



KINECTRICS

PPE Testing Services

Arc, Flame, Thermal, Chemical,
Radiological and Biological





ESTABLISHED EXPERTISE

- › Our High Current Lab pioneered the development of arc flash test methods.
- › Kinectrics' expertise and modern equipment provide value, accuracy and international acceptance.
- › Kinectrics offers AC & DC arc testing, electrical incident replication and other custom test programs.
- › ArcWear™ Testing and FlashCert™ Service is a “one-stop-shop” for PPE testing and research.
- › Confidentiality ensured by reputable, experienced, and accredited independent lab.
- › Cost effective to meet client needs and schedule.



ENSURING OPTIMUM PERFORMANCE

Kinectrics offers an expanded, specialized High Current Lab (Toronto) and our new ArcWear full service textile testing lab (Louisville, KY) to ensure the right expertise at the right stage of any PPE testing project. Consulting is available to provide insight into testing and the theory of arc flash, flame, thermal, high visibility, and many other standard test methods and specifications.

Our active participation in development of ASTM, IEC, ISO, CSA, NFPA, AATCC, and ANSI standards, as well as consulting on national and regional standards, will help clients to ensure compliance of their PPE products over the product cycle and provide insight into upcoming changes in the industry and testing standards.

State-of-the-art equipment used our labs provide more meaningful results and reliable information than other labs can offer. High speed cameras, spectrophotometers and spectrometers along with multiple calorimeter options offer increased intelligence for academics, researchers, and product managers alike.

Our participation in standards committees, with end-users, and as an independent lab make us the most trusted and reliable source for PPE testing in arc, flame and thermal.





EXPANDED TEST FACILITIES AND CAPABILITIES

50+
Years

Our High Current lab is well established in the industry, providing advanced technical services for over 50 years. The High Current Lab is used to support utility transmission and distribution research programs, and by manufacturers for product development and certification testing.



Our Textile Test Lab expanded the PPE testing expertise to flash fire, cut testing, abrasion, glove and a range of textile testing, including high visibility garments and fabrics, with a group of five experienced textile degreed specialists and the latest equipment for testing to clients' textile specifications.



Kinectrics' microbiology, mechanical, chemical and radiological labs are expanding capabilities even more in standardized testing and forensic investigations.



Kinectrics' expertise and capabilities have evolved in providing specialized testing and problem-solving services to various engineering groups in the electrical industry around the world.



Engineering consultation and other support technologies and services from Kinectrics provide clients with a "one-stop shopping" experience. From interpreting technical standards to product failure analysis and product development, our fully qualified staff can help meet your specific testing and product development needs.



EXCEPTIONAL PARTNERSHIPS

ArcWear and Kinectrics' labs are accredited to ISO 17025. ArcWear and Kinectrics data is accepted by ASTM's certification body SEI (Safety Equipment Institute) and UL (formerly Underwriter's Laboratories) along with UK Approved Bodies, notified bodies in the EU and certification bodies around the world.

ArcWear
A DIVISION OF KINECTRICS



An Affiliate of
ASTM INTERNATIONAL

ArcWear Participates in UL's Third-Party Data Acceptance Program for ASTM F1506, NFPA 2112, and NFPA 1971 UL TPDAP File: DA2989

ArcWear: 3018 Eastpoint Pkwy. Louisville, KY 40223 for all PPE shipments.

PPE Testing Services

EXPERT TESTING CAPABILITIES

Medical Mask and Respiratory PPE Testing

With a focus on staff expertise, world-class facilities, and innovative technology, Kinectrics is working to support the needs of frontline workers in the fight against COVID-19. Kinectrics offers testing of respiratory personal protective equipment (PPE) for industrial and medical applications.

NEW Medical Mask Testing

ASTM F2100: Standard Specification for Performance of Materials Used in Medical Face Masks:

- ASTM F2101 (Bacterial Filtration Efficiency)
- ASTM F1862 (Resistance to Blood Penetration)
- ASTM F2299 (Sub-Micron Particulate Filtration)
- EN14683:2019 Annex C (Differential Pressure)
- 16 CFR Part 1610 (Flammability)

NEW NIOSH-Type N-Series Respirator Testing

In accordance with NIOSH 42 CFR Part 84:

- Inhalation and Exhalation Resistance Testing (Differential Pressure)
- Particulate Filtration Efficiency

NEW Other Related Tests

Accredited for ASTM F3502 Standard Specification for Barrier Face Covering

Fluid resistance (for N95)

Bacterial Filtration Efficiency (for N95)

EN 14683:2019 Annex D (Microbial Cleanliness/Bioburden)

PFE using DOP (0.3 µm) and pressure differential – method used to test HEPA Filters

PPE Testing Services

Arc Flash Safety Compliance

Work Practice PPE Evaluations

NFPA 70E, CSA Z462, OSHA 1910.269, CE Markings with partners

Incident Investigations (Forensic and Safety Practice)

The Arc Flash, Engineering and Safety Team performs full investigations of electrical arc flashes to evaluate electrical equipment, safety compliance, and PPE conformance, selection, care and use.

Laundering and Aging Studies and Services

AATCC TM135 with Soft Water or Hard Water Specifications

The ArcWear Lab has a unique water softener bypass allowing for hard water specifications, including magnesium and calcium, and with additives (iron and other metallic content) in washing water for testing flame retardant systems.

NFPA 2112 Industrial Laundering

ISO 6330 Home Laundering for physical testing and IEC 61482-1-1 and IEC 61482-1-2 Arc Testing

Custom laundering programs available upon request.

Commitment to Quality

Kinectrics is accredited to ISO/IEC 17025:2017 by the Standards Council of Canada (SCC).



Standards Council of Canada
Conseil canadien des normes

The SCC is a member of the International Laboratory Accreditation Cooperation (ILAC) and a signatory member of the ILAC's Mutual Recognition Arrangement (MRA).

Kinectrics' accreditation is recognized internationally and demonstrates our unrivalled technical capabilities to provide a full range of product development and testing services for PPE.



PPE Testing Services

Understanding PPE Conformance

ANSI/ISEA 125 American National Standard for Conformity Assessment of Safety and Personal Protective Equipment (Listed in NFPA 70E)

Level 1 Supplier Testing, Quality Management System (QMS) tied to manufacture the specific product, Supplier Declaration of Conformity

Level 2 Supplier Testing from ISO 17025 Accredited Lab, ISO 9001 Registered QMS, Supplier Declaration of Conformity

Level 3 Independent Third-Party Testing and Certification, QMS Determined by Third Party Certifier, Third-Party Mark, Certification

ASTM F3050 Standard Guide for Conformity Assessment of Personal Protective Clothing and Equipment

European Union CE Marking Certification (requires a Notified Body and ISO 17025 accredited testing).

Kinectrics participates in each of the certification systems listed above and is recognized, worldwide, by international nuclear agencies for certification and testing.

1

Self Certification

- Written Manufacturer Quality Management System
- Self tested to the standard claimed
- All testing performed as required by standard
- No testing over 5 years old
- Written recall process

Kinectrics ArcWear Difference

- Recognized Third-Party ISO 17025 full 5-year testing to supplement and qualify in-house testing

2

ISO "Qualified" Self Certification

- ISO 9001 Accredited Quality Management System
- ISO 17025 Lab for all Tests
- All testing performed as required by standard
- No testing over 5 years old
- Written recall process

Kinectrics ArcWear Difference

- Recognized Third-Party ISO 17025 full testing to supplement and qualify in-house testing

3

Third Party Certification

- Third party accredited QMS
- ISO 17025 Accredited Testing Third Party Verified
- All testing performed as required by standard
- No testing over 5 years old
- Written recall process
- Listing Mark from ISO 17065 Third-Party Certification Body

Kinectrics ArcWear Difference

- Recognized pretesting and certified test data for third-party certifying bodies

Full Testing & Certification Services (with Partners)

NFPA 2112, Short Duration Thermal Exposures (Flash Fire)

ASTM F1506, Arc Rated and Flame-Resistant Garments

ASTM F1891, Arc Rated and Flame-Resistant Rainwear

ASTM F2178, Arc Rated Eye or Face Protective Products

ASTM F2100, Medical Face Masks

ASTM F2733, Flame-Resistant Rainwear (Flash Fire)

ASTM F3502, Barrier Face Coverings

NEW ASTM F3258, Arc Rated Protector Glove Standard

PPE Testing Services

ISO 11612, Protective Clothing-Heat and Flame
ISO 11611, Welding and Allied Processes
NFPA 1977/ISO 15384, Wildland Fire Fighting
NFPA 1975, Emergency Services Station Work Uniform
IEC 61482-2, PPE For Electric Arc Hazards (EU)
ASTM F1002, Molten Substances and Related Thermal Hazards
ANSI/ISEA 107, CSA Z96 and ISO 20471, High Visibility Safety Apparel
ISO 9185, Molten Metal Splash
ANSI/ISEA 105, Glove Testing for Cut, Puncture and Impact
ANSI/ISEA 203, Single-Use Flame-Resistant Protective Clothing
Test Methods Partial List, with Partners
ASTM F887, Fall Arrest Products, Arc and Vertical Drop Testing
ASTM F1959, Determination of Arc Rating for Textiles
ASTM F2178, Arc Rated Eye or Face Protective Products
ASTM F2621, Determining Response of Arc Rated Finished Products
ASTM F2676, Protective Performance of An Arc Protective Blanket
ASTM F2675, Determining Arc Ratings of Hand Protective Products
IEC 61482-1-1, Open Arc Test for Textile and Garments
IEC 61482-1-2, Box Arc Test for Textile and Garments
ASTM D6413, Flame Resistance of Textiles (Vertical Test)
ASTM F2700/ISO 17492, Heat/Thermal Transfer Performance (HTP/TPP)
ASTM F2894/ISO 17493, Clothing and Equipment for Protection Against Heat
ASTM F955/ASTM F1002/ISO 9185, Molten Metal (with University of AL or KY)
ASTM F2992/ISO 13997, Determination of Resistance to Cutting By Sharp Objects
Various Additional Strength, Colorfastness, Laundering Capabilities



KINECTRICS

www.kinectrics.com

Head Office

800 Kipling Ave., Unit 2
Toronto, ON M8Z 5G5
Canada
416-207-6000

Canada

393 University Ave. 4th Floor
Toronto, ON M5G 1E6

USA

2135 City Gate Lane, Suite 100
Naperville, IL 60563

United Kingdom

17-18 Frederick Sanger Road
Surrey Research Park
Guildford, Surrey GU2 7YD

Germany

Freiberger Strasse 39
01067 Dresden

USA

ArcWear (PPE Shipments)
3018 Eastpoint Parkway
Louisville, KY 40223

Denmark

c/o 360 Law Firm
Gl.Kongevej 60
DK- 1850
Frederikson C

Romania

59 Grigore Alexandrescu Street.,
2nd Floor Bucharest 010623

India

Sy No. 125,
Banda Mailaram Village,
Mulugu Mandal, Siddipet District
Telangana – 502 336