



Jameson Hollow Core Fiberglass Poles: FG and FGC Series

Usage, Testing, and Maintenance

December 16, 2019

Basic Description

Jameson FG series conventional poles and FGC series Composite Lock poles are constructed from fiberglass-reinforced plastic (FRP) and manufactured with a high-grade resin and glass system. The pole section is a pultruded hollow tube. Note that despite many of the standards and testing described below being intended for live line tools, the Jameson FG and FGC series poles are not intended or explicitly recommended for live line use as a “hot stick.”

Best Practices

As a general recommendation, a maximum of three 6-foot poles, or a total of 18 feet of poles can be used for working overhead. Experienced users may find they can safely and effectively use longer total lengths, but it is generally recommended to use 18-feet or less, not including the additional length of the tool attached.

The lowermost pole should be a base pole. The base pole has a rubber cap at the lower end. Extension poles or tool head poles are connected to the base pole to increase the working length of the pole system. If an extension pole is used as the lowermost pole, it may result in damage to the end ferrule, contamination of the hollow core of the pole, or increased risk to the user.

Factory Testing

The fiberglass section of Jameson FG and FGC series poles are batch tested at the factory in typical batch size of 160 poles per month for compliance to OSHA 1910.269(j)(1)(i) governing live line tools which states

“If the tool is made of fiberglass-reinforced plastic (FRP), it shall withstand 328,100 volts per meter (100,000 volts per foot) of length for 5 minutes...”

Note to paragraph (j)(1)(i): Live-line tools using rod and tube that meet ASTM F711-02 (2007), Standard Specification for Fiberglass-Reinforced Plastic (FRP) Rod and Tube Used in Live Line Tools, are deemed to comply with paragraph (j)(1) of this section.

From ASTM F711-02, section 12.2.5.1:

“...the tubes or rods shall be subjected to an alternating voltage of 100 KV rms at power frequency ...The test voltage shall be applied between electrodes for 5 min...there shall be no sign of flashover, puncture, tracking, or erosion on the surface of any sample. There shall be no perceptible temperature rise of any sample.”



Usage/Application

Jameson batch tests the fiberglass section of FG and FGC series poles to the above test criteria at the time of manufacture. The dielectric properties of any FRP pole can be affected by field conditions including dirt, grease, abrasions, scratching, moisture, puncture, dents, etc. It is important that the end user maintains the poles properly and employs a rigorous inspection and certification program.

The OSHA Standard for “Line clearance tree-trimming operations” outlined in section 1910.269(r)(1)(iv) states

“Branches that are contacting exposed energized conductors or equipment or that are within the distances specified in Table R-5, Table R-6, Table R-7, and Table R-8 may be removed only through the use of insulating equipment.

“Note to paragraph (r)(1)(iv): A tool constructed of a material that the employer can demonstrate has insulating qualities meeting paragraph (j)(1) of this section is considered as insulated under paragraph (r)(1)(iv) of this section if the tool is clean and dry.”

Please refer to OSHA Standard 1910.269(r) for tables specified above and for other information relevant to tree-trimming applications at www.osha.gov. It is the sole responsibility of the user to understand and follow all applicable OSHA regulations.

It is important to reiterate that field conditions can adversely affect the insulating properties of any FRP product. It is critical that the user of the tool implement and follow a rigorous inspection and certification program for all tools to be used near energized conductors.

Care and Maintenance

Jameson does not prescribe specific maintenance procedures as this depends on the frequency of use and application, as well as the employer’s specific safety programs and operational procedures.

Insulating tools should be visually inspected before use for indications that they may have been mechanically or electrically overstressed. Tools that show evidence of overstressed (such as damaged, bent, worn or cracked) components should be removed from service and evaluated for repair. Any moisture penetration will reduce the insulating properties of these tools.

When tools have been exposed to excess moisture, their moisture content can be measured with a moisture meter, which is commercially available, or their general condition determined on the basis of a/c dielectric-loss measurements.

Recommendations

It is the ultimate responsibility of the user of the tool to inspect, test, and verify the acceptable insulating properties of the tools to be used prior to beginning any job near electrical conductors. Jameson is not responsible for loss of insulating properties that occur during use of the tool.