Royal Canadian Mounted Police
Gendarmerie royale du Canada

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Specification

Boots, Ankle, Lightweight

This document has 19 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.

Issued on the authority of the Commissioner, Royal Canadian Mounted Police.

Modifications

Date	Para. No's	Modifications
1999-04-09		Original Specification
2000-07-28	Paras. 3.2, 4.1.15, 7.3, 7.4 & Dwg. 1	Sole changed to Vibram TC-1, #1276. Reference to standard corrected.
2005-11-15	Para. 4.3.16	Toe stitching permitted to prevent sole separation.
2006-04-11	Paras. 2.3, 2.4, 2.5, 2.7	Reference specs changed from DND to RCMP specs.
2008-05-05	Paras. 3.2, 4.1.6, 4.1.14, 4.1.14.1	New midsole, new one-piece cushion midsole insert added, tables renumbered, new storm welt.
2014-02-07	Paras. 4.1.1, 4.1.2, 4.1.4, 4.1.5, 4.1.6, 4.1.11, 4.1.12, 4.1.13, 4.1.13.1, 4.1.14, 4.1.17.1, 4.1.17.2, 4.1.17.3 Paras. 2.1 to 2.31 Paras. 4.1.1 Para. 4.1.2 Para. 4.1.9 Para. 4.1.11 Para. 4.1.12 Para. 4.1.13.1 Para. 4.1.15 Paras. 4.1.17.1-4.1.17.3 Paras. 4.1.20, 4.1.21 (removed) 4.1.19 4.2.3.2 Appendix 'A'	Certificates of Compliance required. Obsolete RCMP and DND standards removed; new ASTM and SATRA test methods added. Fungicide concentration requirement removed. Vamp and quarter lining paragraphs joined & (subsequent paras. renumbered). Shank description. Lace description amended. Insole material information added. Midsole requirement changed. Substitute removable insert added. Thread description changed. Insole rib references removed. Tongue reinforcement material paragraph added. Tongue reinforcement construction detail added. Appendix 'A' added.

RCMP VIEWING SAMPLE

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

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

SPECIFICATION

BOOTS, ANKLE, LIGHTWEIGHT

1. Definition

1.1 This specification shall govern the manufacture and inspection of Boots, Ankle, Lightweight, colour black with Vibram sole and integral heel. Men's and Women's sizes shall be covered in this specification.

1.2 This specification, viewing sample, drawing or other information issued in connection therewith, may only be used for specific enquiries, tenders, or orders placed on behalf of the Royal Canadian Mounted Police.

1.3 This specification supersedes all previous specifications for Boots, Ankle, Lightweight.

2. Applicable Specifications

2.1 The following publications are applicable to this specification and to the issues in effect on the date of the invitation to tender, unless otherwise specified.

2.2 CGSB, CAN 2-4.2, Textile Test Methods.

2.3 A-A-59826, Thread, Nylon.

2.4 ASTM, Standards on Rubber Products, D1248, Polyethylene Moulding and Extrusion Materials.

2.5 ASTM, Rubber Products - Chemical Analysis, D297.

2.6 ASTM, Rubber Property - Effect of Liquids, D471.

2.7 ASTM, Measuring Rubber Deterioration - Cut Growth Using Ross Flex, D1052.

2.8 ASTM, Dynamic Water Resistance of Shoe Upper Leather, D2099.

2.9 ASTM, Grain crack and Extension of Leather by the Mullen Test, D2210.

2.10 ASTM, Rubber Property - Durometer Hardness, D2240.

2.11 ASTM, Total Ash in Leather, D2617.

2.12 ASTM, Chromic Oxide in Leather, D2807.

2.13 ASTM, pH of Leather, D2810.

2.14 ASTM, Hexane Extraction of Leather, D3495.

2.15 ASTM, Flexible Cellular Materials, D3574

2.16 ASTM, Stitch Tear Strength, D4705.

2.17 ASTM, Mass per Unit Area of Fabric, D3776

2.18 ASTM, Air Permeability, D737

2.19 ASTM, Thickness of Nonwoven Fabric Thickness, D5729

2.20 ASTM, Funal Resistance, D3273

2.21 ASTM, Abrasion of Textile B(Martindale Tester Method), D4966

2.22 ASTM, Bursting Strength of Textiles, D3787

2.23 ASTM, Stitch Tear Strength, D4786

2.24 SATRA, Wet Tensile Strength, TM 2

2.25 SATRA, Flexing Index, TM 3

2.26 SATRA, Abrasion Resistance, TM 14

2.27 SATRA, Compression Set, TM 64.

2.28 SATRA, Dimensional Stability, TM 98

2.29 SATRA, Bond Strength, TM 101

2.30 Fed-Std-311 Leather Methods of Sampling and Testing/3021 Staining.

2.31 Fed-Std-311 Leather Methods of Sampling and Testing/8112 Water Absorption.

3. General Requirements

3.1 The boots shall be free from imperfections or blemishes that may affect their appearance or serviceability. They shall be equivalent in all respects to the viewing sample.

3.2 **Design** - The boots shall be lace-to-toe style. They shall have black (neoprene) rubber middle soles, cushion midsole insert and black Vibram TC-1, no. 1276 (Black Plug) oil-resistant, non-marking outsoles as per viewing sample and Drawing 1. The boots shall be water resistant as per Table II.

3.3 **Manufacture** - The boots shall be made on last no. 7826 by what is known as the Goodyear welt process. Each pair shall have matching components similar in weight and quality.

3.4 **Basic Dimensions** - Height of the upper shall be 13.5 cm with a plus tolerance of 3 mm, when measured from the heelseat at the back after lasting. All dimensions referred to in this specification are for size 8E Male. All other sizes and widths shall be in correct proportion.

3.5 **Sizes and Widths** - The contract shall specify the quantity of boots required in the various sizes (full and half sizes) and widths indicated below:

Table I

Men's Sizes		Women's Sizes	
Width	**Size Range**	**Width**	**Size Range**
D	6 - 13 incl.	B	4½ - 10½
E	6 - 13 incl.	D	4½ - 10½
F	6 - 13 incl.		

3.6 In the event of any inconsistency in contract documents, specification, drawing, or viewing sample, the aforementioned shall prevail in the following order:

i) Contract
ii) Specification
iii) Drawing
iv) Viewing sample

4. Detail Requirements

4.1 Materials

4.1.1 **Upper Leather** - Upper leather shall be made from full grain only, chrome tanned, fat-liquored cattlehide sides treated to be resistant to both water absorption and water penetration. The temper of the leather shall be round to the hand with sufficient stand-up to prevent collapse of the boot upper. The leather shall be as free as possible of imperfections such as flesh cuts, heavy vein marks, grub damage or excessive fat wrinkles. Looseness or pipiness is not acceptable. The thickness of leather in the upper shall be 1.8 mm to 2.0 mm with the exception of the tongue and collar which shall be 1.0 mm to 1.2 mm. A slight finish or leveling coat may be applied to the grain side to make the surface colour uniform providing that the specified water penetration rate requirements are maintained. The finish shall be one that is easily maintained by the user and can be restored by non-emulsifying oils (such as a silicone-based product). Chemical and physical properties shall be in accordance with Table II as follows:

Table II

Property	Test Method	Requirement
Thickness - Upper - Tongue & Collar	Woburn Gauge	 1.8 mm to 2.0 mm 1.0 mm to 1.2 mm
Fat Content (Hexane extraction)	ASTM D3495	12-15%
pH Value	ASTM D2810	3.0 minimum
Ash	ASTM D2617	9.0% maximum
Chrome Oxide	ASTM D2807	3.5% minimum
Burst Strength (Mullen)	ASTM D2210	

- for 1.0 to 1.2 mm thickness - for 2.0 to 2.2 mm thickness		250 lb/inch^2 min. 350 lb/inch^2 min.
Stitch Tear Strength - for 1.0 to 1.2 mm thickness - for 2.0 to 2.2 mm thickness	ASTM D4705	 40 lb minimum 70 lb minimum
Water Penetration (for entire skin)	ASTM D2099	No penetration after 15,000 flexes minimum
Water Absorption	FED-STD-311/8112	30% maximum

A Certificate of Compliance is required.

4.1.1.1 **Vamps** - Shall be cut from the best portion of the butt of the side. It shall be free from open or healed-over scratches and other grain damage.

4.1.1.2 **Quarters** - Shall be cut adjacent to the vamp area specified in para. 4.1.1.1, and from parts of the shoulder that are not hingy and are free from excessive fat wrinkles. Light, well healed-over scratches that do not affect the appearance will be accepted.

4.1.1.3 **Outside Backstraps** - Shall be cut from backbone and shoulder areas, and shall be free from prominent fat wrinkles and grub damage.

4.1.2 **Quarter & Vamp Lining** - Shall be cut from a nylon-polyester blend 'spacer'-type knitted material equal in all respect to the viewing sample and the requirements outlined in Table III below. This material is known in the trade as Dri-Lex Aerospace™ 622 from Faytex. Other products will be considered if they can be shown to be equivalent or superior in performance.

Table III

PROPERTY	TEST METHOD	REQUIREMENT
Mass	CAN 2-4.2, Method 5.1 ASTM D3776	326 g/m^2 (9.6 oz/yd^2)
Thickness	ASTM D5729	2.9 mm, +/-0.25 mm
Surface Abrasion	ASTM D4966	153,600 rev. Martindale
Burst Strength	ASTM D3787	224 lbs

A Certificate of Compliance is required.

4.1.3 **Vamp Doublers** - Shall be cut from an unbleached, plain weave, cotton flannelette, napped on one side. The fabric shall be free from starch, glue or other water soluble sizing materials. It shall be finished with a permanent-type finish to which a rot-proofing compounds has been added. Other materials may be considered provided the physical requirements are met. The fabric used shall show no growth of fungus when subjected to the test shown in method 28.4 of CAN/CGSB-4.2. After finishing and rotproofing, the fabric shall meet the requirements given in Table IV:

Table IV

PROPERTY	MINIMUM	MAXIMUM	CAN 2-4.2 TEST METHODS
Mass	170 g/m^2	176 g/m^2	5.1
Yarns per cm			
(Warp)	17	19	6
(Weft)	16	18	6
Breaking Strength			
(Warp)	222 N	-	9.2
(Weft)	222 N	-	9.2 (20s Breaking Time)

4.1.4 **Counters** - Shall be cut from thermoplastic material, coated on both sides with hot melt for adhesion, thickness shall be from 1.46 mm to 1.94 mm maximum.
A Certificate of Compliance is required.

4.1.5 **Welting** - The welting shall be a storm-type welt of synthetic rubber. The colour shall be black and the thickness shall be 3.2 mm (± 0.2 mm). The width shall be compatible with the manufacturer's equipment and allow the finished boots to have a 5.0 mm (± 0.2 mm) rim when measured from the ridge of the storm welt to the finished edge of the boot.
A Certificate of Compliance is required.

4.1.6 **Bottom Filler** - The filler shall be a granulated cork bonded by a waterproof and thermosetting binder which is free from any material subject to rapid deterioration with age. Thermoplastic binders shall not be employed. The cork granules will be 1 mm x 2 mm in size with a plus or minus tolerance of 10 percent. The mass of the cork shall be not less than 80 kg/m^3 nor more than 90 kg/m^3. The filler shall be compatible with the specified soling adhesive and shall not stain nor bunch and shall retain flexibility throughout the life of the boot. The cantilever movement between the filler surface and the outsole shall not cause squeaking.
A Certificate of Compliance is required.

4.1.7 **Box Toes** - Shall be cut from a styrene butadiene box toe material. The material shall be a laminate. The material used in forming the laminate shall consist of a single ply, double napped (napped both sides) unbleached cotton having an approximate average mass of 247 g/m^2. The napping shall be continuous styrene loading of 522 g/m^2 ± 8%, in the dry state, to produce a thickness (in the unactivated state) of not less than 1.27 mm nor more than 1.53 mm. No fillers shall be added to the styrene. The front upper edge of the box toe shall be skived to a thin edge with a 13 mm ± 1.5 mm straight bevel scarf. Other materials may be considered provided the physical requirements/performance is satisfactory. The manufacturer shall state what material is being used if it is different from the above requirement.

4.1.8 **Box Toe Solvent** - The solvent to be employed in treating the box toes shall be a fast drying petroleum type of toluol with an RI of 1.4969 at 20° C. The coal tar variety of solvent shall not be employed. Where lasting techniques require a longer drying time, a slower solvent may be utilized provided that it does not exceed 18 percent (by volume). Other materials may be considered provided the physical requirements/performance is satisfactory. The manufacturer shall state what material is being used if it is different from the above requirement.

4.1.9 **Shanks** - The shanks shall be made of high-carbon, cold-rolled strip steel, sound and free from roughness, pitting, blisters, limitations, surface defects or edge cracks. The shank shall be appropriately curved to fit the bottom of any designated last. The surface may be plated with a rust-inhibiting bright zinc (or other suitable material) coating. The shanks may be covered with a tape material to reduce the possibility of squeaking.

4.1.10 **Eyelets** - Shall be made from aluminum with a black enamel finish and an inside barrel diameter of 5 mm when set. The inside barrel shall be of sufficient length to produce a smooth firm rollset clinch on the facings.

4.1.10.1 **Tunnel Loops** - Shall be brass with a black nylon coating, as per viewing sample.

4.1.11 **Laces** – The lace sheath and selvedge shall be made from 1040 decitex (940 denier), 140 filament, taslanized high tenacity, continuous filament nylon twisted 175 to 200 turns per metre, (4 ½ to 5 turns per inch) and known commercially as Type 728B. The nylon core shall be 11000 decitex (9900) denier) high tenacity, continuous filament nylon twisted 78 to 98 turns per metre (2 to 2 ½ turns per

inch). The sheath colour shall be black. The length shall be 152 cm for all men's sizes and 127 cm for all women's sizes.

A Certificate of Compliance is required.

4.1.12 **Insoles** - The insole shall be 100% polyester fibre content with 3/32 urethane foam coated on one side with latex cement, meeting the following requirements:

Table V

PROPERTY	TEST METHOD	REQUIREMENT
Mass - Total Weight - Polyester portion	ASTM D3776	 1630 g/m^2 660 g/m^2
Air permeability	ASTM D737	7.5 CFM minimum
Thickness - Total - Polyurethane foam	ASTM D5729	 4.7 – 5.5 mm 3.0 – 3.4 mm
Fungal Resistance	ASTM D3273	Level 10
Wet tensile strength	SATRA TM 2	70 kg/cm^3 minimum
Flexing index (5000 cycles)	SATRA TM 3	- along direction 3.29 - across direction 3.59
Abrasion resistance (1000 cycles)	SATRA TM 14	20 mm^3 minimum
Dimensional stability	SATRA TM 98	- along direction 0.15% maximum - across direction 0.15% maximum
Bond strength (Peel)	SATRA TM 101	0.8 n/mm minimum

Note: Summumtex™ by Texel is known to meet these requirements. Other products may be considered if they can be shown to be equivalent or superior in performance.

A Certificate of Compliance is required.

4.1.13 **Midsoles** - Shall be black oil resistant (neoprene) rubber, 1.5 to 2.6 mm thick. When tested in accordance with ASTM D4786, the stitch tear (dry) strength shall be 180 lb minimum. Maximum volume swell when tested in Fuel B in accordance with ASTM D471 shall be 40%.

A Certificate of Compliance is required.

4.1.13.1 **Midsole Cushion Insert** - The cushion midsole shall be polyether polyurethane in accordance with Table VI. The thickness in the forepart shall be a minimum 5.6 mm and at the heel a minimum of 20 mm.

Table VI

PROPERTY	TEST METHOD	REQUIREMENT
Density (gm/cc)	ASTM D297	0.50 to 0.60
Hardness (Shore A)	ASTM D2240	53 - 63
Tensile Strength (kgf/cm^3)	ASTM D3574	25 minimum
Elongation (%)	ASTMD3574	250 minimum
Tear Strength - Die T (kg/cm)	ASTM D3574	3.7 minimum
Volume Swell (%) - with ASTM IRM 903 (at 24hrs)	ASTM D471	10 maximum
Compression Set (%)	SATRA TM 64	20 maximum
Ross Flex (1 x 6 inch) at 5°C	ASTM D1052/1*	900% @ 50,000 cycles

* Test method modified to include insole board glued onto the specimen and test conducted at -5ºC.

A Certificate of Compliance is required.

4.1.14 **Outsoles** - Shall be rubber type Vibram TC-1, no. 1276 (black plug), in accordance with the viewing sample.

A Certificate of Compliance is required.

4.1.15 **Removable Cushion Insert** - Shall be a multi-layered laminate composed of two primary urethane rubbers designed to provide maximum cushioning, efficient energy return, extended compression set retention and superior moisture management. The top layer (e.g. 'Dryz® Moisture Management System') shall be composed of hydrophilic open cell urethane foam with phase change properties, allowing moisture/perspiration to be converted from a liquid/vapour state into a dry soft cushioning gel, producing a cooling effect while in active use. The second layer is closed cell visco-elastic polyurethane designed and contoured to provide long-wearing cushioning and shock absorbency. Other products will be considered if they can be shown to be equivalent or superior in performance. For information purposes, Poliyou® Air Insoles are known to meet the requirements.

4.1.16 **Staples** - Shall be corrosion-resistant steel, 7 mm long, nominal.

4.1.17 **Thread**

4.1.17.1 **Upper** - All upper stitching shall be done with Class A, Type II, size "E" bonded nylon thread (top and bottom) in accordance with specification A-A-59826. The thread colour shall be black.
Certification of compliance must be provided.

4.1.17.2 **Welting** - The welting shall be sewn with Class A, Type I, Size 8 (Tex 600) soft filament nylon in accordance with specification A-A-59826. The thread shall be thoroughly impregnated with hot wax.
Certification of compliance must be provided.

4.1.17.3 **Sole Stitching** - The stitching shall be done with Type II, Class B, size 6 (Tex 400) nylon thread in accordance with specification A-A-59826.
A Certificate of Compliance is required.

4.1.18 **Adhesive** - The adhesive to be used for binding the outsole to the midsole and the midsole to the bottom and welt, shall be polyurethane.

4.1.19 **Tongue Reinforcement Strap** – The tongue webbing shall be a durable nylon webbing, luggage quality, black in colour measuring 13 mm wide with a tolerance of ± 2 mm and .04"± .01" thick. It shall be solution dyed nylon. Tape Craft #NN088 is known to meet the requirements.
Certification of compliance must be provided.

4.2 **Construction**

4.2.1 **Cutting Uppers** - The uppers shall be cut from leather specified in para. 4.1.1. Care shall be taken that the thickness and quality of the leather for the various parts of the boot be as specified. Vamps shall be free from open or healed-over scratches and other grain damage. No open scratches, hard, bony, or flanky leather shall be cut into other parts of the boots where they will affect the serviceability or appearance. Care shall be taken to ensure that the tongues are pliable and strong.

4.2.2 **Size Marking of Uppers** - The size and width of the boot (e.g. 8E or 580) shall be inscribed on the outside quarter lining near the top with an indelible and contrasting ink. The letters and numerals shall be at least 6 mm in height. Optional stitched in woven label shall be allowed.

4.2.3 **Upper Fitting** - All upper stitching shall be lockstitched. The lock shall be positioned approximately 3/4 down from the surface. Not less than 2.5 nor more

than 3 stitches per cm shall be used. The thread shall be as specified in para. 4.1.17.1. The loose ends of all upper stitching are to be trimmed off with the use of scissors or knife. The needles used shall be the smallest size possible.

4.2.3.1 **Vamp & Vamp Doublers** - The vamp doublers shall be cut from the material specified in para. 4.1.3 and then cemented smoothly to the flesh side of the vamp. The vamp lining shall be cut from the material specified in para. 4.1.2. The vamp shall be stitched to the quarters with two double rows of stitching. The first row of double stitching shall be placed within 1.5 mm of the quarter edge and be separated by 1 mm from its companion row. The two double rows of stitching shall be separated by 3 mm with a minus tolerance of 1 mm. The rows of stitching shall start and end at the bottom edge of the quarters. The bellows tongue shall be placed between the vamp and the vamp lining. The vamp lining shall also be caught by the tongue stitching at the throat.

4.2.3.2 **Tongue Reinforcement Strap** – The tongue shall have a reinforcement strap of the material specified in para. 4.1.19 sewn to the outside of the tongue. This strap shall run the length of the tongue from the top yoke seam to the bottom yoke seam of the tongue.

4.2.4 **Eyelets & Tunnel Loops** - Shall be as specified in para. 4.1.10 and 4.1.10.1. There shall be five (5) eyelets and three (3) tunnel loops in each quarter, positioned 11 mm from the edge of the quarter to the centre of the eyelet or 8 mm for the tunnel loops, with a minus tolerance of 1.5 mm. The top tunnel loop and bottom eyelet shall be placed 13 mm, with a minus tolerance of 1.5 mm, from the top and bottom edges of the quarter and the remaining eyelets and tunnel loops spaced evenly between the two. All eyelets and tunnel loops shall be smoothly and firmly clinched through the linings, bellows tongue quarters.

4.2.5 **Box Toes** - The box toe specified in 4.1.7 shall be positioned between the vamp lining and the doubler in such a way that it will meet the length requirement of the finished boot. The bottom edge of the box toe shall be fully caught by the welting stitches.

4.2.6 **Welting** - The welting shall be as specified in 4.1.5. It shall be sewn level and close to the shoulder of the channel with the welt thread specified in 4.1.17.2, positioned at the root of the shoulders. Dropped or broken stitches, broken or torn channel lips will not be accepted. There shall be not more than one joint in the welting for each boot. Tension on the stitches shall be tight; there shall be not less than 1 nor more than 1.5 per cm.

4.2.7 **Inseam Trimming** - The excess part of the upper shall be trimmed off. Care should be taken not to trim too close to the welting stitches.

4.2.8 **Shanks** - The shanks shall be as specified in 4.1.9. They shall be cemented to the insole in such a position that the shank shall not extend too far forward and interfere with the tread across the ball. The fitting schedules given in Tables VII and VIII shall be used:

Table VII
Men's Sizes

SHANK LENGTH CM	SHOE SIZES	WIDTHS
10 11.5 12	6, 6½, 7, 7½, 8, 8½ 9, 9½, 10, 10½ 11 and up	D, E, F

Table VIII
Women's Sizes

SHANK LENGTH CM	SHOE SIZES	WIDTHS
9 10	4½, 5, 5½, 6, 6½, 7, 7½, 8 8½ and up	B, D

4.2.9 **Bottom Filler** - Shall be as specified in 4.1.6. The filler shall be applied by heat and mechanical pressure to ensure level and uniform bottoms. The bottoms shall be completely filled.

4.2.10 **Midsole Laying** - The midsoles specified in para. 4.1.13 shall be fully scoured on a rapidly revolving steel carbide wheel with 24 grit. The midsole shall be cemented to the welt and the bottom of the shoe using the cement specified in para. 4.1.18. The use of temporary tacks or nails while midsole rounding and stitching is not permitted.

4.2.11 **Rough Rounding** - The edges of the midsole and welt shall be rounded on a rough-rounding machine to provide the required extension for edge trimming.

4.2.12 **Midsole Stitching** - The midsole shall be lock stitched to the welt. The threads specified (see 4.1.17.3) shall be sewn using a needle and awl of the smallest combination for the specified threads. The number of stitches shall be not less than 1.5 nor more than 2 per cm. The lock shall be embedded in the midsole to approximately 4 mm below the surface tread. A tight tension shall be used on the thread.

The distance between the stitching and the edge shall be minimal to allow for edge trimming and shaping operations. The midsole stitching shall continue completely around the boot. The stitches shall be neatly and lightly separated with the use of a stitch-separating machine.

4.2.13 **Outsole and Heel Unit (Sole Laying)** - After thoroughly buffing and priming the midsole and one-piece outsole and heel, the outsole and heel shall be firmly cemented to the midsole. Method of application and cement shall be as specified. Cement Helmitin 39-124-2 meets this requirement.

Note: The manufacturer may lockstitch the outsole and midsole together at the toe area to ensure sole separation does not occur. The threads specified (see 4.1.17.3) shall be used with a needle and awl of the smallest combination for the specified threads. The number of stitches shall be not less than 1.5 nor more than 2 per cm.

4.2.14 **Rough Rounding (Sole)** - The edges of the sole shall be rounded from butt to butt, after sole laying, to provide the required extension for edge trimming. Cold knife the area of the heel.

4.2.15 **Sole Edge Trimming and Finishing** - Soles shall be square trimmed in pairs, around the forepart and shank, in and out, with a custom cutter to provide an extension of 5.0 mm on the inside forepart and gradually increase around the toe and outside forepart to 6.0 mm, ±
1 mm outside the ball.

4.2.16 **Insoles** - All tacks shall be removed and there will be no roughness to the hand when examined.

4.2.17 **Laces** - Each pair of boots shall be supplied with one pair of laces as specified in para. 4.1.11. Laces shall be threaded through the two bottom eyelets of each boot and then loosely tied together.

5. Delivery, Packing and Marking of Containers

5.1 Unless otherwise specified the items shall be delivered to the Commissioner, RCMP, Uniform & Equipment Program, Ottawa, Ontario, free of transportation charges, provincial tax and federal tax where applicable.

5.2 Packing and marking of shipping containers shall be as specified in the invitation to tender.

5.3 A packing slip shall be enclosed showing contents of each shipment.

6. Quality Assurance Provisions

6.1 **Responsibility for Inspection** - Unless otherwise stipulated in the contract, it is the prime contractor's responsibility to satisfy the RCMP, Uniform & 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 & Equipment Program that manufacturing processes conformity to this specification is assured. The contractor may use his own facilities or any commercial testing establishment acceptable to the RCMP, Uniform & Equipment Program.

6.2 The RCMP, Uniform & Equipment Program reserves 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 shall 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 nonrepairable defects are redelivered for inspection.

6.3 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.

Appendix A

Certification & Evaluation Criteria

Appendix A contains the definitions for certificate of compliance and test reports that are required for this specification. The tables of requirements shall be used by the manufacturer and RCMP Uniform & Equipment Program to ensure proper documentation is received and meets the requirements outlined in this specification.

Certification of compliance: Compliance certification documents must be based on testing from a raw goods manufacturer from an in-house or independent, third-party accredited laboratory acceptable to the RCMP to verify performance requirements as specified in this specification or where indicated an invoice from the raw good supplier is also acceptable.

Test Report: Test report documents must include the test method, test conditions and test results performed by an independent, third-party accredited laboratory acceptable to the RCMP to verify requirements as specified in this specification.

Certification & Evaluation Criteria

Para. Title/Test	Certification of Compliance	Test Report	Pass/Fail
Upper leather (Para. 4.1.1)	Required		
Quarter and Vamp Lining (Para. 4.1.2)	Required		
Counters (Para. 4.1.4)	Required		
Welting (Para. 4.1.5)	Required		
Bottom Filler (Para. 4.1.6)	Required		
Laces (Para. 4.1.11)	Required		
Insoles (Para. 4.1.12)	Required		
Midsoles (Para. 4.1.13)	Required		
Midsole Cushion Insert (Para. 4.1.13.1)	Required		
Outsole (Para. 4.1.14)	Required		
Upper Stitching Thread (Para. 4.1.17.1)	Required		
Welting Thread (Para. 4.1.17.2)	Required		
Sole Thread (Para. 4.1.17.3)	Required		
Tongue Reinforcement strap (Para. 4.1.19)	Required		