

Laboratory Accreditation Programmes

Schedule to

CERTIFICATE OF ACCREDITATION



New Zealand Leather & Shoe Research Association

Client Number 251

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Authorised Representative

Mr Peter Roy
Senior Technical Officer

Programme

Mechanical Testing Laboratory

Accreditation Number 578

Initial Accreditation Date 2 October 1995

Conformance Standard

ISO/IEC 17025:2017

General requirements for the competence of testing and calibration laboratories

Laboratory Services Summary

4.30	Safety Equipment
4.62	Textiles
4.64	Leather and Leather Products

Approved Signatories

Mr Peter Roy	4.30, 4.62, 4.64
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4.30 Safety Equipment

(e) Safety Footwear

The following tests on protective footwear for fire fighters to AS/NZS 4821:2014 and referenced tests

General

clause 2.2.1 Type and classification
Design (Design A excluded)
Height of upper

Whole Footwear

clause 3.5.1 Contact heat
clause 3.13 Slip resistance
clause 3.5.3 Flame resistance

Toe Protection

clause 3.7 Rigidity of toe at 500 N, mm

Resistance to Inimical Environments

clause 3.2 Laces melting
clause 3.4 Heat resistance test
clause 3.9 Chemical resistance
clause 3.10 Micro-organism resistance
clause 3.11 Zipper
clause 3.12 Eyelet and stud post attachment

Upper

clause 3.3.1 Thread strength
clause 3.3.2 Thread melting
clause 3.5.2 Radiant heat
clause 3.5.3 Flame resistance

Outsole

clause 3.8.1 Cleat design
clause 3.8.2 Cleat height
clause 3.8.3 Breast heel

The following tests on protective footwear for firefighters to BS EN15090:2012 Footwear for Firefighters and AS/NZS 4821:2014 Protective footwear for firefighters – Requirements and test methods (EN 15090:2012, mod)

5 Sampling and conditioning
6.3.1 Insulation against heat

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- 6.3.2 Radiant heat
- 6.3.3 Flame resistance
- 6.4 Rigidity of the toepuff
- 6.5 Resistance to chemicals
- 6.6.3 Antistatic footwear
- 6.6.4 High electrical resistance outsoles
- 6.7 Outsole
- 6.8 Zipper

The following to ASTM F2412:2011 and ASTM F2412:2018 Standard test method for foot protection

- clause 5 Impact Resistance
- clause 6 Compression Resistance
- clause 7 Metatarsal Impact Resistance
- clause 11 Puncture Resistance

The requirements defined in ISO 11999.6 (2016) in accordance with the test methods of: EN 13832.3 (2006) or ISO 20344 (2011) or ISO 20345 (2011) or ISO 6942

- 6.2.1 Insulation against Heat
- 6.2.2 Radiant Heat
- 6.2.3 Flame Resistance
- 6.3.1 Degradation Resistance
- 6.3.2 Permeation Resistance
- 6.5 Water Resistance
- 6.6.2 Cleat Height
- 6.7.3 Zipper Attachment Strength
- 6.7.3 Zipper Lateral Strength

The following tests on protective footwear for fire fighters in accordance with ISO 11999.6 (2016)


- Test 7.1 Insulation against Heat
- Test 7.2 Radiant Heat
- Test 7.3 Flame Resistance
- Test 7.4.1 Zipper Attachment Strength
- Test 7.4.2 Zipper Lateral Strength

The following tests on protective footwear to CAN/CSA Z195-14

- Clause 5.1.1 Protective toe cap impact resistance
- Clause 5.2.1 Protective sole penetration test

The following tests on protective footwear for fire fighters to ISO 20345:2004/Amd.1:2007 (including referenced tests), ISO 20345:2011 and ISO 20344:2004 and ISO 20344:2011

The laboratory's accreditation also includes the following Malaysian and Singaporean Standards for the tests for which the identical ISO Standards above are mentioned:

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MS ISO 20345:2008	is identical to ISO 20345:2004	
SS513 Part 1	is identical to ISO 20345:2004	
SS513 Part 2	is identical to ISO 20344:2004	
<i>General</i>		
clause 5.2.2	Height of upper, mm	ISO 20344:2004 clause 6.2.2
clause 5.2.3	Seat region	
<i>Whole Footwear</i>		
clause 5.3.1.1	Construction	
clause 5.3.1.2	Upper/outsole bond strength	ISO 20344:2004 clause 5.2 ISO 20344:2011 clause 5.2
clause 5.3.4	Specific ergonomic features	ISO 20344:2004 clause 5.1 ISO 20344:2011 clause 5.1
clause 6.2.2	Electrical properties	ISO 20344:2004 clause 5.10 ISO 20344:2011 clause 5.10
clause 6.2.4	Energy absorption of seat region	ISO 20344:2004 clause 5.14 ISO 20344:2011 clause 5.14
clause 6.2.6	Metatarsal protection	ISO 20344:2004 clause 5.16 ISO 20344:2011 clause 5.16
clause 6.2.1	Penetration resistance	ISO 20344:2004 clause 5.8.2 ISO 20344:2011 clause 5.8.2, including dimensional conformity
clause 5.3.2.1	General	
clause 5.3.2.2	Toe cap length, mm	ISO 20344:2004 clause 5.3 ISO 20344:2011 clause 5.3
clause 5.3.2.3	Impact resistance	ISO 20344:2004 clause 5.4 ISO 20344:2011 clause 5.4
clause 5.3.2.4	Compression resistance	ISO 20344:2004 clause 5.5 ISO 20344:2011 clause 5.5
clause 5.3.2.5	Corrosion resistance of metal toecaps	ISO 20344:2004 clause 5.6.1 ISO 20344:2011 clause 5.6
clause 5.6.2	Resistance of non metallic toecaps	EN 12568
<i>Resistance to Inimical Environments</i>		
clause 6.2.3.1	Heat insulation of sole complex	ISO 20344:2004 clause 5.12 ISO 20344:2011 clause 5.12
clause 6.2.3.2	Cold insulation of sole complex	ISO 20344:2004 clause 5.13 ISO 20344:2011 clause 5.13
clause 6.2.5	Water resistance	ISO 20344:2004 clause 5.15.1 ISO 20344:2011 clause 5.15.1
clause 5.3.3	Leakproofness	ISO 20344:2004 clause 5.7 ISO 20344:2011 clause 5.7

Metatarsal Protection

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clause 6.2.6.2	Impact resistance of metatarsal protective device	ISO 20344:2004 clause 5.16 ISO 20344:2011 clause 5.16
<i>Upper</i>		
clause 5.4.2	Thickness	ISO 20344:2004 clause 6.1 ISO 20344:2011 clause 6.1
clause 5.4.3	Tear strength	ISO 20344:2004 clause 6.3 ISO 20344:2011 clause 6.3
clause 5.4.4	Tensile properties	ISO 20344:2004 clause 6.4 ISO 20344:2011 clause 6.4
clause 5.4.5	Flexing resistance	ISO 20344:2004 clause 6.5 ISO 20344:2011 clause 6.5
clause 5.4.6	Water vapour Class 1 only	ISO 20344:2004 clause 6.6 & 6.8 ISO 20344:2011 clause 6.6 & 6.8
clause 5.4.8	Hydrolysis	ISO 20344:2004 clause 6.10 ISO 20344:2011 clause 6.10
clause 6.3.1	Water penetration	ISO 20344:2004 clause 6.13 ISO 20344:2011 clause 6.13
clause 6.3.2	Upper construction	
<i>Vamp lining & Quarter lining</i>		
clause 5.5.1	Tear strength	ISO 20344:2004 clause 6.3 ISO 20344:2011 clause 6.3
clause 5.5.2	Abrasion resistance	ISO 20344:2004 clause 6.12 ISO 20344:2011 clause 6.12
clause 5.5.3	Water vapour	ISO 20344:2004 clause 6.6 & 6.8 ISO 20344:2011 clause 6.6 & 6.8
<i>Tongue</i>		
clause 5.6.1	Tear strength	ISO 20344:2004 clause 6.3 ISO 20344:2011 clause 6.3
<i>Insole</i>		
clause 5.7.1	Thickness	ISO 20344:2004 clause 7.1 ISO 20344:2011 clause 7.1
clause 5.7.3	Water absorption	
clause 5.7.4	Abrasion resistance	ISO 20344:2004 clause 7.3 ISO 20344:2011 clause 7.3
<i>Outsole</i>		
clause 5.8.1	Thickness	ISO 20344:2004 clause 8.1 ISO 20344:2011 clause 8.1
clause 5.8.2	Tear strength	ISO 20344:2004 clause 8.2 ISO 20344:2011 clause 8.2
clause 5.8.3	Abrasion resistance	ISO 20344:2004 clause 8.3 ISO 20344:2011 clause 8.3

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clause 5.8.4	Flexing resistance	ISO 20344:2004 clause 8.4 ISO 20344:2011 clause 8.4
clause 5.8.5	Hydrolysis	ISO 20344:2004 clause 8.5 ISO 20344:2011 clause 8.5
clause 5.8.6	Interlayer bond strength	ISO 20344:2004 clause 5.2 ISO 20344:2011 clause 5.2
clause 5.8.7	Resistance to fuel oil	ISO 20344:2004 clause 8.6 ISO 20344:2011 clause 8.6
clause 6.4.1	Cleated area	ISO 20344:2004 clause 8.1 ISO 20344:2011 clause 8.1
clause 6.4.2	Thickness of cleated outsoles	
clause 6.4.3	Cleat height	ISO 20344:2004 clause 8.1 ISO 20344:2011 clause 8.1
clause 6.4.4	Resistance to hot contact	ISO 20344:2004 clause 8.7 ISO 20344:2011 clause 8.7

The following tests on protective clothing for users of hand-held chain saws

ISO 11393-3:1999 (E)	Part 3: Test methods for footwear
BS EN 381-3:1996	Part 3: Test methods for footwear
ISO 17249:2013	Resistance to chainsaw cutting

(f) Other safety products

The following tests on Occupational protective gloves to AS/NZS 2161.3:1998 Protection against mechanical risk

clause 6.2	Blade cut resistance
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The following tests on protective clothing for users of hand-held chain saws

ISO 11393-2 Part 2:	Test Methods and performance requirements for leg protectors – Clause 9.3 Testing of resistance to cutting.
BS EN 381-2 Part 2:	Test Methods for leg protectors – Clause 8 Testing of resistance to cutting.
AS/NZS 4453.2:1997 Part 2:	Test Methods for leg protectors – Clause 8 Testing of resistance to cutting.

The following tests to the methods shown

ISO 7619.1:2004	Hardness of rubber and plastics to Shore A using a Durometer
AS/NZS 3744	Furniture – Assessment of the ignitability of upholstered furniture
Part 1: 1998	Ignition source – Smouldering cigarette
Part 2: 1998	Ignition source – Match-flame equivalent
Part 3: 1998	Ignition sources – Nominal 160 mL/min gas flame and nominal 350mL/min gas flame

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BS 5852:2006 Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources

4.62 Textiles

Fabrics

(a) Tension tests

- ISO 13934-1 Tensile properties of fabrics - maximum force and elongation at maximum force using the strip method
- ISO 13934-2 Tensile properties of fabrics - Determination of maximum force using the grab method
- ISO 13935-1:2014 Seam tensile properties - Part 1: maximum force to seam rupture using the strip method
- ISO 13935-2:2014 Seam tensile properties - Part 2: maximum force to seam rupture using the grab method
- ISO 13936-2 Slippage resistance of yarns at a seam in woven fabrics - Fixed load Method

(b) Tear tests

AS 2001.2.10 Tear resistance of woven textile fabrics by the wing-rip method

(c) Burst tests


ASTM D3787 Bursting Strength—Constant-Rate-of-Traverse (CRT) Ball Burst Test

(e) Wear tests

- ISO 12947-1 Abrasion resistance of fabrics - Martindale abrasion testing apparatus
- ISO 12947-2 Abrasion resistance of fabrics - Determination of specimen breakdown
- ISO 12947-3 Abrasion resistance of fabrics - Determination of mass loss
- ISO 12947-4 Abrasion resistance of fabrics – Assessment of appearance change
- ISO 12945-2 Fabric propensity to surface fuzzing and to pilling - Modified Martindale method

(e) Other tests

- ISO 105-C06:2010 Colour fastness to domestic and commercial laundering.
- ISO 105-D01:2010 Colour fastness to drycleaning using perchlorethelyne solvent.
- ISO 105-E04 Colour fastness to perspiration
- ISO 105-E01 Colour fastness to water
- ISO 105-X12 Colour fastness to rubbing
- ISO 3801 Mass per unit length and mass per unit area
- ISO 3759:2011 Preparation, marking and measuring of fabric specimens and garments in tests for determination of dimensional change

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ISO 5077:2007 Determination of dimensional change in washing and drying
 ISO 6330:2012 Domestic washing and drying procedures for textile testing
 ISO 7211/1 Construction – Weave diagram only
 ISO 12945-1:2000 Determination of fabric propensity to surface fuzzing and to pilling
 – Part 1: Pilling Box method.

4.64 Leather and Leather Products

The following tests to ISO methods listed

ISO 105-B02:1994(E) Colour fastness to artificial light: Xenon arc fading lamp test
 Method 1 to 4

ISO 2418 Sampling (also referred to as IUP2/SLP2)
 ISO 2419 Conditioning (also referred to as IUP3/SLP3)
 ISO 2589 Thickness (also referred to as IUP4/SLP4)
 ISO 3376 Tensile strength and percent elongation
 (also referred to as IUP6/SLP6)

ISO 3377 Measurement of tearing load (also referred to as IUP8/SLP7)
 ISO 3379 Ball burst test
 ISO 5402 Measurement of the flexing endurance of light leathers and their surface
 finishes (also referred to as IUP20/SLP14)


ISO 5403:2002 Dynamic waterproofness for upper leather
 (also referred to as IUP10/SLP22)

ISO 11640 Colour fastness to cycles of to – and fro rubbing
 (also referred to as IUF450/SLF470)

ISO 11642:2012 Colour fastness to water (also referred to as IULTCS/IUF 421)
 ISO 11644:1993(E) Finish adhesion (also referred to as SLF11)
 Appendix A

The following tests to Other methods specified

AATCC method 8:1989 Colour fastness to crocking
 ASTM D 1813:00 Thickness of leather
 ASTM D 1516:00 Width of leather
 ASTM D 1913:00 Wetting of garment leather (spray-test)
 ASTM D 2209:00 Tensile strength
 ASTM D 2208:00 Breaking strength
 ASTM D 2211:00 Elongation of leather
 ASTM D 2212:00 (2005) Slit tear resistance
 ASTM D 2813:86 Sampling leather
 ASTM D 4704:00 Tear strength – tongue tear
 ASTM D 4705:00 Stitch tear – double hole
 ASTM D 4786:00 Stitch tear – single hole
 ASTM D5053:00 Colourfast of crocking of leather
 SATRA PM36: 1999 Break/Pipiness

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