

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-11339-01-00
according to ISO/IEC 17025:2005

Period of validity: 20.09.2017 to 19.09.2022

Date of issue: 20.09.2017

Holder of certificate:

**International Testing Centre of Footwear Design & Development Institute FDDI
Ministry of Commerce & Industry, Government of India
Chemical and Physical Laboratories**

with the location

A-10/A Sector 24, Noida-201301, Uttar Pradesh, INDIA

Tests in the fields:

selected physical, mechanical and chemical testing of footwear, footwear components and related materials

abbreviations used: see last page

1 Chemical testing of footwear, footwear components and related materials

1.1 Chemical testing of organic Components

ISO 4044 2008-05	Leather - Preparation of chemical test samples <i>(withdrawn standard)</i>
ISO 17070 2015-02	Leather - Chemical tests - Determination of pentachlorophenol content
ISO 17234-1 2015-04	Leather - Chemical tests for the determination of certain azo colorants in dyed leathers - Part 1: Determination of certain aromatic amines derived from azo colorants
DIN EN ISO 14184-1 2011-12	Textile - Determination of Formaldehyde - Part 1: Free and Hydrolyzed Formaldehyde (Water Extraction Method)
DIN EN ISO 14184-2 2011-12	Textile - Determination of Formaldehyde - Part 2: Released Formaldehyde (Vapor Absorption Method)
DIN EN 14362-1 2012-04	Textiles - Methods for determination of certain aromatic amines derived from azo colorants - Part 1: Detection of the use of certain azo colorants accessible with and without extracting the fibres <i>(withdrawn standard)</i>
ISO/TS 17226-1 2008-05	Leather - Chemical determination of formaldehyde content - Part 1: Method using high performance liquid chromatography
EN ISO 4048 1998-07	Leather - Chemical tests - Determination of matter soluble in dichloromethane and free fatty acid content <i>(withdrawn standard)</i>
ISO 4684 2005-11	Leather - Chemical tests - Determination of volatile matter
SATRA TM 345 1996-08	Solvent soluble matter in polymeric materials
SATRA TM 346 1994-06	Fat and free fatty acids contents of leather
SATRA TM 347 1996-01	Volatile matter content

IS 582 1970	Methods of chemical testing of leather <ul style="list-style-type: none"> • LC:1 Determination of volatile matter • LC:3 Determination of total ash • LC:4 Determination of solvent extractable substances • LC:7 Determination of sulphated ash of water soluble • LC:8 Determination of water insoluble ash • LC:10 Determination of chromic oxide content • LC:18 Determination of pH and difference figure of water soluble matter
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1.2 Chemical testing of metals, inorganic components and physical parameters

BS EN ISO 17075 2007-12	Leather - Chemical tests - Determination of chromium(VI) content <i>(withdrawn standard)</i>
DIN EN 12471 1996-11	Fast test for determination of nickel release from alloy <i>(withdrawn standard)</i>
DIN EN 12472 1999-01	Method for the simulation of wear and corrosion for the detection of nickel release from coated items <i>(withdrawn standard)</i>
SATRA TM 354 1998-01	Quality Test for the presence of Nickel
SATRA TM 329 1995-09	Water soluble matter content of leather
DIN EN ISO 4098 2006-04	Leather - Chemical tests - Determination of water-soluble matter, water soluble inorganic matter and water-soluble organic matter
DIN EN ISO 4045 2008-05	Leather - Chemical tests - Determination of pH
DIN EN ISO 3071 2006-05	Textiles - Determination of pH of aqueous extract
SATRA TM 349 1996-01	Acidity - pH-value and pH difference figure of an aqueous extract
ISO 5398-1 2007-08	Leather - Chemical determination of chromic oxide content - Part 1: Quantification by titration

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SATRA TM 348
1996-01 Ash and Chromic oxide content of leather

SATRA TM 353
1999-03 Ash content of polymeric materials

2 Physical and mechanical testing of footwear, footwear components and related materials

2.1 Physical and mechanical testing

ISO 20344
2011-12 Personal protective equipment - Test methods for footwear
(Except:
Clause 5.16 - Impact Resistance metatarsal protective device
Clause 5.17 - Ankle protection
Clause 6.14 - Cut Resistance)

BS EN ISO 3696
1991-12 Water for analytical use - Specification and test methods

ISO 20345
2011-12 Personal protective equipment - Safety footwear
(Except:
Clause 6.2.2.3 - Electrical insulation
Clause 6.2.6 - Metatarsal protective
Clause 6.2.7 - Ankle protection
Clause 6.2.8 - Cut Resistance)

ISO 20346
2014-05 Personal protective equipment - Protective footwear
(Except:
Clause 6.2.2.3 - Electrically insulating footwear
Clause 6.2.6 - Metatarsal protection
Clause 6.2.7 - Ankle protection
Clause 6.2.8 - Cut Resistance)

ISO 20347
2012-02 Personal protective equipment - Occupational footwear
(Except:
Clause 6.2.2.3 - Electrically insulating footwear
Clause 6.2.6 - Ankle protection
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BS EN 15090 2012-02	Footwear for Fire-fighter (Except: <i>Clause 6.3.2 + 7.2 - Radiant Heat</i> <i>6.3.3 + 7.3 - Flame Resistance</i> <i>6.6.2 - Electrical Insulation)</i>)
AS/NZS 4821 2014	Protective Footwear for Fire-fighter - Requirements and test methods Except: <i>Clause 3.2 + 4.1 - Lace Melting</i> <i>Clause 3.5.2 + 4.4 - Radiant Heat</i> <i>Clause 3.5.3 + 4.5 - Flame Resistance</i> <i>Clause 3.10 - Microorganism Resistance)</i>
ISO 34-1 2015-06	Rubber, vulcanized or thermoplastic - Determination of tear strength - Part 1: Trouser, angle and crescent test pieces
ISO 37 2011-12	Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties
ISO 105-B02 2014-09	Textiles - Tests for colour fastness - Part B02: Colour fastness to artificial light: Xenon arc fading lamp test
ISO 3376 2011-12	Leather - Physical and mechanical tests - Determination of tensile strength and percentage extension
ISO 3377-1 2011-12	Leather - Physical and mechanical tests - Determination of tear load - Part 1: Single edge tear
ISO 11640 2012-11	Leather - Tests for colour fastness - Colour fastness to cycles of to-and-fro rubbing
ISO 11641 2012-11	Leather - Tests for colour fastness - Colour fastness to perspiration
ISO 11642 2012-11	Leather - Tests for colour fastness - Colour fastness to water
ISO 11643 2009-05	Leather - Tests for colour fastness - Colour fastness of small samples to solvents
ISO 3377-2 2016-02	Leather - Physical and mechanical tests - Determination of tear load - Part 2: Double edge tear

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BS EN 388 2003-12	Protective gloves against mechanical risk (Except: <i>Clause 6.2 - Blade cut resistance</i>) (<i>withdrawn standard</i>)
BS EN 12568 2010-06	Foot and leg protectors - Requirements and test methods for toecaps and penetration resistant inserts
ISO 868 2003-03	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)
ISO 4674-1 2016-10	Rubber- or plastics-coated fabrics - Determination of tear resistance - Part 1: Constant rate of tear methods
ISO 1817 2015-02	Rubber, vulcanized or thermoplastic - Determination of the effect of liquids
ISO 2023 Corr. 1 2001-12	Rubber footwear - Lined industrial vulcanized-rubber boots – Specification (Except annex F) (<i>withdrawn standard</i>)
ISO 4643 1992-01	Moulded plastics footwear - Lined or unlined poly(vinyl chloride) boots for general industrial use – Specification (Annex A - C)
ISO 4649 2010-09	Rubber, vulcanized or thermoplastic - Determination of abrasion resistance using a rotating cylindrical drum device
ISO 5423 1992-02	Moulded plastics footwear - Lined or unlined polyurethane boots for general industrial use - Specification (Except annex F)
ISO 13287 2012-10	Personal protective equipment - Footwear - Test method for slip resistance
ISO 17706 2003-10	Footwear - Test methods for uppers - Tensile strength and elongation
BS EN 13522 2002-03	Footwear - Test methods for uppers - Breaking strength and elongation
ISO 17696 2004-10	Footwear - Test methods for uppers, linings and insocks - Tear strength

2.2 SATRA Test Methods

SATRA TM 1 2013-11	Thickness of leather and insole materials
SATRA TM 2 1995-05	Tensile properties of insole materials
SATRA TM 3 1999-03	Flexing index
SATRA TM 8 2004-06	Colour fastness to circular rubbing
SATRA TM 24 2017-04	Lastometer ball burst test
SATRA TM 25 2016-05	Vamp flex test - Resistance to creasing and cracking
SATRA TM 27 2004-04	Thickness of non-leather flexible sheet materials
SATRA TM 28 1994-07	Mass per unit area
SATRA TM 29 2017-11	Breaking strength and extension at break
SATRA TM 30 2017-09	Tear strength - Trouser leg method
SATRA TM 31 2014-04	Abrasion resistance - Martindale method
SATRA TM 34 2009-02	Resistance to water penetration - Maeser test
SATRA TM 37 1999-05	Nail penetration - Shoe bottoms and protective midsoles

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SATRA TM 40 1999-03	Moulded-on rubber soles - State of cure test
SATRA TM 43 2000-06	Tensile strength and extension at break of leather
SATRA TM 47 2002-06	Water vapour permeability and absorption
SATRA TM 48 1996-08	Determination of grain crack index for sole leathers
SATRA TM 49 1995-04	Resistance to damage due to contact with a hot surface
SATRA TM 50 1992-12	Resistance of slide fasteners to repeated opening and closing
SATRA TM 51 1993-08	Lateral strength of slide fasteners
SATRA TM 52 2002-01	Strength of slide fastener pullers
SATRA TM 53 1992-09	Attachment strength of slide fastener end stops
SATRA TM 55 1999-03	Flexing resistance of upper materials - Bally flexometer
SATRA TM 60 1992-07	Ross flex test - Resistance to cut growth on flexing
SATRA TM 64 1996-07	Compression set - Constant stress method
SATRA TM 65 2015-05	Split tear strength
SATRA TM 68 2016-05	Density of cellular materials

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SATRA TM 92 2016-05	Resistance of footwear to flexing
SATRA TM 94 1993-06	Breaking force and extension at break of shoe laces
SATRA TM 102 1999-06	Measurement of the limit of useful extension of elastics
SATRA TM 103 2012-08	Resistance of elastic to repeated extension
SATRA TM 108 1992-09	Strength of top-piece attachment
SATRA TM 113 1996-12	Measurement of the strength of attachment of heels to footwear and the backpart rigidity of such footwear
SATRA TM 117 1992-12	Attachment strength of decorative bows
SATRA TM 118 1992-08	Strength of sandal toe posts
SATRA TM 120 2001-07	Strength of attachment of straps and nailed or stapled uppers
SATRA TM 123 1992-07	Closure strength of touch and close fasteners
SATRA TM 134 2010-10	Density of materials by volume displacement
SATRA TM 136 1996-10	Thickness/effective thickness of soling materials and sole units
SATRA TM 137 1995-03	Tensile properties of plastics and rubbers
SATRA TM 141 1994-07	Breaking force of buckles - Three point bending of buckles

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SATRA TM 144 2011-02	Friction (Slip resistance) of footwear and floorings
SATRA TM 148 1997-01	Resistance of finish films on upper leather to peeling and delamination
SATRA TM 149 1999-05	Strength of eyelet facings and other laced fastenings
SATRA TM 151 1999-05	Strength of fastened buckles
SATRA TM 154 1999-09	Shoe lace to shoe lace and shoe lace to lace carrier abrasion
SATRA TM 161 2004-11	Bennewart flex test - resistance to cut growth on flexing
SATRA TM 162 1999-07	Tear strength - Baumann method
SATRA TM 167 2017-07	Colour fastness to rubbing - Crockmeter test
SATRA TM 173 1995-05	Colour fastness to rubbing - Reciprocating method
SATRA TM 174 2016-11	Abrasion resistance - Rotating drum method
SATRA TM 181 2017-07	Strength of buckle and strap attachment
SATRA TM 185 1995-05	Colour fastness to water spotting of leathers, textiles and coated fabrics
SATRA TM 186 2001-01	Shape retention properties of toe caps of finished footwear
SATRA TM 199 1999-09	Water spotting - Shoe care products

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SATRA TM 205 2017-02	Hardness of rubber and plastics - Durometer method
SATRA TM 218 1999-06	Tear strength of rubbers and plastics - Trouser method
SATRA TM 220 2000-08	Dynamic water penetration test for leather - Bally permeometer method
SATRA TM 226 1999-06	Slider locking strength of slide fasteners
SATRA TM 305 1998-03	Wick test
SATRA TM 310 1992-09	Salt water corrosion (Method 2)
SATRA TM 328 1992-05	Hydrolysis of polyurethane based sheet materials
SATRA TM 335 1994-12	Colour fastness to water and perspiration
SATRA TM 344 1995-04	Hydrolysis of polyurethane solings and polyurethane coated leathers
SATRA TM 355 1999-02	Colour fastness to dry cleaning
SATRA TM 404 1992-07	Rapid sole adhesion test - For complete footwear
SATRA TM 411 1992-05	Peel strength of footwear sole bonds

2.3 Indian Standard Test Methods

IS 1390 1983	Methods for determination of pH value of aqueous extracts of textile materials
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IS 1989-1 1986-10 + Amendment 1998-10	Specification for leather safety boots and safety shoes - Part 1: For Miners
IS 1989-2 1986-09 + Amendment 1999-04	Specifications for leather safety boots and safety shoes - Part 2: For heavy metal industries
IS 3735 1996-03 + Amendment 2004-10	Canvas shoes, rubber sole - Specifications
IS 3736 1995-10 + Amendment 2003-09	Canvas boots, rubber sole - Specifications
IS 3840 1996-05	Lining leather - Specification
IS 5557 2004-10 + Amendment 2011-03	Industrial and protective rubber knee and ankle boots - Specifications
IS 5676 1995-10	Moulded solid rubber soles and heels - Specifications
IS 5677 1986-06 Reaffirmed 1997	Specifications for shoe upper leather for direct moulding process
IS 5852 2004-08	Protective steel toe cap for footwear - Specifications
IS 10702 1992-10 Reaffirmed 2002	Rubber Hawaiian chapel - Specifications

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<p>IS 11226 1993-11 + Amendment 1998-06</p>	<p>Leather safety footwear direct moulded sole - Specifications</p>
<p>IS 12254 1993-11 Reaffirmed 2002</p>	<p>Polyvinyl chloride industrial boots - Specifications (Except: <i>Clause 5.13.1</i>)</p>
<p>IS 15298-1 2015-08</p>	<p>Personal protective Equipment - Part 1: Test methods for footwear - Safety, protective and occupational footwear for professional use (Except: <i>Clause 5.16 - Impact Resistance metatarsal protective device</i> <i>Clause 5.17 - Ankle protection</i> <i>Clause 6.14 - Cut Resistance</i>)</p>
<p>IS 15298-2 2011-06</p>	<p>Personal protective Equipment - Part 2: Test methods for safety footwear - Safety, protective and occupational footwear for professional use (Except: <i>Clause 6.2.2.3 - Electrical insulation</i> <i>Clause 6.2.6 - Metatarsal protection</i> <i>Clause 6.2.7 - Ankle Protection</i> <i>Clause 6.2.8 - Cut Resistance</i>)</p>
<p>IS 15298-3 2011-06</p>	<p>Personal protective Equipment - Part 3: Test methods for protective footwear - safety, protective and occupational footwear for professional use (Except: <i>Clause 6.2.2.3 - Electrically insulating footwear</i> <i>Clause 6.2.6 - Metatarsal protection</i> <i>Clause 6.2.7 - Ankle protection</i> <i>Clause 6.2.8 - Cut Resistance</i>)</p>
<p>IS 15298-4 2010-11</p>	<p>Personal protective Equipment - Part 4: Test methods for occupational footwear - safety, protective and occupational footwear for professional use (Except: <i>Clause 6.2.2.3 - Electrically insulating footwear</i> <i>Clause 6.2.6 - Ankle protection</i> <i>Clause 6.2.7 - Cut Resistance</i>)</p>

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IS 15844
2011-05

Sports footwear - Specifications (Except Annex A)

abbreviations used:

AS/NZS	Australian Standard/New Zealand Standard
DIN	German Institute of Standard
EN	European Standard
EPA	Environmental Protection Agency
IS	Indian Standard
ISO	International Organization for Standardization
SATRA	SATRA Technology Centre, Northamptonshire, NN16 8SD, United Kingdom