

DIELECTRIC TESTING PROCESS

Electrical Safety Sleeves



Burlington Safety Laboratory has been testing protective equipment since 1971. We are accredited by NAIL for PET, and our test procedures meet or exceed ASTM/ANSI, MIL Specs, NFPA 70E, FED and CAL OSHA standards. Our quality control procedures include thorough and accurate records of each and every article tested, along with dates and test values. Burlington Safety Laboratory's technicians are fully trained before they perform critical tests on your personal protective equipment.



East Coast Operations

6 Cooper Street, Unit 100

Burlington, NJ 08016

609.387.3404

800.220.2120

Northern California

7087 Commerce Circle, Unit B

Pleasanton, CA 94588

925.251.1412

888.817.1412

Southern California

7382 Bolsa Avenue

Westminster, CA 92683

714.373.2801

800.296.2803

Dielectric Testing Process for Electrical Safety Sleeves

Burlington Safety Laboratory has a short 2 week turnaround upon receiving electrical safety sleeves for laboratory testing to ASTM standards. Customers can either ship their gloves to us or drop them off at our facility for testing. Upon receiving, our testing process consists of:

1. Machine Wash

The rubber sleeves undergo a thorough laundering process that meets ASTM Standards. Utilizing an industrial cruise line washing machine for large quantities and commercial washing machines for smaller batches ensures consistent and effective cleaning. This meticulous washing eliminates all traces of streaks, stains, dirt, dust, oils, and other contaminants that may compromise the sleeves' insulation properties. Additionally, any stamps and markings from previous test certifications are removed, ensuring a clean slate for subsequent testing processes.



Figure 1 - Industrial Cruise Line Washing Machine

2. Machine Drying

Following the washing phase, the rubber sleeves undergo a drying process to prepare them for dielectric testing. This ensures that the sleeves are completely dry, free from moisture, and ready for the subsequent testing phase.



Figure 2 - Industrial Dryers

3. Dielectric Testing

Employing state-of-the-art safety equipment testing machines, the rubber sleeves undergo dielectric testing. Adhering to ASTM Standards, sleeves are subjected to testing every 6 months to ensure compliance and safety. These advanced machines facilitate evaluation of dielectric integrity, providing comprehensive assessment across all classes. Detected dielectric failures are automatically identified by the machine, and appropriate actions are taken, including discarding, marking and returning, or replacing the sleeves based on the customer's preferences.



Figure 3 - Dielectric Testing

4. Dry

Subsequent to dielectric testing, the rubber sleeves undergo a thorough drying process to ensure they are completely dry before proceeding to air testing. This additional drying step guarantees the elimination of any residual moisture, preparing the sleeves for the next phase of testing.



Figure 4 - Sleeve Re-Drying

5. Air Testing

Following the drying process, the rubber sleeves are taken to our air testing station for visual inspection. Our highly skilled technicians conduct thorough examinations of each sleeve, meticulously scrutinizing both the interior and exterior surfaces for any signs of defects or damage. This rigorous inspection covers a comprehensive range of criteria including age cracking, cuts, depressions, embedded material, form marks, hard spots, mold marks, nicks, snags, scratches, ozone damage, and tears. Any visual failures detected during this inspection are promptly addressed, with sleeves being discarded, marked and returned, or replaced according to the customer's specifications.



Figure 5 - Air Testing Sleeves

6. Stamp

Upon completion of testing, each rubber sleeve undergoes identification stamping for traceability and compliance purposes. An identifying serial number is stamped onto each sleeve, along with essential information including the proof test voltage, maximum use voltage, and the date of testing completion. This meticulous stamping process ensures that crucial information is readily accessible and facilitates easy monitoring of the sleeves' testing history.



Figure 6 - Stamp

7. Bag Packaging

Following identification stamping, the rubber sleeves are carefully sealed in individual plastic bags to provide protection against contaminants and environmental factors. This packaging ensures that the sleeves remain clean and intact until they are ready for use.



Figure 7 - Bag Packaging

8. Box Packaging

Next, the sealed rubber sleeves are placed into boxes and securely sealed with Burlington tape to ensure their safe transportation and storage. Additionally, each box is affixed with an individualized sticker containing vital details such as the serial number, testing date, and essential information regarding the sleeves enclosed within. This personalized labeling enhances traceability and facilitates easy access to pertinent information for users.



Figure 8 - Box Packaging

9. Ship or Pickup

Finally, the sealed boxes containing the rubber sleeves are either dispatched to the customer via UPS for delivery or made available for customer pickup, based on their preference. This ensures efficient delivery of the tested sleeves to the designated recipients, facilitating their prompt integration into their operations.



Figure 9 - Shipping or Pickup



Testing Specifications

Rubber Insulating Equipment	ASTM Designation
Rubber Insulating Gloves 2.5 – 40kV, Class 00 – Class 4	D120 / F496
Rubber Insulating Sleeves 5 – 40kV, Class 00 – Class 4	D1051 / F496
Rubber Insulating Footwear 5 – 20kV Overshoes & Boots	F1116/F1117
Rubber Insulating Blankets 5 – 40kV, Class 0 – Class 4	D1048/F479
Rubber Insulating Line Equipment Line Hose, Hoods, Covers, etc.	D1050/F478

Jumpers/Grounds	ASTM Designation
Hotline Jumpers Insulation & Voltage Drop Test	F2321
Ground Sets and Leads Voltage Drop Test	F855

Line Guards	ASTM Designation
Plastic Line Guards	F712

Hot Line Tools	ASTM Designation
All Hot Sticks Switch/straight, telescopic, and Grip-All sticks	F711



Voltage Detectors & Meters	
Voltage Detectors (Manufacturer's Functional Test)	
Meters (Manufacturer's Functional Test) Calibration Services Available	

Testing Intervals

Equipment	Testing Interval
Gloves	Every 6 months
Sleeves	Every 12 months
Blankets	Every 12 months
Line Hose	Every 12 months
Boots	Every 6 months
Grounds	Every 12 months
Fiberglass Tools	Every 2 years

www.burlingtonsafety.com

Email us at:

info@burlingtonsafety.com

or contact us at one of our offices:

Burlington, NJ	Pleasanton, CA	Westminster, CA
(800) 220-2120	(888) 817-1412	(800) 296-2803



Burlington
Safety Laboratory Inc.

