight mass g
≤ 100	50
101 to 200	100
201 to 340	200
> 340	300

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5.2.5.3 Grasp the corner of the specimen on the opposite bottom edge from where the hooked weight is attached. Raise the specimen upward in a smooth continuous motion until the total tearing force is supported by the specimen.

5.2.5.4 Lay the specimen flat and measure the damage length, to the nearest 1 mm, from the end of the specimen that has been exposed to the flame to the end of the tear through the highest peak of the damaged area; charred or melted areas are not considered. See Figure 5.

5.3 Horizontal test (flooring materials)

5.3.1 Performance requirement

Flooring materials that do not meet the performance requirements in 5.2.1 shall, at a minimum, meet the performance requirements for shortest intact length (see 5.3.1.2). Shortest intact length shall be reported.

The performance requirements in 5.3.1 do not apply to flooring materials that extend a distance of 305 mm or more up the side of a tent.

The performance requirements in 5.3.1 do not apply to flooring materials that do not come into contact with the ground during use of the tent, such as flooring materials of suspended tents or tent cots.

5.3.1.1 Shortest intact length

No specimen shall display charring or melting within 25 mm of the edge of the hole in the flattening frame for each state (as received, after leaching and after weathering). Refer to Figure 7.

5.3.2 Specimen preparation

5.3.2.1 A total of four specimens are tested for each state (as received, after leaching and after weathering).

5.3.2.2 As received

5.3.2.2.1 Trace four specimens using the horizontal specimen template, each with different lengthwise and crosswise yarns. Cut out specimens.

5.3.2.2.2 Condition specimens at standard atmospheric conditions for a minimum of 12 h.

5.3.2.3 Leaching

5.3.2.3.1 Prepare specimens as per 5.3.2.2.1.

5.3.2.3.2 Leach specimens as per 5.2.2.3.2 to 5.2.2.3.6.

5.3.2.4 Weathering

5.3.2.4.1 Prepare specimens as per 5.3.2.2.1. Depending on the weathering apparatus and associated frames, specimen dimensions may need to be cut larger than the specimen template in order to be properly secured in the frames.

5.3.2.4.2 Mount specimens in weathering frames with no wrinkles or gaps. The interior side shall be exposed to the light source.

5.3.2.4.3 Weather specimens as per 5.2.2.4.3 to 5.2.2.4.8.

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5.3.3 Testing

5.3.3.1 Perform testing in a draft-free fume hood at standard atmospheric conditions or within 4 min of removal from standard atmospheric conditions. If testing cannot be carried out immediately after conditioning, place conditioned specimens in a sealed container and test within 4 min of removal from the sealed container.

5.3.3.2 Place the secondary floor on the bottom of the test chamber. Place the supporting frame on the secondary floor, shim side down.

5.3.3.3 Punch a 6 mm diameter hole in the centre of the specimen using the centring device. Refer to Figure 6.

5.3.3.4 Place the specimen on the supporting frame with the interior side facing upwards. Ensure the specimen is horizontal and flat.

5.3.3.5 Place flattening frame on the specimen. Position a methenamine tablet on its flat side with its edge within 3 mm of the hole in the centre of the specimen. Ignite the tablet by applying a flame to the top of the tablet.

5.3.3.6 Continue the test until combustion has ceased or until flaming or smouldering has reached the inside edge of the hole in the flattening frame. Ventilate the test area.

5.3.3.7 Without shifting the specimen and flattening frame, measure the shortest distance between the burned area to the inside edge of the flattening frame. Refer to Figure 7.

5.3.3.8 Remove any residue from the secondary floor and ensure that it is at room temperature before testing the next specimen.

5.4 Report

5.4.1 Report the following information:

5.4.1.1 Vertical test (all materials)

5.4.1.1.1 Average damage length, to the nearest 1 mm, for all materials tested as received, after leaching and after weathering.

5.4.1.1.2 Average mass loss, to the nearest tenth of a percent, for all materials tested as received, after leaching and after weathering.

5.4.1.1.3 Number of specimens that exhibited flaming debris for all materials tested as received, after leaching and after weathering.

5.4.1.2 Horizontal test (flooring materials), if applicable

5.4.1.2.1 Shortest intact length for each flooring specimen as received, after leaching and after weathering.

5.4.1.2.2 Horizontal test results shall be accompanied by vertical test results (see 5.4.1.1 and Annex B).

5.4.1.3 The number of this standard: CAN/CGSB-182.1-2020.

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6. Labelling requirements

6.1 General requirements

6.1.1 Permanent label

6.1.1.1 A permanent label carrying warnings and precautions in both English and French in accordance with 6.2 and 6.3, that remains legible, clearly visible and unobstructed throughout the life of the tent shall be attached:

a) on the inner or outer surface of a tent other than a children's tent; and

b) on the outer surface of a children's tent.

6.2 Warnings

6.2.1 A tent shall carry the following warnings in both English and French:

a) in **bold**, upper case letters not less than 3 mm in height and accompanied by the safety alert symbol (an equilateral triangle enclosing an exclamation point), the height of which shall be not less than 6 mm:



WARNING: KEEP ALL FLAME AND HEAT SOURCES AWAY FROM THIS TENT.

MISE EN GARDE : TENIR CETTE TENTE LOIN DE TOUTE FLAMME ET DE TOUTE SOURCE DE CHALEUR.

and

b) in **bold** letters not less than 2 mm in height:

This tent is not fireproof. The fabric will burn if left in continuous contact with a flame source.

Cette tente n'est pas ininflammable. Le tissu brûlera s'il est laissé en contact continu avec une source de flamme.

NOTE The minimum height of type is determined by measuring an upper-case letter or a lower-case letter that has an ascender or descender, such as "b" or "p".

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6.3 Precautions

6.3.1 A tent other than a tent designed or intended to be used with appliances (see 6.3.2) or a children's tent (see 6.3.3) shall carry the following precautions:

a) in letters not less than 2 mm in height:

Precautions	**Précautions**
Do NOT use candles, matches or other open flames in or near a tent.	NE PAS utiliser de bougies, d'allumettes ou d'autres flammes nues à l'intérieur ou à proximité d'une tente.
Fuel-powered lanterns and appliances are NOT recommended for use in or near a tent. If fuel-powered lanterns or appliances such as wood stoves or electric heaters are used, **exercise extreme caution**. Keep them away from the tent walls. Do NOT leave them unattended. Turn them off before going to sleep. Make sure the tent is well ventilated at all times to avoid suffocation.	Les lanternes et les appareils utilisant un combustible NE sont PAS recommandés pour une utilisation à l'intérieur ou à proximité d'une tente. Si vous utilisez des lanternes ou des appareils à combustible, tels que des poêles à bois ou des radiateurs électriques, **faites preuve d'une extrême prudence**. Gardez-les loin des parois de la tente. NE les laissez PAS sans surveillance. Éteignez-les avant d'aller vous coucher. Assurez-vous que la tente est toujours bien ventilée pour éviter l'asphyxie.
Build campfires downwind and several metres away from a tent. Extinguish campfires before leaving a campsite or going to sleep.	Construire les feux de camp sous le vent et à plusieurs mètres d'une tente. Éteindre les feux de camp avant de quitter un emplacement de camping ou d'aller se coucher.
Do NOT fuel lamps, heaters or stoves in a tent.	NE PAS faire le plein de lampes, d'appareils de chauffage ou de cuisinières dans une tente.
Do NOT smoke in a tent.	NE PAS fumer dans une tente.
Do NOT store flammable liquids in a tent.	NE PAS entreposer de liquides inflammables dans une tente.
Keep exits clear.	Garder les sorties dégagées.
Do NOT apply any foreign substance to a tent. It may diminish the flame resistant properties of tent material(s).	NE PAS appliquer de substances étrangères sur une tente. Cela peut diminuer les propriétés ignifuges des matériaux de la tente.

NOTE The minimum height of type is determined by measuring an upper-case letter or a lower-case letter that has an ascender or descender, such as "b" or "p".

Statements that convey the same meaning may be used.

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6.3.2 A tent designed or intended to be used with appliances shall carry the following precautions:

a) in letters not less than 2 mm in height:

Precautions	**Précautions**
Do NOT use candles, matches or other open flames in or near a tent.	NE PAS utiliser de bougies, d'allumettes ou d'autres flammes nues à l'intérieur ou à proximité d'une tente.
Exercise extreme caution: keep appliances away from the tent walls. Do NOT leave them unattended. Turn them off before going to sleep. Make sure the tent is well ventilated at all times to avoid suffocation.	**Faites preuve d'une extrême prudence :** gardez les appareils loin des parois de la tente. NE les laissez PAS sans surveillance. Éteignez-les avant d'aller vous coucher. Assurez-vous que la tente est toujours bien ventilée pour éviter l'asphyxie.
Build campfires downwind and several metres away from a tent. Extinguish campfires before leaving a campsite or going to sleep.	Construire les feux de camp sous le vent et à plusieurs mètres d'une tente. Éteindre les feux de camp avant de quitter un emplacement de camping ou d'aller se coucher.
Do NOT fuel lamps, heaters or stoves in a tent.	NE PAS faire le plein de lampes, d'appareils de chauffage ou de cuisinières dans une tente.
Do NOT smoke in a tent.	NE PAS fumer dans une tente.
Do NOT store flammable liquids in a tent.	NE PAS entreposer de liquides inflammables dans une tente.
Keep exits clear.	Garder les sorties dégagées.
Do NOT apply any foreign substance to a tent. It may diminish the flame resistant properties of tent material(s).	NE PAS appliquer de substances étrangères sur une tente. Cela peut diminuer les propriétés ignifuges des matériaux de la tente.
Follow manufacturer's instructions for safe appliance use.	Suivre les instructions du fabricant relatives à l'utilisation sécuritaire des appareils.

NOTE 1 Include any additional safety instructions that may be applicable to a particular tent to help prevent fires.

NOTE 2 The minimum height of type is determined by measuring an upper-case letter or a lower-case letter that has an ascender or descender, such as "b" or "p".

Statements that convey the same meaning may be used.

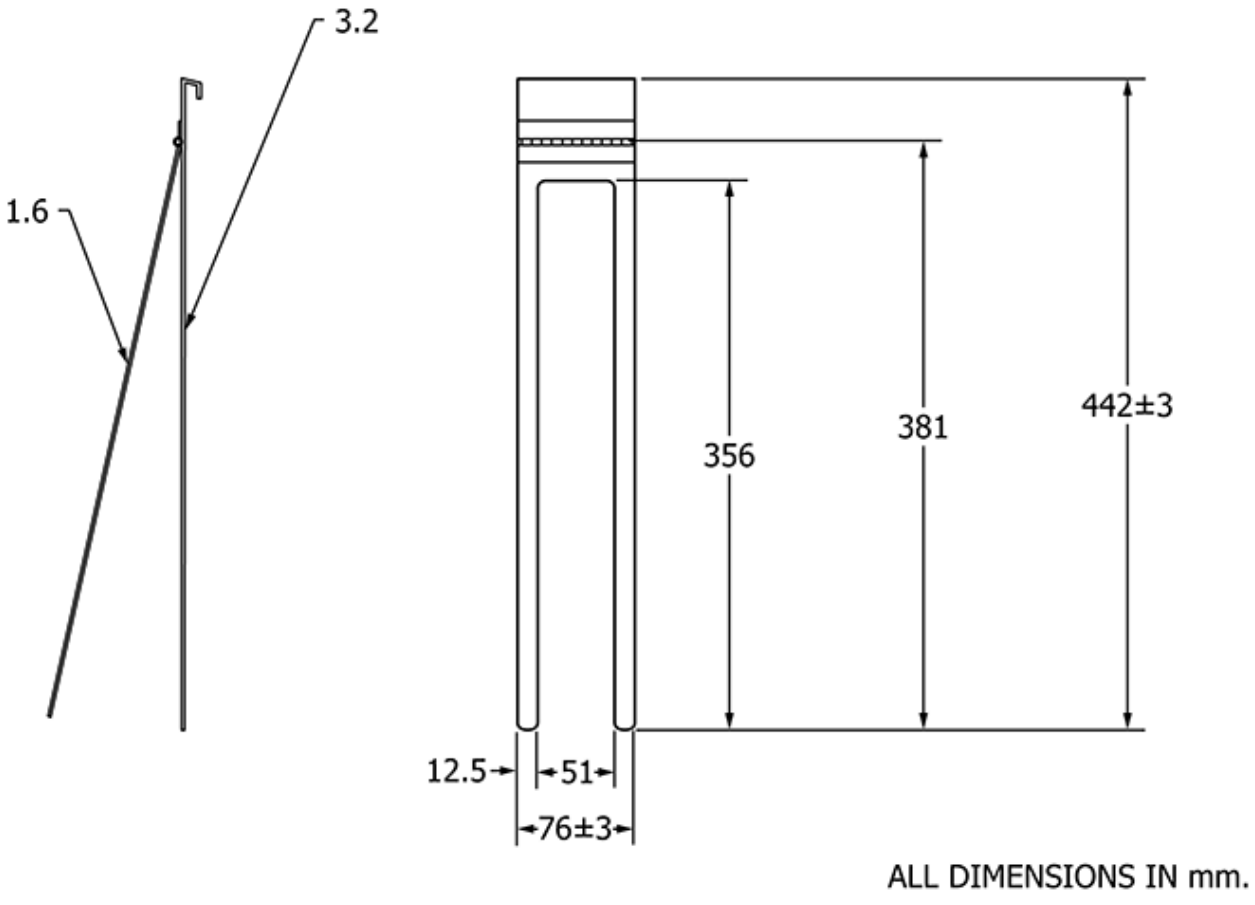
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6.3.3 A children's tent shall carry at least the following precautions:

a) in letters not less than 2 mm in height:

Precautions	**Précautions**
Do NOT use candles, matches or other open flames in or near a tent.	NE PAS utiliser de bougies, d'allumettes ou d'autres flammes nues à l'intérieur ou à proximité d'une tente.
Do NOT apply any foreign substance to a tent. It may diminish the flame resistant properties of tent material(s).	NE PAS appliquer de substances étrangères sur une tente. Cela peut diminuer les propriétés ignifuges des matériaux de la tente.
Keep exits clear.	Garder les sorties dégagées.

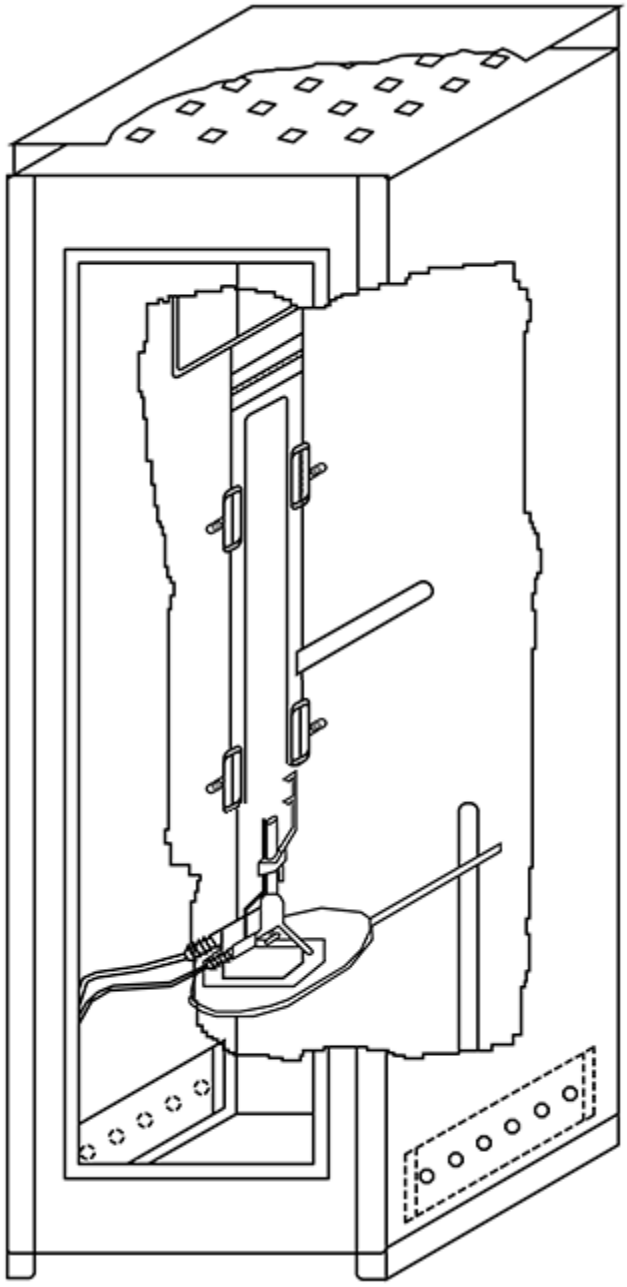
NOTE The minimum height of type is determined by measuring an upper-case letter or a lower-case letter that has an ascender or descender, such as "b" or "p".



NOTE Adapted, with permission, from ASTM D6413/D6413M-15, *Standard Test Method for Flame Resistance of Textiles (Vertical Test)*, copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org (see 3.1.1).

Figure 1 — Specimen holder

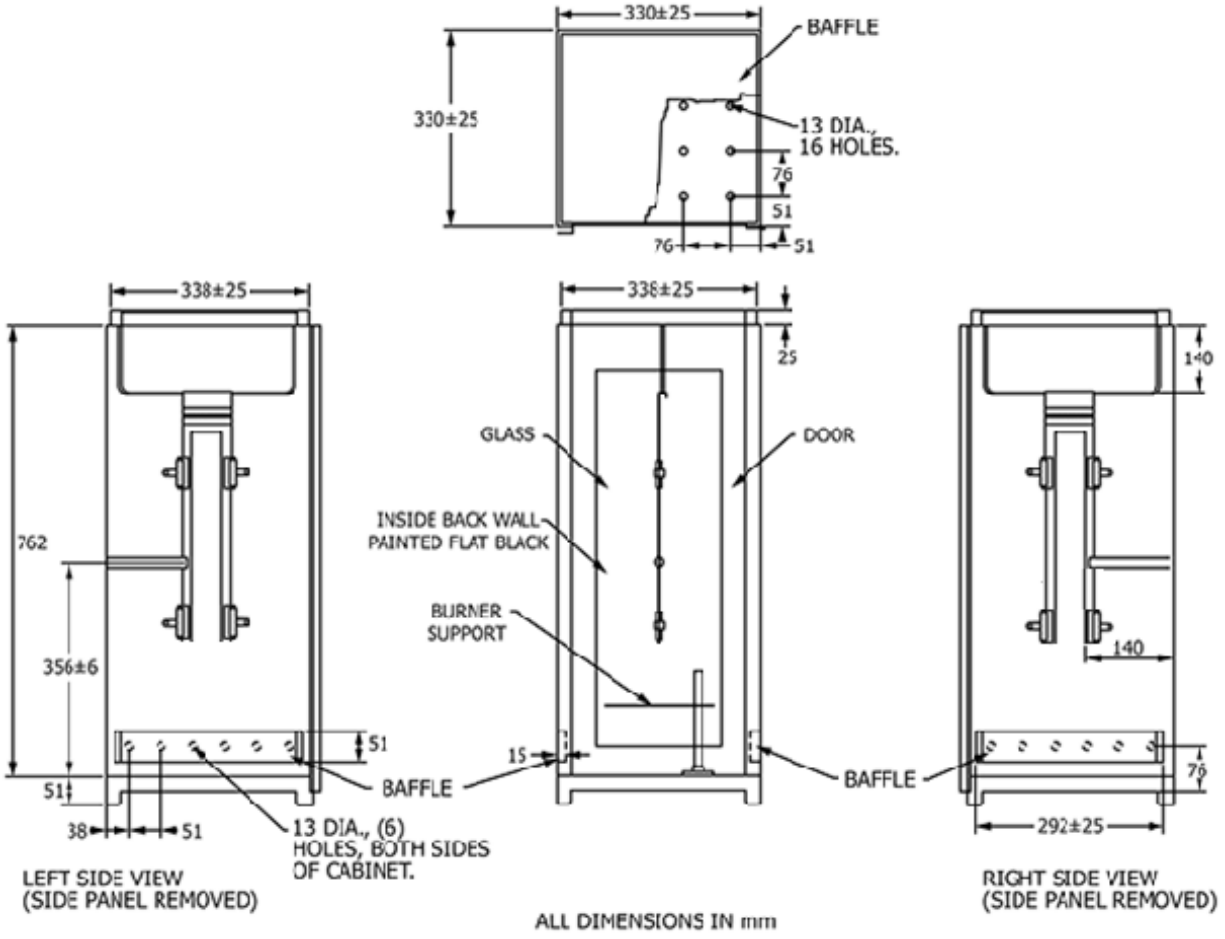
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Figure 2a — Test cabinet — Test apparatus

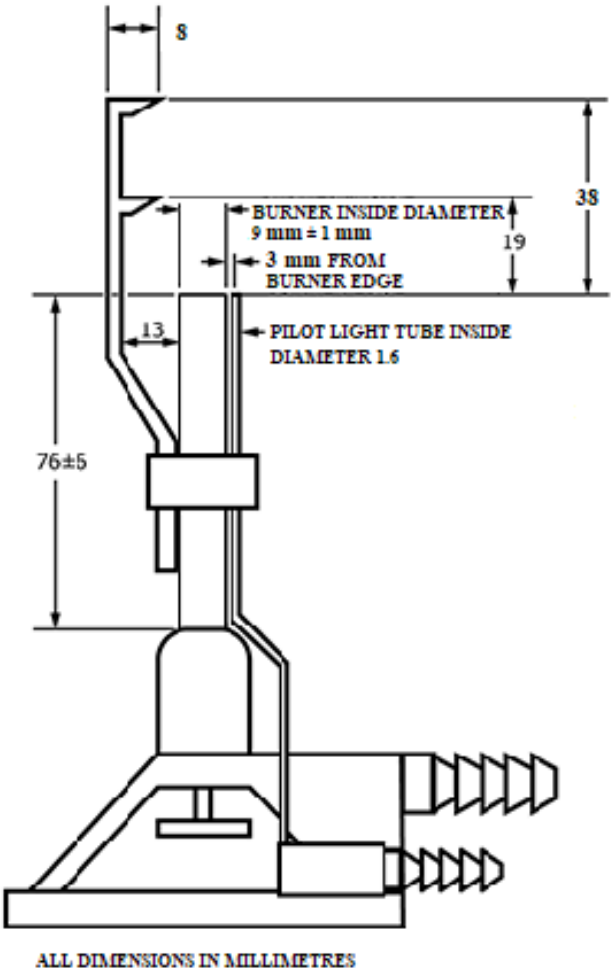
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Figure 2b — Test cabinet — Test apparatus construction details

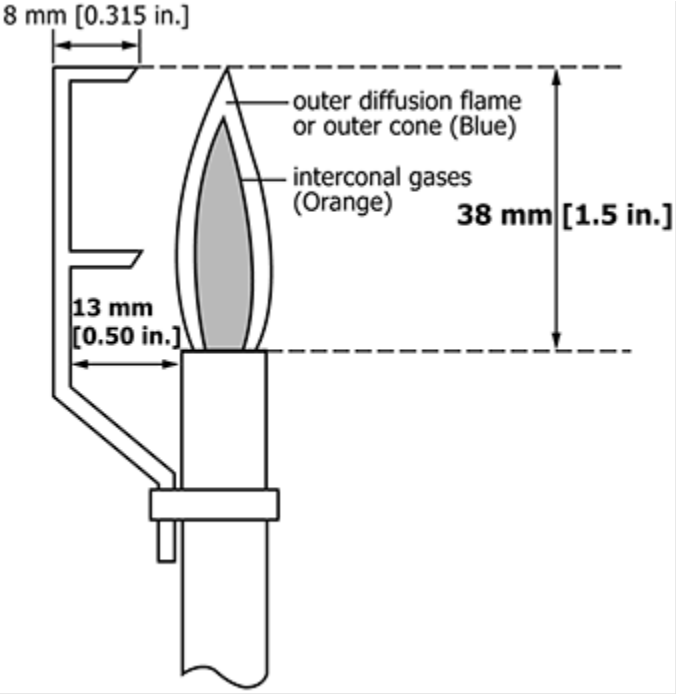
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Figure 3a — Needle valve burner, pilot light tube, flame height gauge — Burner and flame height gauge construction

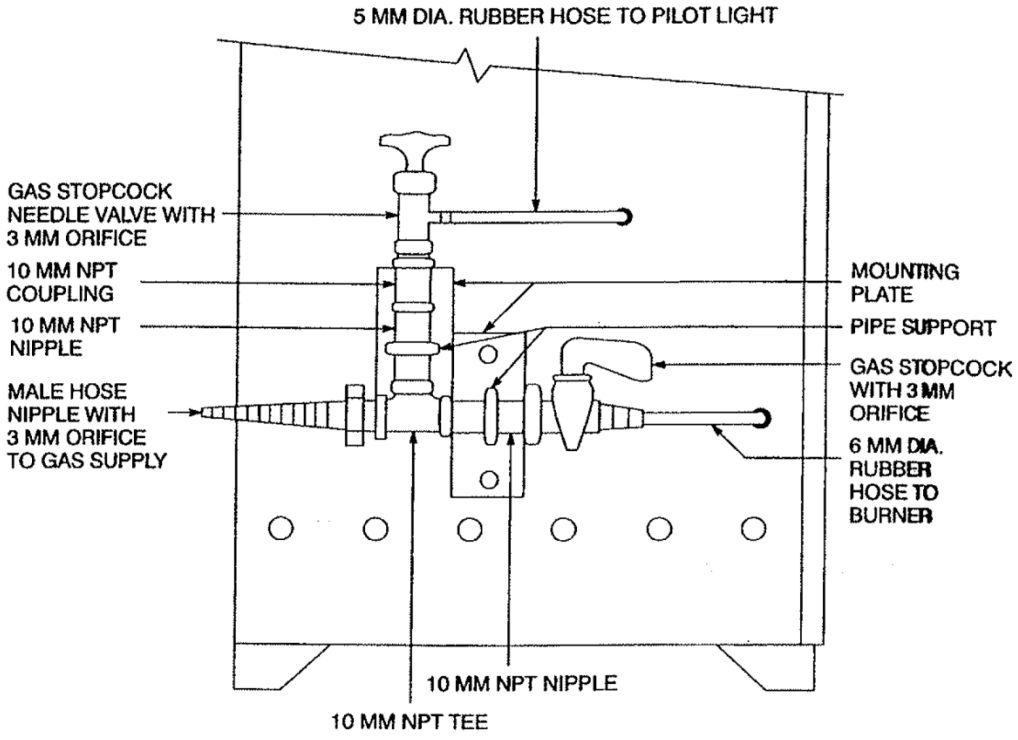
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Figure 3b — Needle valve burner, pilot light tube, flame height gauge — Flame height adjustment

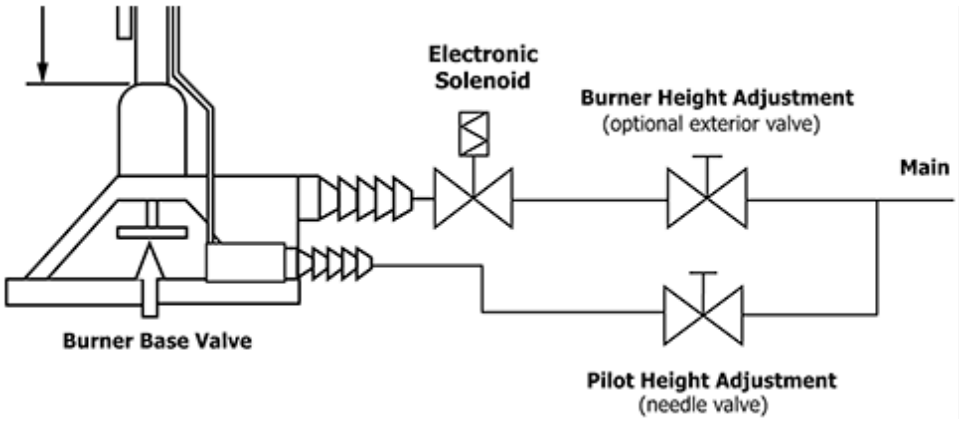
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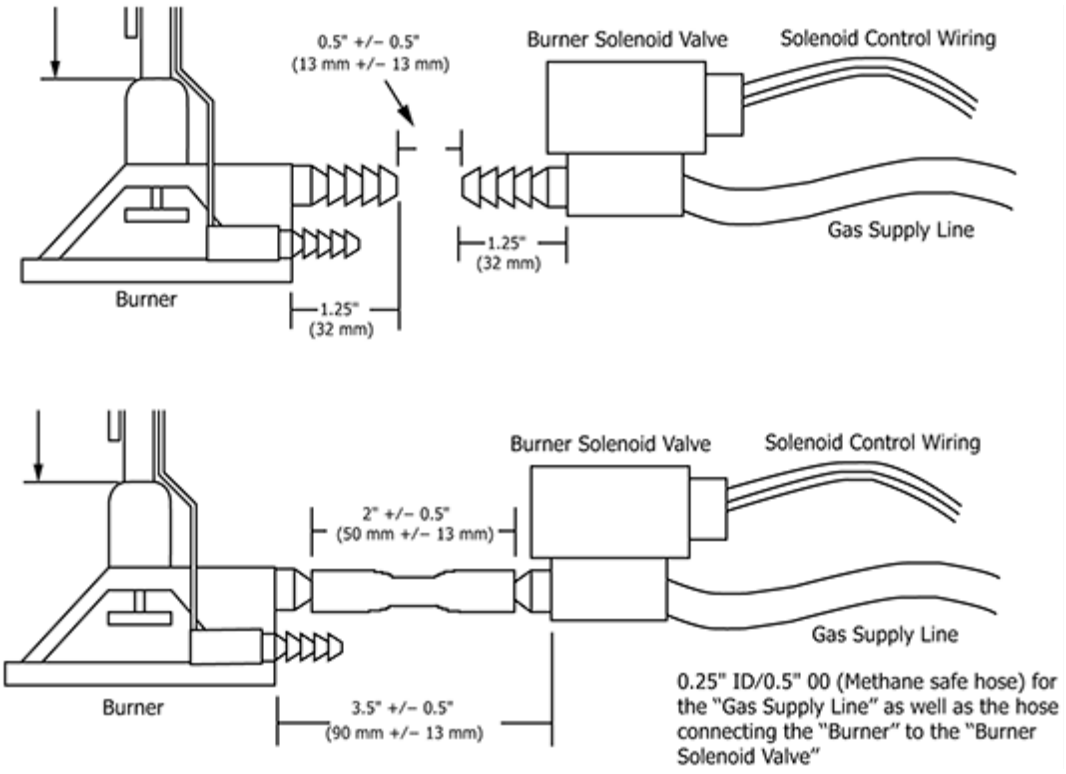
Figure 4a — Gas controls and connections — Vertical flame resistance textile apparatus, gas hose connection detail

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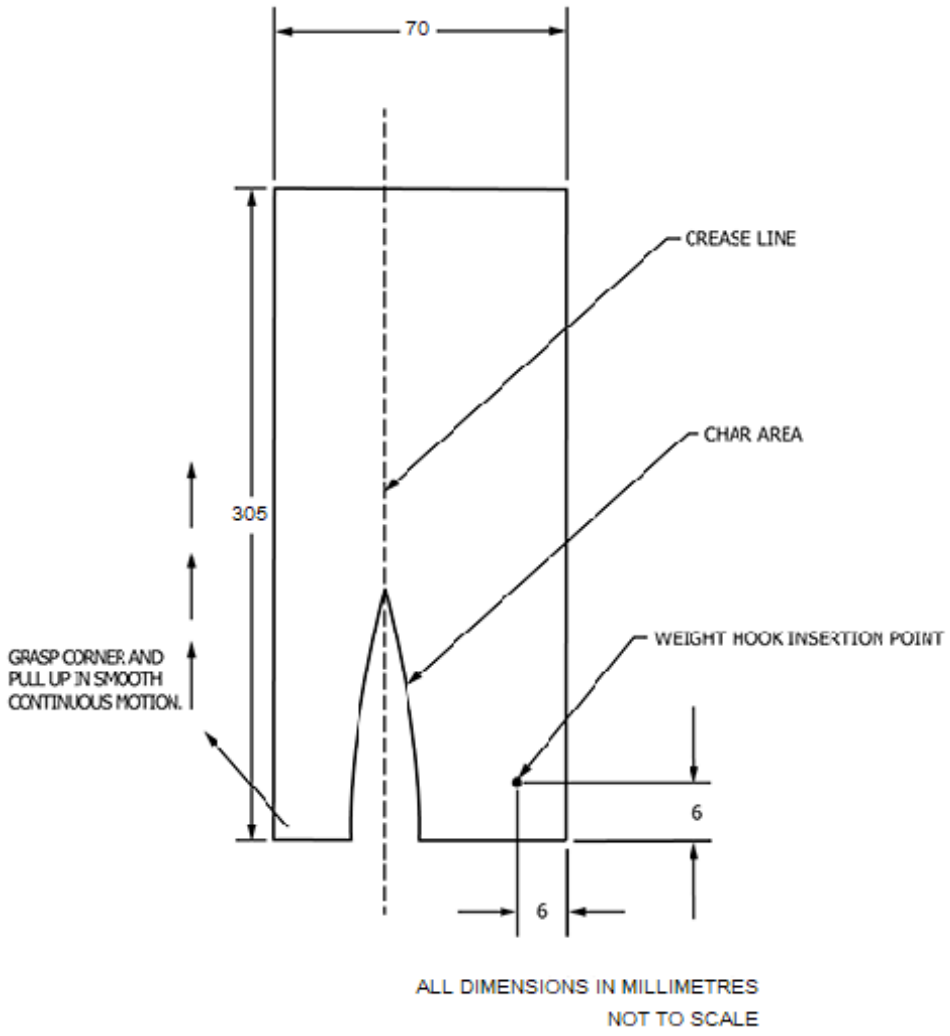
Figure 4b — Gas controls and connections — Schematic of methane gas controls and adjustments



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Figure 4c — Gas controls and connections — Position of solenoid valve

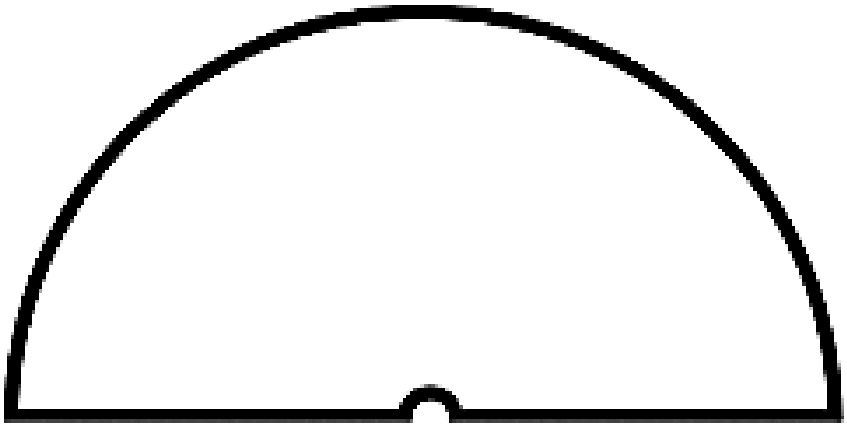
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Figure 5 — Damage length measurement

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NOTE A half-circle template matching the radius of the frame (101.5 mm) with a half-circle indent of approximately 3 mm radius centered on the straight edge may be used.

Figure 6 – Example of a centring device

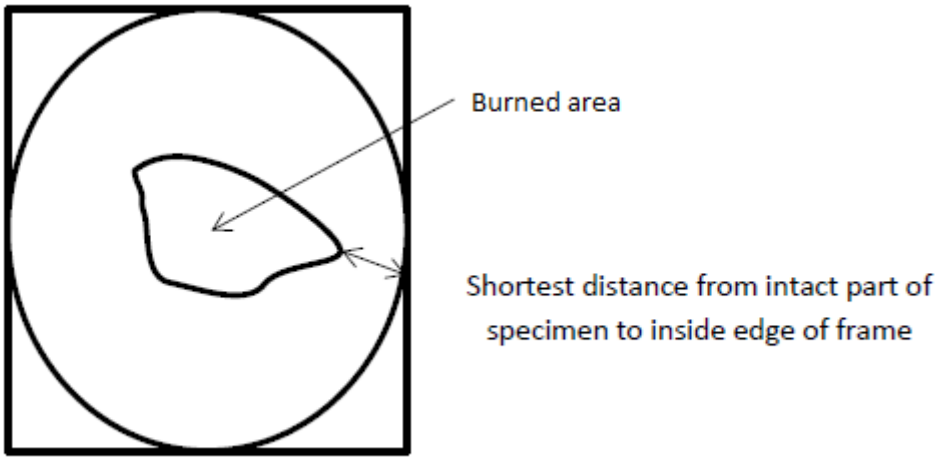


Figure 7 — Shortest intact length measurement

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Annex A
(informative)

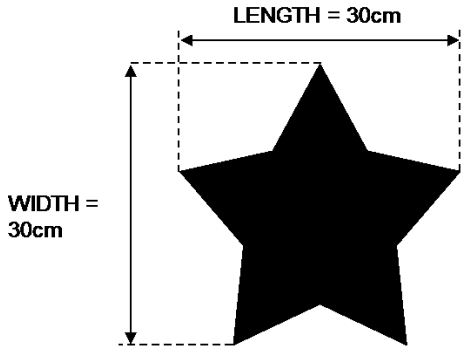
Example calculations for logo emplacements

Logos with a surface area of less than or equal to 1000 cm^2, based on a length by width measurement, are excluded from the flammability requirements. Adjacent logos on the same substrate with a minimum separation distance of 30.5 cm (from the enclosing length by width rectangles) are treated separately.



LOGO AREA = (45cm x 7cm) = 315cm^2
<1000cm^2, so EXEMPT

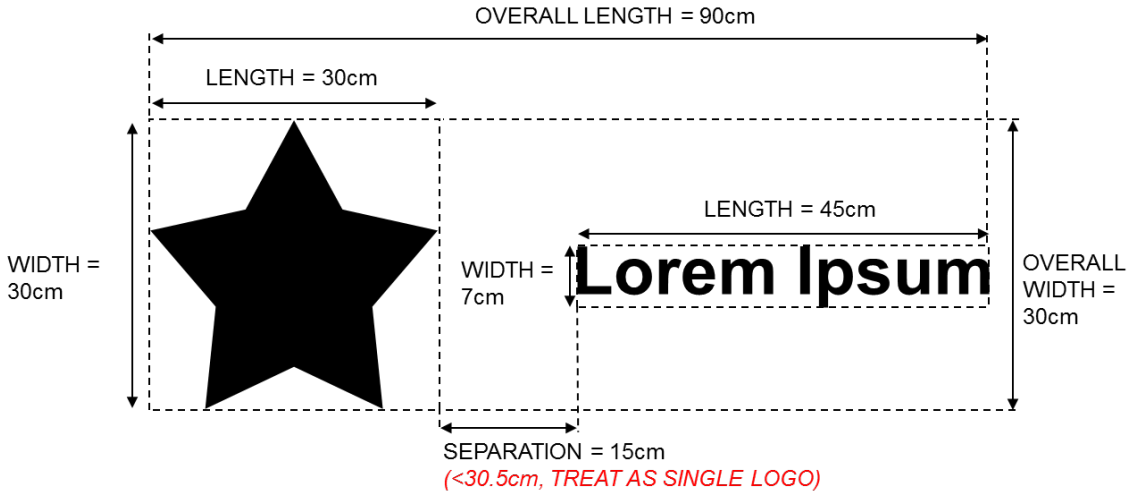
Example 1 — Calculation for a text logo



LOGO AREA = (30cm x 30cm) = 900cm^2
<1000cm^2, so EXEMPT

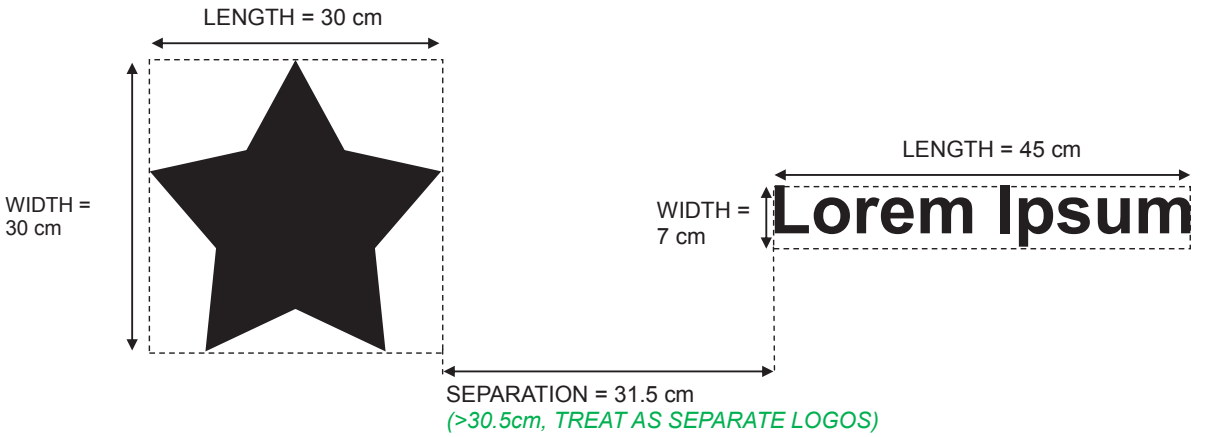
Example 2 — Calculation for a logo shape

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LOGO AREA = (90cm x 30cm) = 2700cm^2
>1000cm^2, so NOT EXEMPT

Example 3 — Adjacent logos (small separation)



LOGO AREA = (30 cm x 30 cm) = 900 cm^2
<1000 cm^2, so EXEMPT

LOGO AREA = (45 cm x 7 cm) = 315 cm^2
<1000 cm^2, so EXEMPT

Example 4 — Adjacent logos (large separation)

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Annex B
(normative)

Flooring materials

B.1 To determine if flooring material that extends up the side of a tent is considered to be flooring material or wall material for testing purposes, as per 4.3, measure as follows:

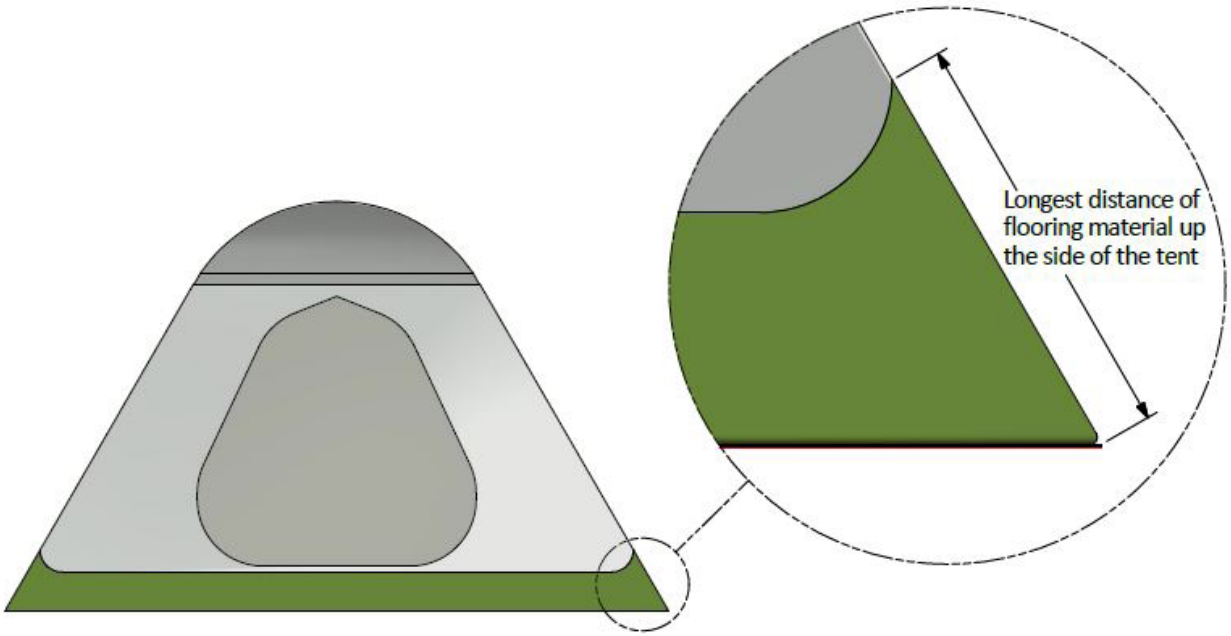


Figure B1 – Measurement of flooring material that extends up the side of a tent

For flooring material that extends unevenly up the side of a tent, measure the longest distance.

If the measured distance is less than 305 mm, treat the material as flooring material. If the measured distance is 305 mm or greater, treat the material as wall material.

B.2 For flooring materials, vertical test results shall be reported. If a flooring material fails the vertical test, horizontal test results shall also be reported. It is not acceptable to report horizontal test results only.

B.3 The horizontal test was included in this first edition of the standard as an interim measure to address concerns on whether flooring materials meeting the current horizontal test requirements will fail the vertical test requirements. The reported testing data will be reviewed and may lead to revisions in future editions of this standard.

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