



The American Association for Laboratory Accreditation

World Class Accreditation

# Accredited Laboratory

A2LA has accredited

## F-SQUARED LABORATORIES

*Damascus, MD*

for technical competence in the field of

### Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *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 8 January 2009*).

Presented this 19<sup>th</sup> day of August 2009.



A handwritten signature in black ink, reading "Peter Abney".

President & CEO  
For the Accreditation Council  
Certificate Number 0793.01  
Valid to July 31, 2011

*For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

F-SQUARED LABORATORIES  
26501 Ridge Road  
Damascus, MD 20872  
Wendy Fuster Phone: 301 253 4500

ELECTRICAL

Valid to: July 31, 2011

Certificate Number: 0793.01

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

***Product Safety***

**Test Methods**

**Technology**

IEC/EN/UL 60601-1	Medical Electrical Equipment Part 1: General Requirements for Safety
CSA 601.1	Medical Electrical Equipment Part 1: General Requirements for Safety
IEC/EN 60601-1-1	Medical Electrical Systems
IEC/EN/CSA 60601	All Part 2s
IEC/EN/UL/CSA 61010-1	Electrical Equipment for Laboratory Use Part 1: General Requirements
IEC/EN/UL/CSA 61010	All Part 2s
IEC/EN/UL/CSA -1, AS/NZS 60950-1	Safety of Information Technology Equipment, Including Electrical Business Equipment
IEC/EN/UL/CSA 60065, AS/NZS 60065	Audio, Video and Similar Electronic Apparatus Safety Requirements
IEC/EN/UL/CSA 60745-1	Portable Electric Tools
IEC/EN/UL/CSA 60745	All Part 2's
IEC/EN 60598	Luminaires
UL 1598	Luminaires
IEC/EN 60204-1	Safety of Machinery – General Requirements
IEC/EN 60204-11	Safety of Machinery – HV Equipment
IEC/EN 60204-31	Safety of Machinery – Sewing Machines
IEC/EN 60204-32	Safety of Machinery – Hoisting Machines
EN 1050	Safety of Machinery – Risk Assessment
EN 12100-2	Safety of Machinery – Technical Principles
CSA 107.2	Battery Chargers
CSA 107.1	General Use Power Supplies
IEC/EN/UL/CSA 60335-1	Safety of Household and Similar Electrical Appliances Part 1: General Requirements
IEC/EN/UL/CSA 60335	All Part 2s
CSA 04	Bonding and Grounding of Electrical Equipment
CSA 14	Industrial control equipment
CSA 1017	Vacuum Cleaners, Blower Cleaners and Household Floor Finishing Machines
IEC/EN 60529	Degrees of Protection Provided by Enclosures (IP Code)
NEMA 250	Enclosures for Electrical Equipment (1000 Volts Maximum)

## **Test Methods**

UL 22  
UL 45  
UL 48  
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UL 73  
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UL 141  
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UL 244A  
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UL 563  
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UL 632  
UL 696  
UL 697  
UL 749

## **Technology**

Amusement and Gaming Machines  
Portable Electric Tools  
Electric Signs  
Electric Cabinets and Boxes  
Electric Panelboards  
Motor-Operated Appliances  
Electric Gardening Appliances  
Tests for Flammability of Plastic Materials for Parts in Devices and Appliances  
Enclosed and Dead-Front Switches  
Photographic Equipment  
Electric Heating Pads  
Garment Finishing Appliances  
Portable Electric Lamps  
Household Electric Storage-Tank Water Heaters  
X-Ray Equipment  
Commercial Electric Cooking Appliances  
Rubber Gasketed Fittings for Fire Protection Service  
Solid State Controls for Appliances  
Household Refrigerators and Freezers  
Portable Electric Hand Lamps  
Door, Drapery, Louver and Window Operators and Systems  
Limit Controls  
Cord Reels  
Electrically Operated Valves  
Grounding and Bonding Equipment  
Musical Instruments and Accessories  
Commercial Refrigerators and Freezers  
Portable Sun/Heat Lamps  
Room Air Conditioners  
Edison-Base Lampholders  
Attachment Plugs and Receptacles  
Electric Heating Appliances  
Specialty Transformers  
Electric Fans  
Industrial Control Equipment  
Industrial Control Panels  
Relays Used in Information Technology Equipment  
Power Conversion Equipment  
Short Circuit Tests of Electromechanical Motor Controllers  
Metallic Outlet Boxes  
Refrigerated Vending Machines  
Lampholders, Starters, and Starter Holders for Fluorescent Lamps  
Electric Medical and Dental Equipment  
Floor Finishing Machines  
Ice Makers  
Local Burglar-Alarm Units and Systems  
Electrically Actuated Transmitters  
Electric Toys  
Toy Transformers  
Household Dishwashers

**Test Methods****Technology**

UL 751	Vending Machines
UL 756	Coin and Currency Changers and Actuators
UL 763	Motor Operated Commercial Food Preparing Machines
UL 778	Motor-Operated Water Pumps
UL 796	Printed-Wiring Boards
UL 813	Commercial Audio Equipment
UL 817	Cord Sets & Power-Supply Cords
UL 826	Household Electric Clocks
UL 840	Insulation Coordination Including Clearances and Creepage Distances for Electrical Equipment
UL 858	Household Electric Ranges
UL 859	Household Electric Personal Grooming Appliances
UL 863	Electric Time-Indicating and Recording Appliance
UL 867	Electrostatic Air Cleaners
UL 869A	Reference Standard for Service Equipment
UL 873	Electrical Temperature-Indicating and Regulating Equipment
UL 913	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, Division I, Hazardous (Classified) Locations
UL 916	Energy Management Equipment
UL 917	Clock Operated Switches
UL 921	Commercial Electric Dishwashers
UL 923	Microwave Cooking Appliances
UL 924	Emergency Lighting and Power Equipment
UL 935	Fluorescent-Lamp Ballasts
UL 961	Electric Hobby and Sports Equipment
UL 969	Marking and Labeling Systems
UL 982	Motor Operated Household Food Preparing Machines
UL 984	Hermetic Refrigerant Motor-Compressors
UL 987	Stationary and Fixed Electric Tools
UL 998	Humidifiers
UL 1004	Electric Motors
UL 1005	Electric Flatirons
UL 1008	Transfer Switch Equipment
UL 1012	Power Units Other Than Class 2
UL 1017	Vacuum Cleaners, Blower Cleaners and Household Floor Finishing Machines
UL 1018	Electric Aquarium Equipment
UL 1026	Electric Household Cooking and Food-Serving Equipment
UL 1028	Hair Clipping and Shaving Appliances
UL 1029	High-Intensity Discharge Lamp Ballasts
UL 1042	Electric Baseboard Heating Equipment
UL 1069	Hospital Signaling and Nurse-Call System
UL 1082	Household Electric Coffee Makers and Brewing-Type Appliances
UL 1083	Household Electric Skillets and Frying Type Appliances
UL 1086	Household Trash Compactors
UL 1088	Temporary Lighting Strings
UL 1206	Electric Commercial Clothes Washing Machines
UL 1230	Amateur Movie Lights
UL 1236	Battery Chargers For Charging Engine-Starter Batteries
UL 1244	Electrical and Electronic Measuring and Testing Equipment
UL 1261	Electric Water Heaters for Pools and Tubs

**Test Methods****Technology**

UL 1262	Laboratory Equipment
UL 1286	Office Furnishings
UL 1310	Class 2 Power Units
UL 1418	Cathode-Ray Tubes
UL 1431	Personal Hygiene and Health Care Appliances
UL 1433	Control Centers for Changing Message Type Electric Signs
UL 1445	Electric Water Bed Heaters
UL 1447	Electric Lawn Mowers
UL 1448	Electric Hedge Trimmers
UL 1459	Telephone Equipment
UL 1472	Solid-State Dimming Controls
UL 1492	Audio and Video Equipment
UL 1564	Industrial Battery Chargers
UL 1573	Stage and Studio Lighting Units
UL 1574	Track Lighting Systems
UL 1585	Class 2 and Class 3 Transformers
UL 1594	Sewing and Cutting Machines
UL 1598	Luminaries
UL 1604	Electrical Equipment for use in Class I and II, Division II and Class III Hazardous (Classified) Locations
UL 1638	Visual Signaling Appliances
UL 1647	Motor-Operated Massage and Exercise Machines
UL 1727	Commercial Electric Personal Grooming Appliances
UL 1786	Nightlights
UL 1838	Low Voltage Landscape Lighting Systems
UL 1993	Self-Ballasted Lamps and Lamp Adapters
UL 1995	Heating and Cooling Equipment
UL 2044	Commercial Closed Circuit Television Equipment
UL 2157	Electric Clothes Washing Machines and Extractors
UL 2158	Electric Clothes Dryers
UL 2161	Neon Transformers and Power Supplies
UL 3044	Surveillance Closed Circuit Television Equipment
UL 2601-1	Medical Electrical Equipment Part 1: General Requirements for Safety
UL 61010A-2-10	Electrical Equipment for Laboratory Use Part 2: Particular Requirements for Laboratory Equipment for the Heating of Materials
UL 61010A-2-20	Electrical Equipment for Laboratory Use Part 2: Particular Requirements for Laboratory Centrifuges
UL 61010A-2-41	Electrical Equipment for Laboratory Use Part 2: Particular Requirements for Autoclaves Using Steam for the Treatment of Medical Materials and for Laboratory Processes
UL 61010A-2-42	Electrical Equipment for Laboratory Use Part 2: Particular Requirements for Autoclaves and Sterilizers Using Toxic Gas for the Treatment of Medical Materials and for Laboratory Processes
UL 61010A-2-51	Electrical Equipment for Laboratory Use Part 2: Particular Requirements for Laboratory Equipment for Mixing and Stirring
UL 61010A-2-61	Electrical Equipment for Laboratory Use Part 2: Particular Requirements for Laboratory Atomic Spectrometers with Thermal Atomization and Ionization
UL 61010B-1	Electrical Measuring and Test Equipment Part 1: General Requirements

**Test Methods****Technology**

UL 61010B-2-31	Electrical Equipment for Measurement, Control, and Laboratory Use Part 2: Particular Requirements for Hand-Held Probe Assemblies for Electrical Measurement and Test-First Edition
UL 61010B-2-32	Electrical Equipment for Measurement, Control, and Laboratory Use Part 2: Particular Requirements for Hand-Held Current Clamps for Electrical Measurement and Test
UL 61010C-1	Process Control Equipment
UL 3111-1	Electrical Measuring and Test Equipment Part 1: General Requirements
UL 60730-1A	Automatic Electrical Controls for Household and Similar Use; Part 1: General Requirements
UL 60730-2-3	Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Thermal Protectors for Ballasts for Tubular Fluorescent Lamps
UL 60730-2-4	Automatic Electrical Controls for Household and Similar Use, Part 2: Particular Requirements for Thermal Motor Protectors for Motor-Compressors of Hermetic and Semi-Hermetic Type
UL 60730-2-16A	Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Automatic Electrical Water Level Controls
UL 6500	Audio, Video and Similar Electronic Apparatus Safety Requirements

**On the Following Types of Products / Equipment:**

Information Technology Equipment (ITE); Scientific Equipment; Industrial Equipment; Test & Measurement Equipment; Lighting Equipment; Household Appliances / Electric Tools; Audio / Video Equipment; Medical Equipment; Electrical Control Equipment and Electrical Laboratory Equipment.