SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

KINECTRICS AES INC
(FORMERLY ARCWEAR)
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MECHANICAL

Valid To: March 31, 2024 Certificate Number: 3570.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on Textile Materials:

Test	Test Method[1]
Dimensional Changes of Laundering	AATCC TM 135
Domestic Washing & Drying Procedures for Textile Testing	ISO 6330 – Textiles All Washing Procedures for Machine Type A; Drying Procedures A, B, C, D and F; IEC 61482-2 (Section 5.1.2), Edition 1.0, 2009-04
Mass per Unit of Fabric – Option C	ASTM D3776 Option C
Bursting Strength of Textile Fabrics – Diaphragm	ASTM D3786
Tearing Strength of Fabrics – Pendulum Apparatus (Elmendorf – Type)	ASTM D1424
Flame Resistance of Textiles (Vertical Test)	ASTM D6413
Breaking Strength and Elongation (Grab Test) Breaking Strength Only	ASTM D5034
Colorfastness to Laundering	AATCC TM61 Method 2A, Method 3A
Trapezoidal Tear Strength	ASTM D5587; ASTM D5733 – 99 (Withdrawn 2008)[2]
Seam Breaking Strength	ASTM D1683, Section 7.4

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Test	Test Method[1]
Heat & Thermal Shrinkage	ASTM F2894
Thread Melt	FTMS 191A Method 1534; ASTM D7138, Method 2
Cut Resistance	ASTM F2992; ISO 13997
Puncture Resistance	BS: EN 388 Section 6.4; ASTM F2878, ASTM F1342
Design	ANSI/ISEA 107 Section 6
Heat Resistance	CAN/CGSB 155.20 Section 7.4
Thermal Shrinkage	CAN/CGSB 155.20 Section 7.4
Product Label Requirements	NFPA 2112 Section 5.1
Design Requirements	NFPA 2112 Section 6
Protective Glove Flame Resistance Test	NFPA 2112 Section 8.8
Label Print Durability Test	NFPA 2112 Section 8.7
Flame Impingement	ASTM F1358
Taber Abrasion	ASTM D3389, ASTM D3884
Colorfastness to Light Xenon Arc	AATCC TM16.3
Obtaining Spectrometric Data for Object-Color Evaluation	ASTM E1164
Colorfastness to Crocking	AATCC TM8
Colorfastness to Perspiration	AATCC TM15
Colorfastness to Water	AATCC TM107
Colorfastness to Hot-Pressing	AATCC TM133
Bursting Strength of Textiles - Ball Burst	ASTM D6797
Heat Transfer Performance	ASTM F2700
Thermal Protective Performance	ISO 17492
Care Labeling, Marking, & Instructions for Use	ANSI 107 Sections 12, 13, 14

Test	Test Method[1]
Ergonomics, Care Labeling, Marking, & Instructions for Use	CSA Z96 Section 5.7, 8, 9, & 10
Product Label Requirements	NFPA 2112 Section 5.1
Design Requirements	NFPA 2112 Section 6
Washing & Drying per NFPA 2112	NFPA 2112 Section 8.1.3
Label Print Durability Test	NFPA 2112 Section 8.7
Protective Glove Flame Resistance Test	NFPA 2112 Section 8.8
Product Labeling Requirements	NFPA 1975 Section 5.1
User Information	NFPA 1975 Section 5.2
Design Requirements	NFPA 1975 Section 6
Label Print Durability Test (washing only)	NFPA 1975 Section 8.5
Label Requirements	NFPA 1977 Section 5.1.1
User Information	NFPA 1977 Section 5.1.2
Design Requirements	NFPA 1977 Section 6.1
Heat and Thermal Shrinkage Resistance Test	NFPA 1977 Section 8.4
Protective Glove Flame Resistance Test	NFPA 1977 Section 8.20
Label Legibility Test 1-Laundering, Heat Durability	NFPA 1977 Section 8.31.4.1
Product Label Requirements	NFPA 1951 Section 5.1
User Information	NFPA 1951 Section 5.2
Design Requirements	NFPA 1951 Section 6
Label Durability and Legibility Test (Laundering Durability Tests and Heat Durability Tests)	NFPA 1951 Section 8.33.4.1, 8.33.4.3
Heat and Thermal Shrinkage Resistance Test	NFPA 1951 Section 8.3

[1] The laboratory is only accredited for the test methods listed above. The accredited test methods are used in determining compliance with the documents (material specifications, guides, practices, conversion tables) listed below. The inclusion of these documents on this Scope does not confer laboratory accreditation to them nor does it confer accreditation for the method(s) embedded within them.

NFPA 2112 Standard on Flame-Resistant Clothing for Protection of Industrial Personnel Against Short-Duration Thermal Exposures from Fire	**NFPA 2112 Referenced Test Method**	**Test Section and Requirements in NFPA 2112**
Washing & Drying per NFPA 2112	NFPA 2112 Section 8.1.3	Section 8.1.3
Heat Transfer Performance (HTP) Test	ASTM F2700	Section 8.2
Flame Resistance of Textiles (Vertical Test)	ASTM D6413 AATCC 135	Section 8.3
Heat & Thermal Shrinkage	NFPA 2112 Section 8.4 ASTM F2894	Section 8.4
Thread Melt	ASTM D7138 Method B	Section 8.6
Product Label Requirements	NFPA 2112 Section 5.1	Section 5.1
Design Requirements	NFPA 2112 Section 6	Section 6

NFPA 1975 Standard on Emergency Services Work Apparel	**NFPA 1975 Referenced Test Method**	**Test Section and Requirements in NFPA 1975**
Product Labeling Requirements	NFPA 1975 Section 5.1	Section 5.1
User Information	NFPA 1975 Section 5.2	Section 5.2
Design Requirements	NFPA 1975 Section 6	Section 6
Laundry and Drying Procedure	AATCC TM135	Section 8.1.3
Heat and Thermal Shrinkage Resistance	ASTM F2894	Section 8.3
Thermal Stability Test	ASTM F2894	Section 8.3
Seam Breaking Strength Test	ASTM D1683, ASTM D6797	Section 8.4
Label Print Durability Test	NFPA 1975 Section 8.5	Section 8.5
Flame Resistance Test	ASTM D6413	Section 8.6
Thread Heat Resistance Test	NFPA 1975 Section 8.7	Section 8.7.2.1

NFPA 1977 Standard on Protective Clothing and Equipment for Wildland Firefighting	**NFPA 1977 Referenced Test Method**	**Test Section and Requirements in NFPA 1977**
Label Requirements	NFPA 1977 Section 5.1.1	Section 5.1.1
User Information	NFPA 1977 Section 5.1.2	Section 5.1.2
Design Requirements	NFPA 1977 Section 6.1	Section 6.1
NFPA 1977 Laundry Preconditioning	AATCC 135	Section 8.1.2
Flame Resistance of Textiles (Vertical Test)	ASTM D6413	Section 8.3
Heat and Thermal Shrinkage Resistance Test	NFPA 1977 Section 8.4	Section 8.4
Tear Resistance Test	ASTM D1424	Section 8.6
Cleaning Shrinkage Resistance Test	AATCC 135	Section 8.7
Seam Breaking Strength Test	ASTM D1683	Section 8.8
Protective Glove Flame Resistance Test	NFPA 1977 Section 8.20	Section 8.20
Thermal Protective Performance	ISO 17492	Section 8.22
Puncture	ASTM F1342 (A)	Section 8.24
Label Legibility Test 1-Laundering, Heat Durability	NFPA 1977 Section 8.31.4.1	Section 8.31.4.1
Thread Melt	NFPA 1977 Section 8.9	Section 8.9

NFPA 1971 Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting	**NFPA 1971 Referenced Test Method**	**Test Section and Requirements in NFPA 1971**
Flame Resistance Test 1	ASTM D6413/D6413M	Section 8.2
Heat and Thermal Shrinkage Resistance Test	ASTM F2894/F2894M	Section 8.6
Thermal Protective Performance (TPP) Test	ISO 17492	Section 8.10
Tear Resistance Test	ASTM D5587	Section 8.12
Seam-Breaking Strength Test	ASTM D1683	Section 8.14
Breaking Strength Test	ASTM D5034	Section 8.50

NFPA 1951 Standard on Protective Ensembles for technical Rescue Incidents		**Test Section and Requirements in NFPA 1951**
Product Label Requirements	NFPA 1951 Section 5.1	Section 5.1
User Information	NFPA 1951 Section 5.2	Section 5.2
Design Requirements	NFPA 1951 Section 6	Section 6
Flame Resistance Test 1	ASTM D6413	Section 8.2
Label Durability and Legibility Test	NFPA 1951 Section 8.33.4.1	Section 8.33.4.1
Heat and Thermal Shrinkage Resistance Test	NFPA 1951 Section 8.3	Section 8.3

ASTM F1506 Standard Performance Specification for Flame Resistant and Electric Arc Rated Protective Clothing Worn by Workers Exposed to Flames and Electric Arcs	**ASTM F1506 Referenced Test Method**	**ASTM F1506 Requirements**
Flame Resistance of Textiles (Vertical Test) Sections 7.6, 7.6.1, 7.6.1.1, 7.6.1.2	ASTM D6413 AATCC 135	Initial Flammability, After 25 Washes; Flammability Requirements in Tables 1, 2 and 3
Bursting Strength of Textiles Fabrics – Diaphragm Section 7.3	ASTM D3786	Bursting Strength Requirements in Table 2,3
Breaking Strength and Elongation (Grab Test) Breaking Strength Only (elongation is optional in this method) Section 7.1	ASTM D5034	Breaking Strength Requirements in Table 1
Tearing Strength of Fabrics – Pendulum Apparatus (Elemendorf – Type) Section 7.2	ASTM D1424	Tear Resistance Requirements in Table 1
Colorfastness to Laundering Section 7.4.1	AATCC 61	Colorfastness to Laundering Requirements in Tables 1 and 2
Dimensional Change Section 7.5	AATCC 135	Dimensional Change Requirements in Tables 1,2.3

ASTM F1891 Standard Specification for Arc and Flame Resistant Rainwear	**ASTM F1891Referenced Test Method**	**Test Section and Requirements in ASTM F1891**
Flame Resistance of Textiles (Vertical Test) Section 9.2	ASTM D6413 AATCC 135	Section 9.2
Fabric Weight	ASTM D3776 Option C	Section 7.1.2
Trapezoidal Tear Resistance	ASTM D1117	Section 7.4

ANSI/ISEA 107 American National Standard for High-Visibility Apparel	**ANSI/ISEA 107 Referenced Test Method**	**Test Section and Requirements in ANSI/ISEA 107**
Design	ANSI/ISEA 107 Section 6	Section 6
Criteria for Optional Features and Testing	ANSI/ISEA 107 Section 7	Section 7
Colorfastness to Crocking	AATCC TM8	Section 8.2.1
Colorfastness to Perspiration	AATCC TM15	Section 8.2.2
Colorfastness When Laundered	AATCC TM61 Method 2A, Method 3A	Section 8.2.3
Colorfastness Hot-pressed	AATCC TM133	Section 8.2.3
Colorfastness to Water	AATCC TM107	Section 8.2.3
Colorfastness after Xenon Test	AATCC TM16.3 & ASTM E1164	Section 8.1.2
Dimensional Change of Background Material	AATCC TM135-2012	Section 8.3
Bursting Strength of Knitted Materials and Other Nonwoven Constructions (Uncoated, Coated or Laminate)	ASTM D6797	Section 8.4.1
Tear Resistance of Woven Materials (Uncoated, Coated or Laminate)	ASTM D1424-09 (2013)	Section 8.4.2
Care Labeling	ANSI/ISEA 107 Section 11	Section 12
Marking	ANSI/ISEA 107 Section 12	Section 13
Instructions for Use	ANSI/ISEA 107 Section 13	Section 14

ANSI/ISEA 105 American National Standard for Hand Protection Classification Section	**ANSI/ISEA 105 Referenced Test Method**	**Test Section and Requirements in ANSI/ISEA 105**
Cut Resistance	ASTM F2992	Section 5.1.1
Puncture Resistance	BS:EN 388 Section 6.4	Section 5.1.2
Hypodermic Needle Puncture	ASTM F2878	Section 5.1.3
Abrasion Resistance	ASTM D3389 & ASTM D3884	Section 5.1.4

CGSB 155.20 Workwear for protection against hydrocarbon flash fire and optionally steam and hot fluids	**CGSB 155.20 Referenced Test Method**	**Test Section and Requirements in CGSB 155.20**
Flame Resistance	ASTM D6413	Section 7.2
Heat Resistance	CGSB 155.20	Section 7.4
Thermal Shrinkage	CGSB 155.20	Section 7.4
Melting Point	ASTM D7138	Section 7.5

CSA Z96-15 High Visibility Safety Apparel	CSA Z96-15 Referenced Test Method	Test Section and Requirements in CSA Z96-15
Garment Class and Design Colour of background and combined-performance materials	CSA Z96 Section 4 ASTM E1164	Section 4 Section 5.1
Colourfastness to light (Xenon)	AATCC TM16.3 & ASTM E1164	Section 5.2.1
Colourfastness to Crocking	AATCC TM8	Section 5.2.2
Colourfastness to Perspiration	AATCC TM15	Section 5.2.3
Colourfastness When Laundered	AATCC TM61 Method 2A, Method 3A	Section 5.2.4
Colourfastness Hypochlorite Bleached	AATCC TM61 Method 4A, Method 5A	Section 5.2.4
Colourfastness Hot-pressed	AATCC TM133	Section 5.2.4
Colourfastness to Water	AATCC TM107	Section 5.2.4
Dimensional Change of Background Material	AATCC TM135-2012	Section 5.3
Tear Resistance of Woven Materials (Uncoated, Coated or Laminate)	ASTM D1424-09 (2013)	Section 5.4.2
Ergonomics	CSA Z96 Section 5.7	Section 5.7
Care Labeling	CSA Z96 Section 8	Section 8
Marking	CSA Z96 Section 9	Section 9
Instructions for Use	CSA Z96 Section 10	Section 10

[2] NOTE: This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

Accredited Laboratory

A2LA has accredited

KINECTRICS AES INC
(FORMERLY ARCWEAR)

Louisville, KY

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 4th day of May 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3570.01
Valid to March 31, 2024

For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.