

DIELECTRIC TESTING PROCESS

Plastic Line Guards & Covers



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.



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Dielectric Testing Process for Plastic Line Guards & Covers

Burlington Safety Laboratory has a short 2 week turnaround upon receiving plastic line guards and covers 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. Hand Washing

Initiate the testing process by meticulously hand washing each plastic line guard and cover. This approach ensures gentle cleaning to prevent damage to the equipment. By removing any streaks, stains, dirt, dust, and oils, the equipment is prepared for the dielectric test. Special attention is given to cleaning the inside of the guards and covers to eliminate hard-to-reach contaminants and ensure thorough cleanliness before testing.



Figure 1 - Plastic Line Guards & Covers

2. Dielectric Testing

Following handwashing, the plastic equipment undergoes dielectric testing, similar to the procedure used for Line Hose. A metal rod is centrally positioned within the equipment and grounded to the dielectric testing machine. The equipment is subjected to the dielectric test for a duration of 60 seconds. Upon completion of the test, the equipment is transitioned to the visual inspection stage for further assessment.



Figure 2 - NOTE: picture shows line hose, but the process for plastic guards is exactly the same

3. Visual

Following the dielectric testing, the plastic equipment undergoes a thorough visual inspection, encompassing both internal and external surfaces. Our technicians meticulously scrutinize the equipment for any indications of damage, defects, or irregularities. Given the unique properties of plastic material, our technicians employ specialized scrutiny to ensure the integrity and quality of the

equipment. It's essential to acknowledge that due to the material properties of plastic, our technicians must pay attention to aspects not typically examined in rubber equipment. This primarily involves detecting cracks in the plastic, which may be challenging to discern without the ability to flex the material. For this reason, this step is the most important of the testing process for plastic.



Figure 3 - Visual Inspection

4. Optional Part Replacement (metal can be fixed/replaced. Plastic can't)

In this step, customers have the option to replace or repair the metal parts of the plastic equipment if needed. Whether it's a lever or a single screw, our team can restore these components to a like-new condition. However, it's important to note that this option does not extend to the plastic parts of the equipment. If there is a cut, hole, or scrape in the plastic, the affected piece of equipment cannot be repaired. Instead, it will be disassembled, and salvageable parts may be used for replacements or repairs in other equipment.



Figure 4 - Part Replacement

5. Sticker Certification

Following the inspection and optional part replacement, technicians affix a certification sticker to each plastic line guard and cover, accompanied by a unique serial number. This sticker prominently displays the date of testing as well as the location where the testing was conducted. Such certification stickers serve as clear indicators of compliance with safety standards and provide vital information regarding the testing process for each item.



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

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