



Royal Canadian Mounted Police  
Gendarmerie Royale du Canada

Doc. no: G.S. 1045-279  
Date: 2017-10-23

## Specification

# Mattress, Prisoner, High Risk

This document has 10 pages including the drawings.

This document was created in English.

The document is available in English and French.

English/Anglais  
Français/French

The photograph on this page is for reference only.





## **RCMP VIEWING SAMPLE**

A viewing sample, when available, will be supplied to the successful bidder.

This will be used for the guidance of the manufacturer in all factors not covered by this specification or referred to therein. Variation from the specification may appear in the sample in which case the specification must govern.

It may be obtained from:

Royal Canadian Mounted Police  
ATTN: Uniform & Equipment Program  
(440 Coventry Road, Warehouse Building)  
1200 Vanier Parkway  
Ottawa, Ontario  
K1A 0R2

It will be sent “prepaid” and is to be returned “prepaid”.

The viewing sample must be returned to the RCMP in the same condition as received by the manufacturer. Lost or damaged viewing samples must be replaced by an identical item or the RCMP must be reimbursed for the cost of an acceptable replacement.

## SPECIFICATION

### MATTRESS, PRISONER, HIGH RISK

#### 1. Definitions

- 1.1 This specification must govern the manufacture and inspection of Mattress, Prisoner, High Risk. The specific item covered under this specification with stock number is as follows:
  - i. 111047 - Mattress, Prisoner, High Risk / Matelas pour prisonnier à risque élevé
- 1.2 This specification, viewing sample, drawing or other information issued in connection therewith, may only be used for specific enquiries, solicitations, or orders placed on behalf of the Royal Canadian Mounted Police.
- 1.3 This specification supersedes all previous specifications for Mattress, Prisoner, High Risk.
- 1.4 This specification has been translated into French from this original English language document.

#### 2. Applicable Documents

- 2.1 The following publications are applicable to this specification and to the issues in effect on the date of the solicitation, unless otherwise specified.
- 2.2 American Association of Textile Chemists and Colorists  
AATCC Test Method 30-2013 Antifungal Activity, Assessment on Textile Materials: Mildew and Rot Resistance of Textile Materials  
AATCC Test Method 147-2011 Antibacterial Activity Assessment of Textile Materials: Parallel Streak Method
- 2.3 American Society for Testing and Materials  
ASTM D751-06 (Reapproved 2011) Standard Test Methods for Coated Fabrics  
ASTM D3574-17 Standard Test Methods for Flexible Cellular Materials – Slab, Bonded, and Molded Urethane Foams  
ASTM D3675-17 Standard Test Method for Surface Flammability of Flexible Cellular Materials Using a Radiant Heat Energy Source

ASTM D3776/ D3776M-09a (2013) Standard Test Methods for Mass Per Unit Area (Weight) of Fabric

ASTM D6413/ D6413M-15 Standard Test Method for Flame Resistance of Textiles (Vertical Test)

ASTM E662-17 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

ASTM F1870-16 Standard Guide for Selection of Fire Test Methods for the Assessment of Upholstered Furnishings in Detention and Correctional Facilities

### 3. **General Requirements**

3.1 The article or material covered by this specification must be free from imperfections or blemishes such as may affect its appearance or serviceability. In all particulars not covered by this specification or contract documents, production must be equivalent in all respects to the viewing sample.

3.2 **Design** - The Mattress, Prisoner, High Risk must be constructed of a flame retardant foam core enclosed in flame retardant reinforced non-perforated vinyl. The Mattress, Prisoner, High Risk is intended for occasional to moderate use in detachment cells. The mattress must provide a high level of tamper resistance. The mattress must be easy to clean with commercially available cleaning products. Mattresses which require specialized cleaning products or industrial laundering will not meet the requirement. Mattresses must be constructed using 100% new material only. The mattress must be resistant to fluid, staining, and bed bugs. The mattress must inhibit growth of bacteria and fungi. Mattresses which feature built in pillows do not meet the requirement.

### 4. **Detail Requirements**

#### 4.1 **Components**

4.1.1 **Foam Core** – The mattress core must be a single piece of flame resistant, low smoke producing foam, meeting the requirements outlined in Table I. The flame resistant properties must not degrade over the expected service life of 5 years. There must not be any migration or leaching of flame-resistant chemicals. The foam must be open-cell and breathable. The foam must be free from substances that would

accelerate ageing or deterioration. It must not contain natural or styrene-butadiene rubber (SBR) or harmful components.

4.1.2 **Mattress Cover** – The material used for the mattress cover must be a flame resistant, non-perforated, reinforced vinyl laminate meeting the requirements outlined in Table II. The mattress cover must resist cracking and delamination. The mattress cover must be either grey, black, or dark blue in colour.

4.2 **Dimensions** – The finished mattress dimensions must be 60 cm ± 3 cm in width, 183 cm ± 3 cm in length, and 7.5 cm ± 0.50 cm in height. The mattress cover must be tightly fit over the foam core. Mattresses with excessive cover material and loose foam cores will not meet this requirement.

4.3 **Construction**

4.3.1 **Body** – All seams must be durably thermo-sealed and be 2.5 cm ± 0.50 cm in width. The seam bonds must be durable and resist tearing by hand. The sealed seams must fit tightly against the foam core. Thermo-sealed seams must be thorough and complete; loose, unsealed edges do not meet the requirement. The mattress must be free from puncture holes.

4.4 **Marking Label** – Each mattress must have a durable label heat set or screen printed in a corner. The text must be permanent ink in a contrasting colour. The label information must be as outlined below, in a font no less than size 8. The label must be completed in both English and French.

1. RCMP stock number – reference contract documents (Ex. 111047)
2. Date of manufacture, in numeric format: year/month (Ex. 2010/06)
3. Cleaning instructions, as per manufacturer's recommendation

## 5. **Quality Assurance Provisions**

5.1 **Responsibility for Inspection** - Unless otherwise stipulated in the contract, it is the prime contractor's responsibility to satisfy the RCMP, Uniform and Equipment Program that the material and services being supplied conform to this specification. This may be accomplished by performing the tests specified in this specification or by demonstrating to the satisfaction of the RCMP, Uniform and Equipment Program that conformity to this specification of manufacturing processes is assured. The contractor must use any commercial testing establishment acceptable to the RCMP, Uniform and Equipment Program.

- 5.2 The RCMP, Uniform and Equipment Program reserve the right to perform any inspection considered necessary to ensure the material and services conform to the specified requirements. For the purpose of inspection, a portion of each delivery not exceeding two percent or two out of any number delivered under 100 may be put to tests that could destroy the articles. If found to be inferior or not in accordance with this specification, all articles so destroyed must be replaced by others of proper quality and pattern at the expense of the contractor. The entire delivery may also be rejected if it is found that articles previously rejected due to non-repairable defects are redelivered for inspection.
- 5.3 The contractor will be promptly notified when any articles are not accepted and such articles will be returned at the contractor's risk and expense.

**TABLE I**  
**Foam Cushioning**

REQUIREMENTS			TEST METHOD
1	Density	92 kg/m <sup>3</sup> ± 12 kg/m <sup>3</sup>	ASTM D3574 Test A
2	Indentation	130 N to 200 N	ASTM D3574 Test B <sub>1</sub> (Tested at 3")
3	Compression	Must retain 90% of original thickness	ASTM D3574 Test C
4	Antimicrobial	No growth	AATCC TM 30-2013 Test III Agar Plate, <i>Aspergillus Niger</i>  <u>AND</u> AATCC TM 147-2011
5	Surface Flammability	No running or dripping of flaming materials	ASTM D3675
6	NBS Smoke Chamber Flaming and Non-Flaming Modes- 1" sample	D <sub>s</sub> at 90 sec – 100 max. D <sub>s</sub> at 4 min – 175 max. D <sub>max</sub> – 200 max.	ASTM E662



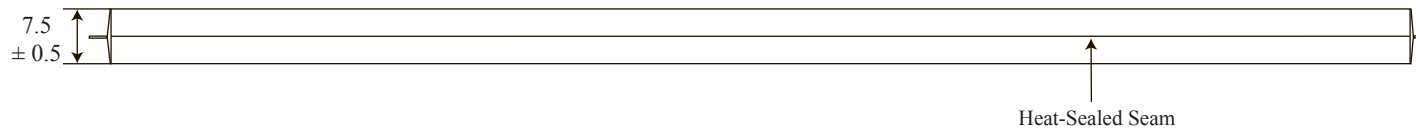
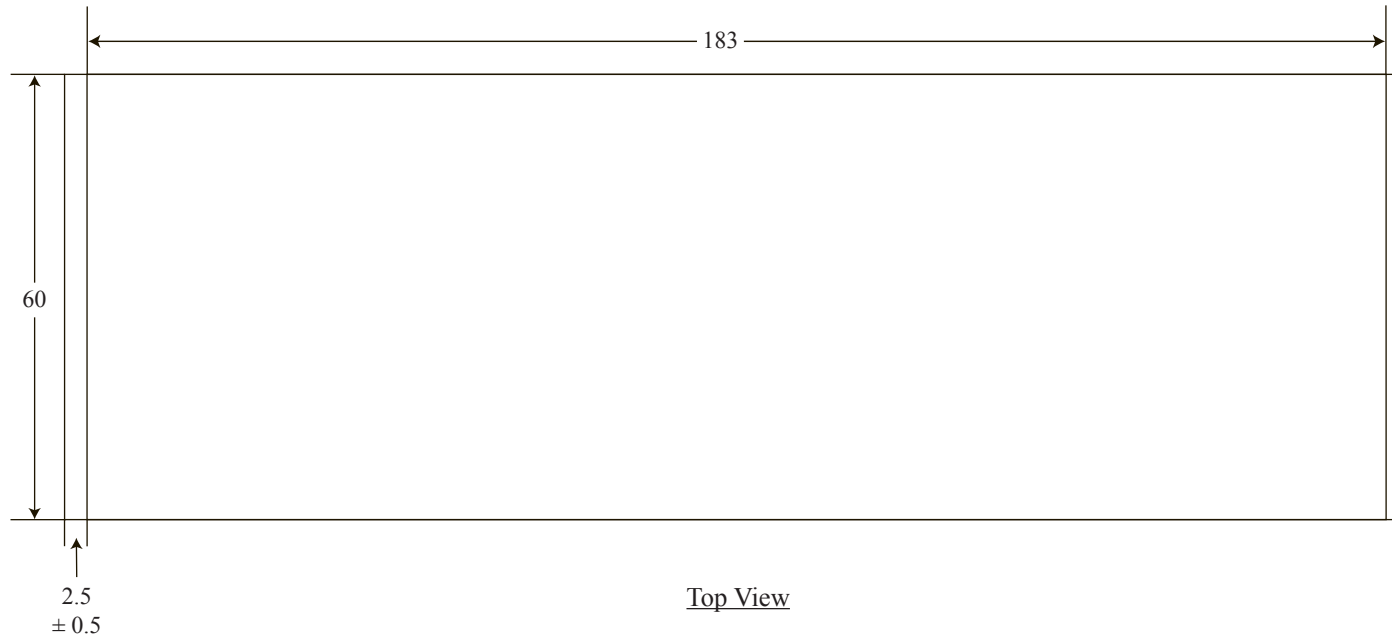
**TABLE II**  
**Cover Material**

		REQUIREMENT	TEST METHOD
1	Fabric Weight	510 g/m <sup>2</sup> ± 25 g/m <sup>2</sup>	ASTM D3776-13 Option C
2	Breaking Strength	Warp: 1170 N minimum Weft: 910 N minimum	ASTM D751-11 Procedure A – Grab Test Method
3	Trapezoid Tear	Warp: 340 N minimum Weft: 300 N minimum	ASTM D751-11
4	Adhesion Coating	Warp: 7 lbs/ inch minimum Weft: 5 lbs/inch minimum	ASTM D751-11
5	Antimicrobial	No growth	AATCC TM 30-2013 Test III Agar Plate, <i>Aspergillus Niger</i>  <u>AND</u>  AATCC TM 147-2011
6	Flame Spread	Damaged length – <u>no more</u> than 100 mm After flame – <u>no more</u> than 2.0 seconds Afterglow – <u>no more</u> than 2.0 seconds Must not exhibit melting or dripping	ASTM D6413-15

# Drawing 1

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Mattress, Prisoner, High Risk



NOT TO SCALE

All measurements are shown in centimeters.

± 3 tolerance acceptable unless otherwise indicated.