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Bid Receiving - PWGSC / Réception des  
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11 Laurier St./ 11, rue Laurier  
Place du Portage, Phase III  
Core 0B2 / Noyau 0B2  
Gatineau, Québec K1A 0S5  
Bid Fax: (819) 997-9776

**LETTER OF INTEREST**  
**LETTRE D'INTÉRÊT**

Comments - Commentaires

Vendor/Firm Name and Address  
Raison sociale et adresse du  
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution  
Clothing and Textiles Division / Division des vêtements  
et des textiles  
11 Laurier St./ 11, rue Laurier  
6A2, Place du Portage  
Gatineau, Québec K1A 0S5

<b>Title - Sujet</b> Tactical Field Over Boot (TFOB) LOI	
<b>Solicitation No. - N° de l'invitation</b> W8476-155302/A	<b>Date</b> 2015-03-24
<b>Client Reference No. - N° de référence du client</b> W8476-155302	<b>GETS Ref. No. - N° de réf. de SEAG</b> PW-\$\$PR-761-67031
<b>File No. - N° de dossier</b> pr761.W8476-155302	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2015-05-05</b>	
<b>Time Zone</b> Fuseau horaire Eastern Daylight Saving Time EDT	
<b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Beaumier, Julie	<b>Buyer Id - Id de l'acheteur</b> pr761
<b>Telephone No. - N° de téléphone</b> (819) 956-7432 ( )	<b>FAX No. - N° de FAX</b> (819) 956-5454
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF NATIONAL DEFENCE 101 COLONEL BY DR. MGen Georges R. Pearkes Building OTTAWA Ontario K1A0K2 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> Raison sociale et adresse du fournisseur/de l'entrepreneur	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> (type or print) <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur ( taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

Solicitation No. - N° de l'invitation

W8476-155302/A

Amd. No. - N° de la modif.

File No. - N° du dossier

pr761W8476-155302

Buyer ID - Id de l'acheteur

pr761

CCC No./N° CCC - FMS No/ N° VME

W8476-155302

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## NOTICE

This document has been examined by the Technical Authority for content and confirmed that it has no references to controlled goods.

### LETTER OF INTEREST (LOI) – TACTICAL FIELD OVER BOOT (TFOB)

**LETTER OF INTEREST (LOI)  
FOR THE  
TACTICAL FIELD OVER BOOT (TFOB)**

**1.0 SCOPE**

1.1 **Purpose** – The purpose of this Letter of Interest (LOI) is to inform industry that the Department of National Defence (DND) intends to introduce an over boot to be worn over existing in-service and future designs of operational footwear to provide protection, traction, and support in climatic conditions that are transitory (i.e. snow, sleet, rain, mixture).

1.2 This LOI seeks to investigate the following:

- a. What products are commercially available and suitable for use in the military that may be feasible for procurement and delivery within the next two years;
- b. The performance characteristics (and design) of those over boots currently available; and
- c. An indicative price and availability of those over boots currently available.

1.3 The results of this LOI/RFI will be used to aid in the specification development and purchase of an approximate quantity of 40,000 pairs of Tactical Field Over Boot (TFOB).

1.4 **Nature of Letter of Interest** – This Letter of Interest (LOI) is not a bid solicitation. This LOI will not result in the award of any contract; therefore, potential suppliers of any goods or services described in this LOI should not earmark stock or facilities, nor allocate resources, as a result of any information contained in this LOI. Nor will this LOI result in the creation of any source list; therefore, whether or not any potential supplier responds to this LOI will not preclude that supplier from participating in any future procurement. Also, the procurement of any of the goods and services described in this LOI will not necessarily follow this LOI. This LOI is simply intended to solicit information from industry with respect to the contents of this LOI.

1.5 **Terminology.** The following acronyms are provided for the purpose of this Letter of Interest:

CAF	Canadian Armed Forces
DND	Department of National Defence
DSSPM	Directorate Soldier Systems Program Management
LF	Land Force (Army)
TFOB	Tactical Field Over Boot

**1.6 Background.**

1.6.1 Clothing and equipment is a vital component of soldier performance, confidence and attitude, this is especially true for dismounted infantry soldiers. A critical component of soldier performance is how a soldier can protect his feet from humid conditions in temperate and cold environments. Footwear is a critical component to ensure that soldiers conduct combat essential tasks such as marching over uneven, rocky/sandy/wet terrain while carrying heavy loads, standing, climbing, operating and maintaining vehicles and equipment, and firing weapons, all under adverse climatic conditions. Footwear systems that can keep soldiers dry and capable in all environments are seen as a critical component of force protection in training and war.

1.6.2 Soldiers have given feedback indicating levels of dissatisfaction with current in-service footwear and clothing on general issue designed to operate in the average temperate climates throughout Canada (32 to minus 6 degrees Celsius). These factors combined have pushed soldiers to adopt commercially

available solutions in favour of issued kit and, as a result, a need was identified to introduce new equipment to address the operation deficiencies of these in service solutions.

**1.6.3 Future Land Force Operational Footwear Portfolio.** The Canadian Army is looking to modernize soldiers' footwear systems so that it provides improved environmental protection and extend their capabilities to ensure that soldiers are protected and prepared to operate to the best of their abilities in extreme climatic and working conditions as required. The TFOB is an important part of that system that will be worn with the Land Operations Temperate Boot (LOTB) and other footwear in the system to provide that protection, especially in climatic conditions that are transitory (snow, sleet, rain, and mixtures). Refer to Figure 1 for a climatic breakdown of the future Land Force operational footwear portfolio.

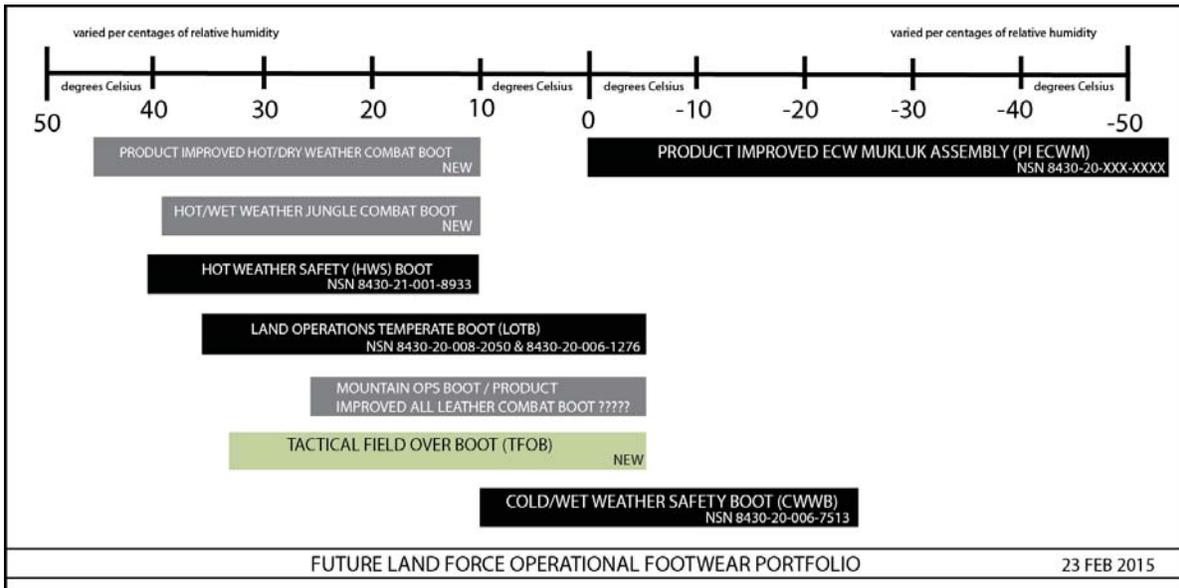


Figure 1 – Future Land Force Op Footwear Portfolio

**1.7 Planned Procurement.** The estimated procurement schedule for the TFOB is as described in Table 1. This schedule is subject to change.

Table I – Estimated Procurement Schedule

Procurement Activity	Estimated Timeline
Letter of Interest (LOI)	March 2015
Request For Proposal (RFP) posted on Buyandsell.ca	September 2015
Award of Contract	May / June 2016
Estimated Completion of Firm Quantities	End of March 2017

**1.7.1 Bid Evaluation Method.**

**1.7.1.1 Technical.** DND will perform a technical evaluation of Tactical Field Over Boot (TFOB) submissions at the pre-award stage. Physical samples and testing will be identified as deliverables in the request for proposal (RFP) and evaluated for:

- Quality of workmanship and construction;
- Ability to demonstrate capability to meet requisite technologies; and
- Conformance to specified materials and measurements.

**1.7.1.2** The result of the technical evaluation will be a pass (compliant) or fail (non-compliant) scenario. The submission achieving compliance to all mandatory technical requirements with the lowest cost will be awarded a contract.

## 2.0 RESPONSES

**2.1 Instructions.** Suppliers are requested to submit commercially available over boots. It is anticipated that commercially available designs may not meet all of the requirement criteria outlined in Annex A. Suppliers must note that the requirements will be validated and, as such, are subject to change.

### 2.2 Responses.

2.2.1 Suppliers are requested to submit a written response to the Delivery Address below by the closing date of this Letter of Interest (LOI). It is expected that responses may include brochures and pamphlets of currently available over boots as well as product data and any test results which support those claims.

2.2.2. Responses should include the following:

- a. Respondent's name, contact information, and return address;
- b. Literature or a reference to a website with general information about the Respondent and their product(s);
- c. The name and/or product number of the product(s) being proposed by the Respondent (more than one product proposal may be submitted by each Respondent);
- d. Does the product(s) comply with the Canadian Content Policy (<https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/annex/3/6>)? Yes or No;
- e. A synopsis that explains how the Respondent's product(s) comply with the requirements outlined in Annex A;
- f. Any comments about proposed performance measures identified in Annex A; and
- g. An indicative price and availability including;
  - i. Estimated weekly production rate; and
  - ii. Minimum production of each product(s).

**3.3 Format.** Written responses must be submitted in two (2) hard copies only. Responses may be submitted in either official language.

**3.4 Samples.** Respondents may include product samples with their written response to help communicate the features of their product(s); however the Government of Canada will not assume any liability for samples, nor compensate Respondents for the value of the samples, or the cost of shipping them. Samples should be individually marked with the name and contact information of their Supplier.

**3.5 Delivery Address.** Responses are not considered bids, however, responses shall be sent to the Public Works and Government Services Canada (PWGSC) Bid Receiving Unit at the following address:

Bid Receiving Unit  
Public Works and Government Services Canada  
Place du Portage  
Level 0A1, Phase III  
11 Laurier Street,  
Gatineau, Quebec K1A 1C9

3.6 **Use.** Responses and product samples will not be formally evaluated, however, they may be used by DND to develop a future performance specification. All responses and samples received by the LOI closing date will be reviewed by DND. DND may, at its discretion, review responses and samples received after the LOI closing date. Written responses to this LOI will not be returned. Product samples may be returned, at DND's discretion.

3.7 **Costs.** The Government of Canada will not reimburse any respondent for expenses incurred responding to this LOI.

3.8 **Parameters.** Respondents are reminded that this LOI is not a Request for Proposal. In that regard, respondents should feel free to include any comments or concerns with their responses. Canada reserves the right to seek clarification from a Respondent on information provided in response to this LOI, either by telephone, in writing, or in person.

3.9 **Confidentiality.** The confidentiality of each Respondent will be maintained. Respondents are requested to clearly identify portions of their response that are proprietary. Items that are identified as proprietary will be treated as such except where Canada determines that the item is not of a proprietary nature.

3.10 **Enquiries.** Enquiries regarding this LOI shall be directed to the LOI Authority. Enquiries received after 15 days before the closing date of this LOI may not be answered. Because this is not a bid solicitation, the Government of Canada will not necessarily respond to all enquiries in writing, nor circulate all answers to Industry. However, in the event that answers are circulated, Enquirers should clearly identify portions of their questions that are proprietary in nature. Canada may edit the questions or request that the Enquirer do so, so that the proprietary nature of the question is eliminated, and the enquiry can be circulated to Industry.

3.11 **LOI Authority.** Public Works and Government Services Canada is responsible for the management of the LOI process. The PWGSC contact and LOI Authority for this LOI is:

Julie Beaumier  
Supply Specialist  
Clothing and Textiles Division  
Acquisitions Branch, PWGSC  
Place du Portage, Phase III, 6A2  
11 Laurier Street  
Gatineau, Quebec  
K1A 0S5

Telephone: (819) 956-7432  
Fax: (819) 956-5454  
E-mail address: [Julie.Beaumier@tpsgc-pwgsc.gc.ca](mailto:Julie.Beaumier@tpsgc-pwgsc.gc.ca)



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# DESIGN AND MATERIAL REQUIREMENTS - TACTICAL FIELD OVER BOOT (TFOB)

## **DESIGN AND MATERIAL REQUIREMENTS - TACTICAL FIELD OVER BOOT (TFOB)**

### **1. Overview.**

1.1. The TFOB will be used by all Canadian Armed Forces (CAF) Personnel conducting training and operations, with attention to those in the Army. Typically, the TFOB may be worn for periods of 18 hours or more per day under the given range of temperate conditions (ranging from 32 to minus 6 degrees Celsius) and relative humidity (40% to 100%). The TFOB will provide moisture and wind protection as well as traction in various types of terrain throughout the range of climatic conditions.

1.2. Due to delivery timelines, the TFOB **must** be a commercially available design.

1.3. The bottoming components must be made using compounds and a tread pattern which provides traction and stability to the user on all surfaces under temperature conditions ranging from 32°C to -6°C. The tread pattern must be a design which provides traction in snow (with soft and hard packed surfaces), mud, and gravel/dirt, which facilitates movement on steep angles while ascending or descending, on uneven, loose and soft surfaces, which enhances both traction and breaking control, which minimizes the clinging and build-up of snow, ice, and mud and prevents the collection and dispersion of small objects (stones, nails, screws, etc.). The area directly under the foot/heel must be finished smooth, free of voids or material, which may collect moisture.



### **2. Design / Material Requirements.**

2.1. **Weight.** The TFOB must weigh no more than 900 grams per over boot.

#### **2.2. Colour and Finish.**

2.2.1. All materials used for the TFOB must be black, Coyote Brown in accordance with FED-STD-595C colour number 20150 (Coyote Brown 476/498), or green.

2.2.2. The TFOB must be constructed of materials which are flat and or dull and not of a glossy finish or appearance, decreasing the possibility of visually detecting the wearer.

#### **2.3. Design.**

2.3.1. The TFOB must be designed that the user may conduct emergency replacement of parts (such as buckles, barrel locks, etc.) if they are integral to the performance of the design;

2.3.2. The TFOB must have a reinforced toe cap to provide extra protection and durability to the construction;

2.3.3. The TFOB must have a closure design that is not affected by mud, dirt or debris;

2.3.4. The TFOB must have a method of securing the footwear over the combat boot through a system of either straps and buckles or a combination of both;

2.3.5. The TFOB must have the ability to open from the toe of the boot all the way to the top of the collar such that the wearer may easily don and doff the boots;

2.3.6. The TFOB must have a tongue or gusset that prevents the entrance of water through the opening. The material(s) and design must have the ability to fold repeatedly without damage and cause of pressure points that can be felt through the boot to the foot;

2.3.7. The TFOB must have an adjustable collar that allows the wearer to tighten or loosen the adjustment of fit around the leg;

2.3.8. The TFOB must have a pulling loop and or drying attachment point on the upper; and

2.3.9. The TFOB must be capable of being rolled or folded in a manner that allows it to be transported with minimum bulk.

**2.4. Material Performance.**

2.4.1. The TFOB upper must be constructed of a robust, waterproof membrane. The TFOB must be constructed of materials that do not absorb water. Any finish applied to the material(s) used for the upper must not impair secure adhesion of sealants or tape that may be used in the construction of the TFOB. If contaminated by small splashes of commercial insect repellent (with DEET), the water resistance of the materials should not be compromised.

2.4.2. **Upper Materials.** The following performance measures (see Table 1) are being considered for the upper materials. The required levels are to be determined.

**Table 1 – Proposed Upper Material Performance Measures**

Property	Test Method	Industry Comments
Specular Gloss	ISO 2813 at 60 degrees and 85 degrees	
Breaking Strength (N)	CAN/CGSB-4.2 Method 9.2	
Tearing Strength (N)	CAN/CGSB-4.2 Method 12.1	
Puncture Resistance (N)	FED-STD-101 Method 2065.1	
Coating Adhesion: <ul style="list-style-type: none"> <li>• Dry Adhesion; and</li> <li>• Wet Adhesion.</li> </ul>	ASTM D751  Dry Adhesion: Test in accordance with ASTM D751 except with 2-inch wide, reinforced coating adhesion specimens, cyanoacrylate (solventless) adhesive, and pulling clamp speed of 5 mm/s.  Wet Adhesion: Test specimens after dry adhesion testing. Specimens must be <b>immersed in distilled water at 21 degrees Celsius for 16 hours, removed from the water and blotted dry and then</b> immediately tested for wet adhesion using same method as dry adhesion.	

Property	Test Method	Industry Comments
Stiffness (Average apparent bending modulus): <ul style="list-style-type: none"> <li>• At 23 degrees Celsius +/- 2°C (73.4 +/- 3.6°F) and 50 +/- 5 % relative humidity; and</li> <li>• 0 degrees Celsius +/- 2°C (32 +/- 3.6°F) and 50 +/- 5 % relative humidity</li> </ul>	ASTM D747 Apparatus and test specimens shall be subjected to tests for a period of 4 hours and the test shall be performed in a still atmosphere at that temperature.	
Blocking Resistance	FED-STD-191 Method 5872	
Ease of Ignition	CAN/CGSB-4.2 No. 27.4	
Water Resistance After exposure to a pressure of 10 psi for ten (10) minutes	CAN/CGSB-4.2 Method 26.5	
Water Repellency (Face Side Only): After three (3) wash cycles	CAN/CGSB-4.2 Method 26.2  Washing procedure: CAN/CGSB-4.2 Method 58-2004 (Washing Procedure: III (Medium Temperature 50 deg. Celsius.) and Drying Procedure: E (Tumble Dry, 66 deg. Celsius.))	
Hydrostatic Resistance <ul style="list-style-type: none"> <li>• As received;</li> <li>• After three (3) wash cycles; and</li> <li>• After abrasion.</li> </ul>	CAN/CGSB-4.2 Method 26.3 / ISO 811  Washing procedure: CAN/CGSB-4.2 Method 58-2004 (Washing Procedure: III (Medium Temperature 50 deg. Celsius.) and Drying Procedure: E (Tumble Dry, 66 deg. Celsius.))  ASTM D3886 modified: Abradant is the face surface of the fabric under test.  Fabric face abraded for 10,000 cycles (using new set of specimens).  Fabric back abraded after 10,000 cycles (using new set of specimens).	

Property	Test Method	Industry Comments
Resistance to Chemicals:  a. <b>Road Salt Mixture</b> (solid, 77% minimum calcium chloride (type S, Grade 1) in accordance with ASTM D98, dissolved in water to make a 1:4 ratio mixture of road salt to water;  b. <b>Commercial insect repellent lotion</b> (DEET plus related active toluamides 30%). Muskol <sup>®</sup> insect repellent lotion has been known to meet this requirement.	Following exposure (100 ml/m <sup>2</sup> of the test liquid for two hours), perform:  1. Hydrostatic resistance in accordance with CAN/CGSB-4.2 Method 26.3 / ISO 811;  and  2. Water resistance in accordance with CAN/CGSB-4.2 Method 26.5 after exposure to a pressure of 10 psi for ten (10) minutes.	
Oil Repellency	AATCC Test Method 118  Washing procedure: CAN/CGSB-4.2 Method 58-2004 (Washing Procedure: III (Medium Temperature 50 deg. Celsius.) and Drying Procedure: E (Tumble Dry, 66 deg. Celsius.))	

2.4.3 **Seam Materials.** The following performance measures (see Table 2) are being considered for the seams of the upper. The required levels are to be determined.

**Table 2 – Proposed Seam Performance Measures**

Property	Test Method	Industry Comments
Peel Strength (N/23 mm)	ASTM D413	
Seam Strength	ASTM D751 (Section 66-71)	

Property	Test Method	Industry Comments
Resistance to Chemicals:  a. Road Salt Mixture (solid, 77% minimum calcium chloride (type S, Grade 1) in accordance with ASTM D98, dissolved in water to make a 1:4 ratio mixture of road salt to water;  c. Commercial insect repellent lotion (DEET plus related active toluamides 30%). Muskol <sup>®</sup> insect repellent lotion has been known to meet;	Following exposure (100 ml/m <sup>2</sup> of the test liquid for two hours), perform:  1. Hydrostatic resistance in accordance with CAN/CGSB-4.2 Method 26.3 / ISO 811;  and  2. Water resistance in accordance with CAN/CGSB-4.2 Method 26.5 after exposure to a pressure of 10 psi for ten (10) minutes.	

2.4.4 **Gusset Materials.** The following performance measures (see Table 3) are being considered for the materials of the gusset. The required levels are to be determined.

**Table 3 – Proposed Gusset Performance Measures**

Property	Test Method	Industry Comments
Water Resistance - After exposure to a pressure of 10 psi for ten (10) minutes	CAN/CGSB-4.2 Method 26.5	
Tear Resistance	To be determined.	
Blocking Resistance	FED-STD-191 Method 5872	
Puncture Resistance (N)	FED-STD-101 Method 2065.1	

2.4.5 **Bottoming Components.** The following performance measures (see Table 4) are being considered for the materials of the outsole. The required levels are to be determined.

**Table 4 – Proposed Outsole Performance Measures**

Property	Test Method	Industry Comments
Shore Hardness: <ul style="list-style-type: none"> <li>• Temperate Conditions;</li> <li>and</li> <li>• Freezing Conditions.</li> </ul>	ASTM D2240  Temperate: conditioned in accordance with ASTM D618 at 23 degrees Celsius (=/- 2 degrees Cel.).  Freezing: conditioned in accordance with ASTM D618 at 0 degrees Celsius (=/- 2 degrees Cel.).	

Property	Test Method	Industry Comments
NBS Abrasion	ASTM D1630 Four (4) specimens must be conditioned and tested.	
Ross Flex	ASTM D1052 Four (4) specimens must be conditioned and tested.	
Slip Resistance <ul style="list-style-type: none"> <li>• Wet (with distilled water); and</li> <li>• Rough Ice.</li> </ul>	ASTM F2913  Each boot (left and right) of two pairs of finished over boots must be tested.  Footwear must be tested for forward heel slip.	
Lug Depth	When measured in accordance with Figure 2, the lug depth ( $d_2$ ) must be a minimum of 4.0 mm. The measurement must be taken at the widest point in the outsole.	
Bonding strength of entire sole to upper	Look at alternative methods: SATRA TM 404 / TM 411  US Military bonding strength?	

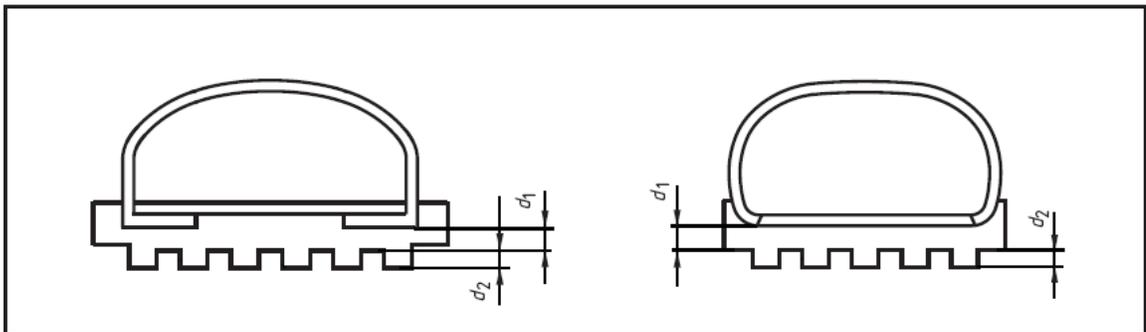


Figure 2 - Lug Depth/Cleat Height

2.4.6 **Sizing Information.**

2.4.6.1 The TFOB must have a minimum height of 30.0 cm and a maximum height of 40.0 cm as measured at the back on the inside, from the bottom of the heel to the top of the collar;

2.4.6.2 The TFOB will be worn over in-service combat footwear. The range of outsole lengths and widths for in-service combat footwear are detailed in Table 5.

**Table 5 – Range of Outsole Lengths and Widths (\*see para 2.4.6.3)**

<b>Size</b>	<b>Outsole Length (mm)</b>	<b>Outsole Width (mm)</b>
Minimum Size (Mondopoint 210/86)	255	106
Maximum Size (Mondopoint 310/122)	355	142

2.4.6.3 **Note:** Outsole length is taken from the front of the outsole on the forefoot to the back of the outsole on the heel. Outsole width is the widest point of the outsole taken at the point corresponding to the ball of the foot.

### **3. Test Standards – Source of Supply.**

3.1 The following documents form part of this document to the extent specified herein. Sources are as shown:

**American Association of Textile Chemists and Colorists (AATCC)**  
P.O. Box 12215  
Research Triangle Park, North Carolina  
27709, USA  
Telephone: (919) 549-3526  
Email: [jonesb@aatcc.org](mailto:jonesb@aatcc.org)

**American Society for Testing and Materials (ASTM)**  
ASTM International  
P.O. Box C700  
West Conshohocken, PA  
19428-2959, USA  
Telephone: (610) 832-9585  
Email: [service@astm.org](mailto:service@astm.org)

**General Services Administration (FED-STD)**  
Federal Supply Service  
FSS Product Acquisition Center  
Supply Standards Division (FLAS)  
Arlington, VA  
22202 USA  
Telephone: 703-605-2567  
Email: [jennifer.moffat@gsa.gov](mailto:jennifer.moffat@gsa.gov)  
Download Documents: <http://assist.daps.dla.mil/quicksearch/>

**Shoe and Allied Trades Research Association (SATRA)**  
SATRA House,  
Rockingham Road,  
Kettering, Northants, United Kingdom  
NN169JH

**Standards Council of Canada (CGSB and ISO)**  
270 Albert Street, Suite 200  
Ottawa, ON  
K1P 6N7  
Telephone: (613) 238-3222  
Email: [info@scc.ca](mailto:info@scc.ca)