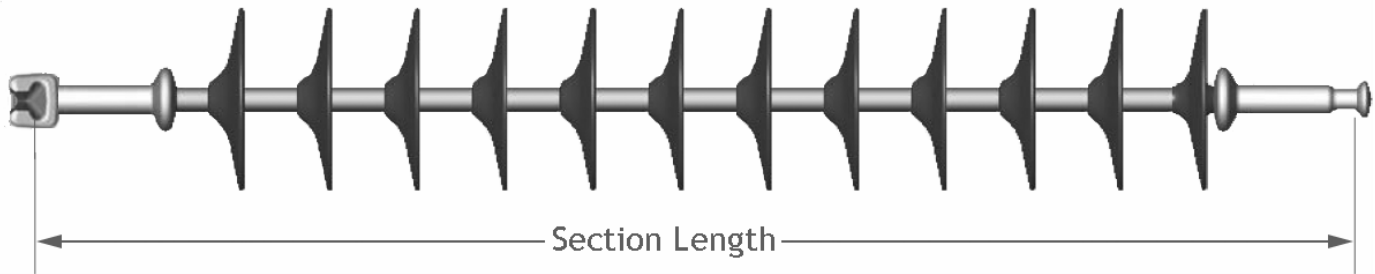


**INSULATOR, SUSPENSION, POLYMER FOR 115 kV NOMINAL SYSTEMS**



**1. Scope**

This Standard applies to polymer, suspension insulators used to construct 115 kV transmission lines. Insulators have an ANSI 52-5 type J socket on their structure end and an ANSI 52-5 type J ball on their line end.

This material Standard applies to the following Seattle City Light Stock Number: 690237

**2. Industry Standards**

Insulators shall meet the applicable requirements of the following national standards:

**ANSI C29.1-1988** (R2002) Test Methods for Electrical Power Insulators

**ANSI C29.2-1992** (R1999) Wet Process Porcelain and Toughened Glass - Suspension Type

**ANSI C29.11-1989** (R1996) Tests for Composite Suspension Insulators for Overhead Transmission Lines

**ASTM A153-1982** Zinc Coating (Hot Dip) on Iron and Steel Hardware

**3. Requirements**

60 Hz dry flashover:	395 kV rms minimum
60 Hz wet flashover:	356 kV rms minimum
Positive critical impulse flashover:	600 kV crest minimum

**3. Requirements, continued**

Horizontal coupling length:	50" (plus 3", minus 2")
Leakage:	105" minimum
Strike/dry arc distance:	38" minimum
Specified mechanical load (SML) as defined by ANSI C29.11-1989 (R1996):	30,000 lbs. minimum
Routine test load (RTL):	15,000 lbs. minimum, where RTL is defined as 50% of SML.
End fitting type (top/structure end):	ANSI 52-5, type J socket according to ANSI C29.2-1992 (R1999), Table 3, with stainless steel humped cotter key.
End fitting type (bottom/line end):	ANSI 52-5, type J ball according to ANSI C29.2-1992 (R1999), Table 3.
Weathershed/sheath material:	silicon rubber – to qualify as silicon type, weather-shed/sheath material must be composed of at least 33% silicon by weight; "EP/silicon alloys" do not qualify.
Weathershed/sheath material color:	gray

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**MATERIAL STANDARD**

Insulator, Suspension, Polymer for 115 kV Nominal Systems

standard number: **6902.35**

superseding: December 1, 2013

effective date: January 19, 2024

page: 2 of 2

**4. Notice of Changes**

Manufacturer shall provide Seattle City Light reasonable notice of anticipated insulator design changes. This includes, but is not limited to, changes in polymer formulation, dimensions, electrical characteristics, mechanical characteristics, or accessories.

**5. Marking**

Insulators shall be clearly and indelibly marked according to ANSI C29.11-1989 (R1996), section 6.

Load ratings shall be stated in units of pounds.

Labeling shall be in English.

**6. Packaging**

Insulators shall be packaged in wood crates to protect against physical damage that could occur during shipping, handling, or long-term outside storage. If slatted crates are used, each insulator shall be sealed in plastic. If sealed crates are used, plastic is not required.

Insulator weathersheds shall not bear any load due to its own weight or that of insulators or crates above or below it.

Crates shall be secured to pallets for handling by forklift. Pallets shall not exceed 4 feet in height or 2,000 pounds in weight. Crates shall be marked with the manufacturer's name or symbol, catalog number, Seattle City Light's Stock Number, and Purchase Order number.

Number of insulators per crate: 50 maximum.

**7. Stock Unit: EA****8. Approved Manufacturers**

Manufacturers	Type	Catalog No.
Hubbell Power Systems (Ohio Brass)	QuadriSil	S030040S3010
MacLean Power Systems	S5 Series	S5 70 80 041 VX SS 021
NGK-Locke	SS Shed Series	301-SS310-SJ

**9. References**

**Panomvana, Tanya**, SCL Standards Engineer and subject matter expert for 6902.35