

CERTIFICATE OF ACCREDITATION



New Zealand Leather & Shoe Research Association

Client Number 251

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Authorised Representative

Mr Brendon Hayman
 Quality Manager

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 Aden Murtagh 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, including referenced tests, for fire fighters to ISO 20345:2004/Amd.1:2007, ISO 20345:2011, ISO 20345:2021 and ISO 20344:2004 and ISO 20344:2021

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 20344:2021 clause 5.2
clause 5.3.4	Specific ergonomic features	ISO 20344:2004 clause 5.1 ISO 20344:2021 clause 5.1
clause 5.3.5	Slip resistance (in accordance with ISO 13287:2019)	ISO 20344:2011 clause 5.11 ISO 20344:2021 clause 5.14
clause 6.2.2	Electrical properties	ISO 20344:2004 clause 5.10 ISO 20344:2021 clause 5.10
clause 6.2.4	Energy absorption of seat region	ISO 20344:2004 clause 5.14 ISO 20344:2021 clause 5.17
clause 6.2.6	Metatarsal protection	ISO 20344:2004 clause 5.16 ISO 20344:2021 clause 5.20
clause 6.2.1	Penetration resistance	ISO 20344:2004 clause 5.8.2 ISO 20344:2021 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 20344:2021 clause 5.3
clause 5.3.2.3	Impact resistance	ISO 20344:2004 clause 5.4 ISO 20344:2021 clause 5.4
clause 5.3.2.4	Compression resistance	ISO 20344:2004 clause 5.5 ISO 20344:2021 clause 5.5
clause 5.3.2.5	Behaviour of toecaps (thermal and chemical)	ISO 20344:2004 clause 5.6.1 ISO 20344:2021 clause 5.6
clause 5.6.2	Behaviour of toecaps (thermal and chemical)	EN 12568 and ISO 22568
<i>Resistance to Inimical Environments</i>		
clause 6.2.3.1	Heat insulation of sole complex	ISO 20344:2004 clause 5.12 ISO 20344:2021 clause 5.15
clause 6.2.3.2	Cold insulation of sole complex	ISO 20344:2004 clause 5.13 ISO 20344:2021 clause 5.16
clause 6.2.5	Water resistance	ISO 20344:2004 clause 5.15.1 ISO 20344:2021 clause 5.15.1
clause 5.3.3	Leakproofness	ISO 20344:2004 clause 5.7

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ISO 20344:2021 clause 5.7

Metatarsal Protection

clause 6.2.6.2

Impact resistance of metatarsal protective device

ISO 20344:2004 clause 5.16

ISO 20344:2021 clause 5.20

Upper

clause 5.4.2

Thickness

ISO 20344:2004 clause 6.1

ISO 20344:2021 clause 6.1

clause 5.4.3

Tear strength

ISO 20344:2004 clause 6.3

ISO 20344:2021 clause 6.3

clause 5.4.4

Tensile properties

ISO 20344:2004 clause 6.4

ISO 20344:2021 clause 6.4

clause 5.4.5

Flexing resistance

ISO 20344:2004 clause 6.5

ISO 20344:2021 clause 6.5

clause 5.4.6

Water vapour Class 1 only

ISO 20344:2004 clause 6.6 & 6.8

ISO 20344:2021 clause 6.6, 6.7 & 6.8

clause 5.4.8

Hydrolysis

ISO 20344:2004 clause 6.10

ISO 20344:2021 clause 6.10

clause 6.3.1

Water penetration

ISO 20344:2004 clause 6.13

ISO 20344:2021 clause 6.13

clause 6.3.2

Upper construction

Vamp lining & Quarter lining

clause 5.5.1

Tear strength

ISO 20344:2004 clause 6.3

ISO 20344:2021 clause 6.3

clause 5.5.2

Abrasion resistance

ISO 20344:2004 clause 6.12

ISO 20344:2021 clause 6.12

clause 5.5.3

Water vapour

ISO 20344:2004 clause 6.6 & 6.8

ISO 20344:2021 clause 6.6, 6.7 & 6.8

Tongue

clause 5.6.1

Tear strength

ISO 20344:2004 clause 6.3

ISO 20344:2021 clause 6.3

Insole

clause 5.7.1

Thickness

ISO 20344:2004 clause 7.1

ISO 20344:2021 clause 7.1

clause 5.7.3

Water absorption and desorption

ISO 20344:2004 clause 7.2

ISO 20344:2021 clause 7.2

clause 5.7.4

Abrasion resistance

ISO 20344:2004 clause 7.3

ISO 20344:2021 clause 7.3

Outsole

clause 5.8.1

Thickness (outsole dimensions)

ISO 20344:2004 clause 8.1

ISO 20344:2021 clause 8.2

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clause 5.8.2	Tear strength	ISO 20344:2004 clause 8.2
		ISO 20344:2021 clause 8.3
clause 5.8.3	Abrasion resistance	ISO 20344:2004 clause 8.3
		ISO 20344:2021 clause 8.4
clause 5.8.4	Flexing resistance	ISO 20344:2004 clause 8.4
		ISO 20344:2021 clause 8.6
clause 5.8.5	Hydrolysis	ISO 20344:2004 clause 8.5
		ISO 20344:2021 clause 8.7
clause 5.8.6	Interlayer bond strength	ISO 20344:2004 clause 5.2
		ISO 20344:2021 clause 5.2
clause 5.8.7	Resistance to fuel oil	ISO 20344:2004 clause 8.6
		ISO 20344:2021 clause 8.8
clause 6.4.1	Cleated area	
clause 6.4.2	Thickness of cleated outsoles	ISO 20344:2004 clause 8.1
		ISO 20344:2021 clause 8.2
clause 6.4.3	Cleat height	ISO 20344:2004 clause 8.1
		ISO 20344:2021 clause 8.2
clause 6.4.4	Resistance to hot contact	ISO 20344:2004 clause 8.7
		ISO 20344:2021 clause 8.9

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

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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
 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-Travel (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

(f) Other tests

ISO 105-B02:1994(E) Method 1 to 4 Colour fastness to artificial light: Xenon arc fading lamp test
 ISO 105-C06:2010 Colour fastness to domestic and commercial laundering
 ISO 105-D01:2010 Colour fastness to drycleaning using perchlorethylene solvent
 ISO 105-E04 Colour fastness to perspiration

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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
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 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

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SATRA PM36:1999 Break/Pipiness

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