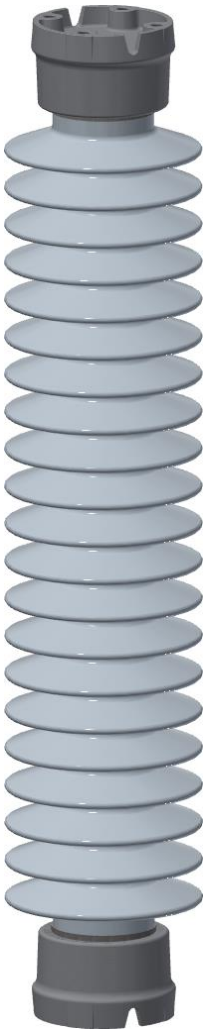


LAPP Insulators: An Industry Leader

The station post is an original design by LAPP Insulators. It was introduced in 1931 to provide the electric power industry with switch and bus insulators having superior performance, strength and longevity required for substation operations. Over the decades, LAPP has led the industry in innovative design and manufacturing, offering utilities and OEMs premium station post insulators with maximum economy and trouble-free service in a wide variety of voltage and strength ratings. With thousands of installations at substations across North America and the world, our station post insulators have achieved an enviable record in service for switchgear and capacitor bank platform applications. They are today an industry standard highly sought after by utility substation and OEM design engineers

LAPP Station posts are available in high leakage and extra-high leakage versions of standard units and RG® Resistive Graded units.

- ANSI, CSA and IEC Standards
- Station Post, Cap and Pin Replacement
- Standard, High Strength and Extra High Strength Station Post insulators
- Reference Standard, High Leak and Extra High Leakage
- RG® Resistance Graded Station Post Insulators
- Low maintenance service in a wide variety of demanding applications
- Specialty Applications
- AC Substation and DC Converter Station Insulation
- High Voltage Test Laboratory
- Worldwide sales and technical support with local presence

LAPP Insulators for Substation Applications

Porcelain

- Single Piece Station Post
- Multiple Unit Station Post Stacks
- RG® Glaze Station Posts
- Cap and Pin Replacement (ANSI)
- Switch Operating Rod Insulators
- Transition Plates and Spacers

1. **Hardware**
   All station posts have externally attached caps and/or bases. A proven cementing system transfers the load uniformly from the hardware into the porcelain body. Hardware is available in UNC or metric. Alternate materials available for special applications.

2. **Porcelain Body**
   Each insulator body is made from the highest quality clay raw materials that have been processed to be fully vitrified porcelain. The body is glazed to add strength, improve surface appearance and enhance ease of cleaning.

3. **Uniform Leakage Path**
   The petticoat profile designs provide optimum leakage distance. Sheds are spaced to take advantage of the natural cleaning action of wind and rain, as well as to avoid concentrated hot spots where local stress can cause flashover. This provides the optimum leakage surface.

4. **Short, Sturdy Sheds**
   The porcelain sheds protect the body from impact or flashover. They will withstand severe mechanical attack. Even when broken, station post sheds break clean, usually leaving the body undamaged and the insulator still serviceable.

5. **"Straight-line" Flashover**
   Line terminals are separated by the full length of the insulator so that flashover goes outside the unit. Loss of one or more sheds does not significantly reduce flashover distance.

6. **Standard Bolt Circles**
   Station post caps and bases have bolt holes on standard bolt circles for interchangeability and ease of mounting. The minimum depth of all tapped holes on the end caps is equal to the diameter of the hole. Adapter plates and spaces for changing mounting hold diameters are available.

- **Minimum Deflection**
  Station post insulators provide maximum stiffness in a switch and bus insulator design, an important feature in taller stacks for higher voltages. Station post stacks for high voltage and EHV are made up of single piece porcelain with externally attached hardware bolted together in a strong, rigid assembly.

- **Same Strength Inverted**
  Station post insulators have the same cantilever strength mounted upright or inverted; superior electrical and mechanical characteristics provide a safe margin of operating security.

- **Economical EHV Assemblies**
  Tapered station post stacks made up of mixed units of different diameters and strength ratings are lighter in weight than uniform-diameter assemblies and offer considerable economy. Electrical and cantilever characteristics are equivalent to uniform-diameter station posts.

- **Total Testing**
  Solid core station post insulators are given a routine mechanical proof test of either four-way cantilever (upright and inverted) or equal bending moment, depending on the voltage class. Cavity core station posts receive an electrical test in accordance with ANSI C29.9-1983 Section 7.4.1 before assembly of hardware. After assembly, each cavity core unit is tested mechanically to 50% of rated tension strength.

- **Resistance to Power Arcover**
  The sturdy sheds on the porcelain column of the station post insulator keep power arcs away from the body and protect it from damage. If the arc is sufficiently severe to break away sheds, it is not unusual to find only the top or bottom shed damaged with the middle sheds left intact.

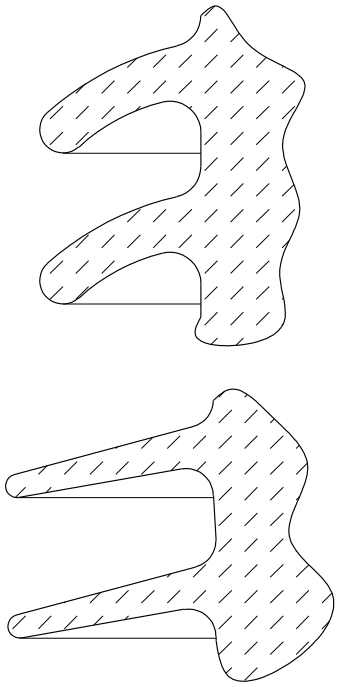
- **Radio and TV Interference-free**
  Station post insulators are low capacitance insulators by design, enabling them to meet the Radio Influence Voltage (RIV) requirements established in ANSI C29.9.

- **Trim, Modern Appearance**
  Station post insulators enhance the appearance of substations at all voltage levels. Their trim, modern design harmonizes well with other apparatus and equipment in the area.

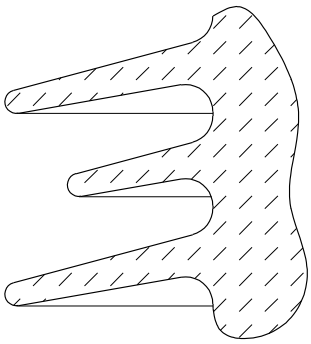
- **Protection Against Mechanical Damage**
  Sheds protect the body of the insulator from the effects of power arcover and against mechanical damage from stones and bullets. A bullet or stone striking a shed with sufficient energy will break the shed but leave the insulator body intact.

- **Mechanical Loading: Intensity of Load**
  Switch insulator assemblies bear combined mechanical loads caused by the switching operations. Forces may include tension, torsion, compression and cantilever loading. There may also be impact loads of significant magnitude. Under impact loading, the intensity of the load is most important. On LAPP station posts, the areas of load transfer to the porcelain are generous, so no high intensity point loading occurs.

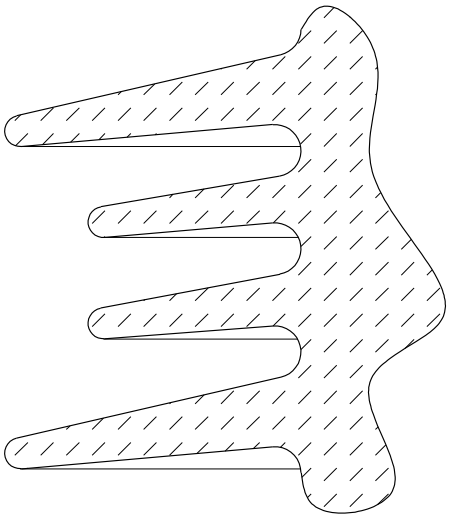
- **Seismic Considerations**
  LAPP station post designs have low natural frequency and high damping coefficient. These features are important considerations when seismic criteria are a part of the substation design parameters.



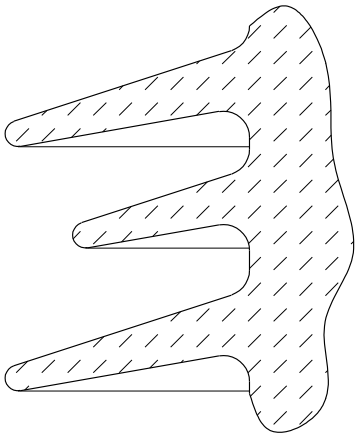
Conventional Shed Profiles
Offered on most standard designs as standard shed or plain shed profile, performs well in mild pollution environment



Major/Minor Shed Profile
Offered on high leakage designs and may be used on some standard parts to meet minimum leakage requirements, high protected leakage performs well in coastal areas



Major/Double Minor Shed Profile
Offered as an option for extra high leakage designs for applications, high protected leakage performs well in high contamination and / or heavy icing areas



DC Shed Profile
Industry specified HVDC shed profile offer high protected leakage for HVDC applications

Lapp Insulators LLC also offers alternative petticoat profiles to accommodate specific customer requirements. Please contact Lapp Insulators LLC Sales representative for special requirements.

Standard, High Strength and Extra-High Strength Units
95 kV through 900 kV BIL
Specifications as per ANSI C29.9 and IEC Publications 273 and 168

- **Standard Strength Units**
  - Recommended for all normal duty switch and bus applications
  - Same cantilever strength rating mounted upright or underhung
  - Meet or exceed all ANSI and IEC Standards in electrical or mechanical characteristics for their class

- **High Strength Units**
  - Provide an extra margin of mechanical strength for heavy duty switch and bus applications
  - Match standard strength station posts in all electrical characteristics
  - Required where mechanical loads from opening and closing of switches are unusually heavy or where there is a threat of severe short circuit stresses on the insulator
  - Permits longer, heavier bus runs with fewer insulators
  - Allows for a more compact substation design
  - Same reliability and low maintenance characteristics of standard strength station posts

- **Extra-High Strength Units**
  - Available for switches subject to heavy mechanical loads
  - Useful for long or heavily loaded bus runs in substations where severe short circuit stresses could damage insulators with lower ratings
  - Same reliability and low maintenance characteristics of standard strength station posts

- **Leakage Distance**
  - Leakage distance shown in dimensional data for each specific station post conforms to ANSI minimum requirements
  - **High Leakage:** Increased leakage of up to 40% more than ANSI and IEC standards
    - An “H” is added to the LAPP Catalog Number; example 315286H-70
  - **Extra-High Leakage:** Increased leakage of more than 40% than ANSI standards
    - An “E” is added to the LAP Catalog Number; example 315286E-70

- **Specifications**
  - Light Gray-ANSI 70 glaze is standard on all ANSI and IEC station post insulators. Brown glaze is also available.
  - The IEEE standard for maximum recommended working load of station posts is:
    - 40% of published cantilever rating
    - 50% of published torsion rating
    - 50% of published tension rating
  - For short circuit loads only, the maximum recommended working load is 100% of published ratings when using formulas from ANSI C37-1972.
  - Caps and flanges are made of drop forged steel, malleable iron or ductile iron and hot-dip galvanized.
  - Tapped holes are Unified National Coarse Thread Series: 1/2-13, 5/8-11 and 3/4 -10. Holes are tapped 0.15” oversize to allow for the use of galvanized cap screws

Stacks for High Voltage, EHV and UHV Applications
900 kV through 2550 kV BIL
Specifications as per ANSI C29.9 and IEC Publications 273 and 168

LAPP Station Post insulators are well suited for high voltage, EHV and UHV switch and bus construction because of their strength, rigidity and adaptability to a wide range of stack heights and Basic Impulse Insulation (BIL) ratings. They are identified by BIL rather than by voltage class.

- **Matches Industry Approved BIL Ratings**
  Station posts match the industry's most popular BIL designations based on the kV crest value to withstand voltage of a 1.2 X 50 microsecond full wave impulse voltage.

Industry Approved BIL Levels, kV

900	1300	1550	2050	2550
1050	1470	1800	2300	

- **High Leakage and Extra-High Leakage**
  Leakage distance shown in dimensional data conforms to ANSI minimum requirements.
  - **Standard Reference:** ANSI C29.9 and IEC Publications 273 and 168
  - **High Leakage:** Increased leakage of up to 40% more than ANSI standards
  - Designated with an "H" that is added to the LAPP Catalog Number; example 315308H-70
  - **Extra-High Leakage:** Increased leakage greater than 40% more than ANSI standards
  - Designated with an "E" that is added to the LAPP Catalog Number; example 315308E-70

- **Economic Value of Tapered Stacks**
  Although both uniform-diameter and tapered station posts are available for all EHV and UHV applications, it is generally more economical to use tapered stacks for BIL ratings above 1470 kV.

  Tapered station post stacks are made up of mixed sections of different diameters and strength ratings. They are electrically equivalent to, and provide the same bending strengths as, uniform-diameter station posts, but are lighter in weight and less expensive. Tension, torsion and compression values are set by the smallest diameter section and will be less than the values of uniform-diameter stacks.

Stacks for High Voltage, EHV and UHV Applications
900 kV through 2550 kV BIL
Specifications ANSI C29.9 and IEC Publications 273 and 168

- Light Gray-ANSI 70 glaze is standard on all ANSI and IEC station post insulators; brown glaze is also available
- The IEEE standard for maximum recommended working load of station posts is:
  - 40% of published cantilever rating
  - 50% of published torsion rating
  - 50% of published tension rating
- For short circuit loads only, the maximum recommended working load is 100% of published ratings when using formulas from ANSI C37-1972
- Caps and flanges are made of drop forged steel, malleable iron or ductile iron, and hot-dip galvanize
- Tapped holes are Unified National Coarse Thread Series: 1/2”-13, 5/8”-11 and 3/4” -10. Holes are tapped 0.15” oversize to allow for the use of galvanized cap screws

RG® Resistance Graded Station Post Insulators

LAPP RG Station Post insulators employ a semi-conductor glaze which inhibits arcing and flashover—especially important in contaminated areas. First installed in the 1970's, these station posts have an established record of excellent performance in contamination problem areas with coastal salt fog or mist, industrial pollution and agricultural dust or chemicals.

The semi-conductive glaze is a permanent, integral part of the LAPP RG Station Post insulator. Applied as part of the normal manufacturing process, the station post insulator is less costly than insulators which are first glazed with a regular glaze and then covered with a hydrophobic coating.

- **Eliminate Need to Over-Insulate in Contaminated Areas**
  Over-insulation may reduce the number of flashovers in contaminated areas; however, its effectiveness is never certain. In addition, larger insulators may require larger structures, which can increase costs.

  RG Station Post insulators eliminate the need to over-insulate. They hold voltage in environments that caused flashover in regular insulators having two to three times the leakage distance.

- **Eliminate Need for Washing and Greasing/Coating in Contaminated Areas**
  Washing can cost utilities hundreds of thousands (millions?) of dollars a year. RG Station Posts eliminate the need for washing. Additionally, RG Station Post insulators eliminate the need for costly greasing/coating maintenance.

- **Reduces Radio Noise and TV Interference**
  RG Station Post insulators reduce both radio noise and TV interference. At operating voltage, RIV on RG station posts remains at near zero under most conditions of surface contamination.

RG® Resistance Graded Station Post Insulators
Superior Performance from Three Factors

- **Linear Voltage Distribution**
  - Voltage drop across the entire length of the RG insulator surface is uniform so that all parts of the insulator are evenly stressed.

- **Heating Effect**
  - The small current flow over the electrically equivalent resistor created on the surface of an RG Station Post insulator warms the surface to a few degrees above ambient temperature. This discourages moisture accumulation, and moisture is usually necessary to make contaminants conductive.
- **Prevent Dry Band Arcing**

Dry bands form on RG Station Post insulators with uneven wetting and drying, just as they do on regular insulators. RG insulators, however, provide a conductive shunt path across the dry bands, preventing any visible scintillation or arcing. There are no local arcs that can grow into full length flashover.

Flashover and Withstand Values

ANSI no longer requires testing for the electric values in the following table. The data in this table is intended as a reference.

	Average Flashover Values			Withstand Values
	Power Frequency		Critical Impulse	Power Frequency
BIL	Dry, kV	Wet, kV	Negative, kV	Dry, kV
95	60	40	120	35
110	85	55	200	50
150	110	75	250	70
200	145	100	290	95
250	170	125	340	120
350	235	180	475	175
550	385	285	780	280
650	435	335	900	335
750	485	380	1020	385
900	575	475	1240	465
1050	660	570	1450	545
1300	745	660	1650	610
1470	830	740	1850	680
1550	865	780	1950	710
1800	990	900	2240	810
2050	1100	990	2600	940

Summary of Switching Surge Withstands and Switching Surge Critical Flashovers for 900 kV BIL to 3300 kV BIL LAPP Insulator Station Posts

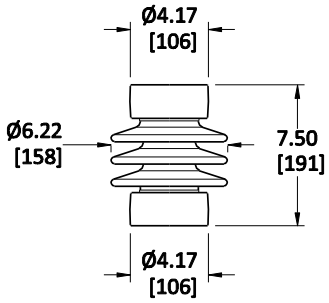
The flashover withstand values are the average of many tests on the same or an equivalent test specimen. Because they are averages of test values read directly from a test curve, without safety factors commonly associated with catalog values, they should not be considered as ratings.

BIL	Insulator Height, inches	Dry				Wet			
		Positive, kV		Negative, kV		Positive, kV		Negative, kV	
		WS	CFO	WS	CFO	WS	CFO	WS	CFO
900	80	745	825	985	1210	690	770	830	935
1050	92	855	955	1115	1380	805	900	945	1050
1300	106	980	1105	1260	1565	935	1045	1025	1180
1550	128	1145	1285	1445	1825	1105	1275	1210	1350
1800	152	1280	1460	1590	2050	1255	1450	1340	1460
2050	182	1410	1600	1720	2250	1390	1595	1435	1610
2425	210	1620	1845	1950	2460	1630	1770	1590	1800
2675	240	1750	2010	2120	2620	1790	1920	1710	1950
3050	270	1870	2140	2280 (*)	2760 (*)	1920	2060	1825	2100
3300	300	2950	2240	2420 (*)	2900 (*)	2000	2200	1930	2250

(*) Extrapolated Values.
Wave shape: 200 x 4000 microseconds.
Tested with Base 24' above ground using 4" IPS Bus.

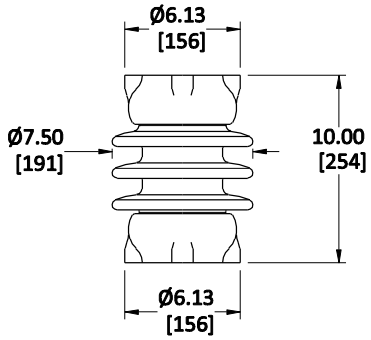
IEC Station Posts: RG® Resistance Graded Station Post Insulators and Equivalent Regular Glaze

IEC Designation	Regular Glaze Catalog Number	RG Glaze Catalog Number
C10-60	400624	500001M
C10-95	400174	500002M
C10-125	400210	500144M
C10-150	400176	500145M
C10-170	400177	500146M
C10-200	400178	500147M
C6-250	400272	500005M
C10-250	400179	500148M
C6-325	400195	500149M
C10-325	400181	500150M
C6-450	400192	500151M
C10-450	400193	500152M
C6-550	400093	500153M
C10-550	400609	500154M
C6-650	400322	500155M
C10-650	400249	500156M
C6-750	400611	500157M
C10-750	400613	500158M
C6-950	400171	500159M
C10-950	400374	500160M
C6-1050	400283	500161M
C10-1050	400327	500162M
C6-1175	400067	500163M
C10-1175	400549	500164M
C6-1300	400521	500165M
C10-1300	400412	500166M
C6-1425	400501	500167M
C10-1425	400615	500168M
C6-1550	400020	500169M
C10-1550	400023	500170M
C12.5-250	Information available upon request.	
C20-250	Information available upon request.	



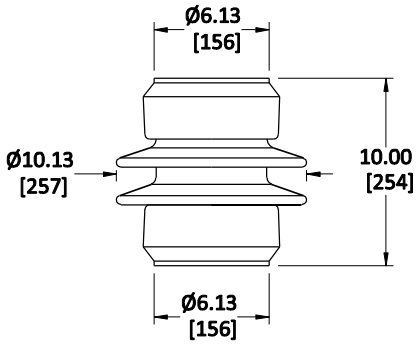
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.50 [13] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315202-70
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315222-70
High Strength

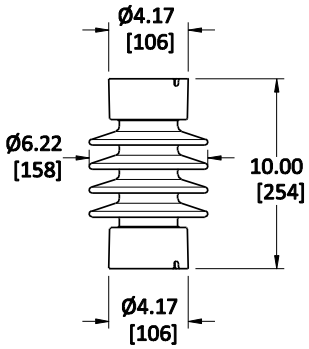


(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.69 [17] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315232-70+L
Extra High Strength

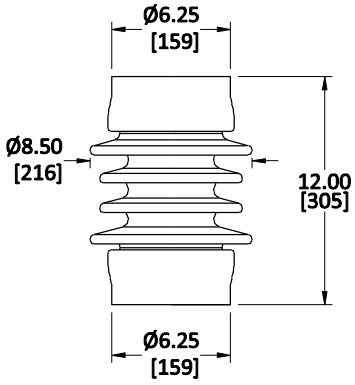
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315202-70**	**315222-70**	**315232-70+L**
Catalog Number **(Brown)**	**315202**	**315222**	**315232+L**
Catalog Number **(RG®)**	**535202A**	**535222A**	**535232A+L**
ANSI Technical Reference Number	**T.R. 202**	**T.R. 222**	**---**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	10.5 [267]	10.5 [267]	10.5 [267]
Leakage Distance, High Leak, in. [mm]	---	---	---
Leakage Distance, Extra High Leak, inches [mm]	---	---	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	2000 [8.9]	4000 [17.7]	8000 [35.6]
Tensile Strength, lbs. [kN]	7000 [31.1]	15000 [66.7]	28000 [124.5]
Torsion Strength, in-lbs. [kNm]	6000 [0.67]	12000 [1.35]	40000 [4.52]
Compression Strength, lbs. [kN]	10000 [44.4]	20000 [88.9]	40000 [177.9]
Electrical Values			
Impulse Flashover, Positive, kV	105	125	105
Low Frequency Withstand, 10 Sec. Wet, kV	30	45	30
Impulse Withstand, kV	95	110	95
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	5	10	5
Maximum RIV, Microvolts at 1000 kHz	50	50	50
Net Weight, Each, lbs. [kg]	16.8 [7.6]	29.9 [13.6]	42.5 [19.3]



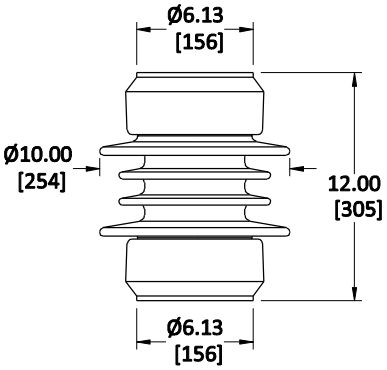
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.50 [13] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315205-70
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315225-70
High Strength

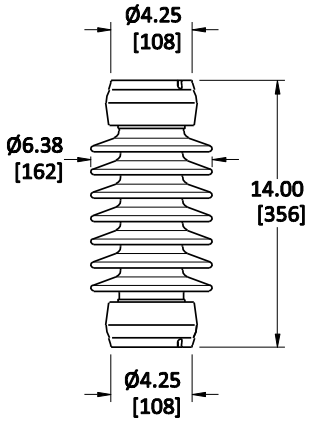


(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.69 [17] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315235-70+L
Extra High Strength

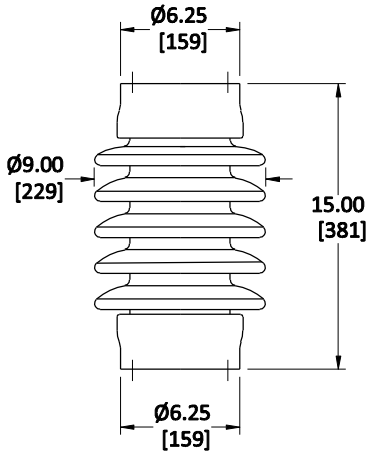
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315205-70**	**315225-70**	**315235-70+L**
Catalog Number **(Brown)**	**315205**	**315225**	**315235+L**
Catalog Number **(RG®)**	**535205A**	**535225A**	**535235A+L**
ANSI Technical Reference Number	**T.R. 205**	**T.R. 225**	**---**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	15.5 [394]	15.5 [394]	15.5 [394]
Leakage Distance, High Leak, in. [mm]	19.0 [483]	24.0 [610]	---
Leakage Distance, Extra High Leak, inches [mm]	---	---	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	2000 [8.9]	4000 [17.8]	8000 [35.6]
Tensile Strength, lbs. [kN]	8500 [37.8]	20000 [89.0]	28000 [124.5]
Torsion Strength, in-lbs. [kNm]	7000 [0.79]	14000 [1.58]	40000 [4.52]
Compression Strength, lbs. [kN]	10000 [44.5]	20000 [89.0]	40000 [177.9]
Electrical Values			
Impulse Flashover, Positive, kV	125	125	125
Low Frequency Withstand, 10 Sec. Wet, kV	45	45	45
Impulse Withstand, kV	110	110	110
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	10	10	10
Maximum RIV, Microvolts at 1000 kHz	50	50	50
Net Weight, Each, lbs. [kg]	15.4 [7.0]	40.3 [18.3]	48.3 [21.9]



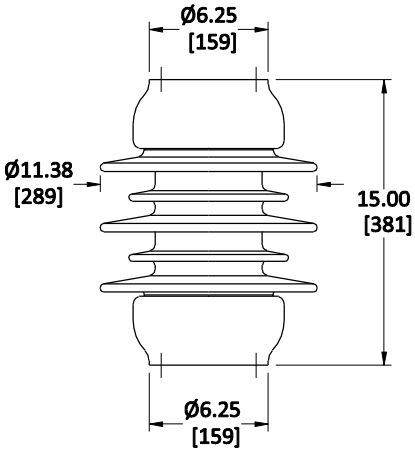
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.50 [13] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315208-70
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315227-70
High Strength

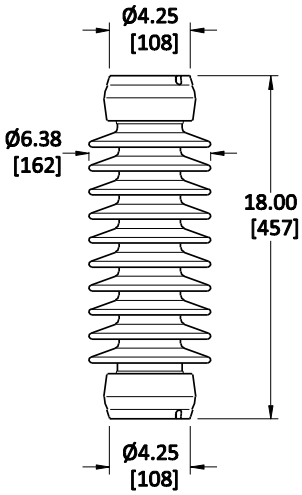


(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315237-70+L
Extra High Strength

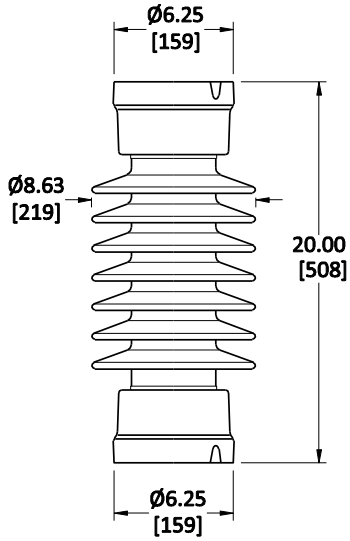
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315208-70**	**315227-70**	**315237-70+L**
Catalog Number **(Brown)**	**315208**	**315227**	**315237+L**
Catalog Number **(RG®)**	**535208A**	**535227A**	**535237A+L**
ANSI Technical Reference Number	**T.R. 208**	**T.R. 227**	**---**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	24 [610]	24 [610]	24 [610]
Leakage Distance, High Leak, in. [mm]	---	35 [889]	---
Leakage Distance, Extra High Leak, inches [mm]	37 [940]	---	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	2000 [8.9]	4000 [17.8]	8000 [35.6]
Tensile Strength, lbs. [kN]	10000 [44.5]	20000 [89.0]	28000 [124.5]
Torsion Strength, in-lbs. [kNm]	8000 [0.90]	16000 [1.81]	40000 [4.52]
Compression Strength, lbs. [kN]	10000 [44.5]	20000 [89.0]	40000 [177.9]
Electrical Values			
Impulse Flashover, Positive, kV	170	170	170
Low Frequency Withstand, 10 Sec. Wet, kV	60	60	60
Impulse Withstand, kV	150	150	150
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	15	15	15
Maximum RIV, Microvolts at 1000 kHz	100	100	100
Net Weight, Each, lbs. [kg]	27.6 [12.5]	51.2 [23.2]	66.0 [29.9]



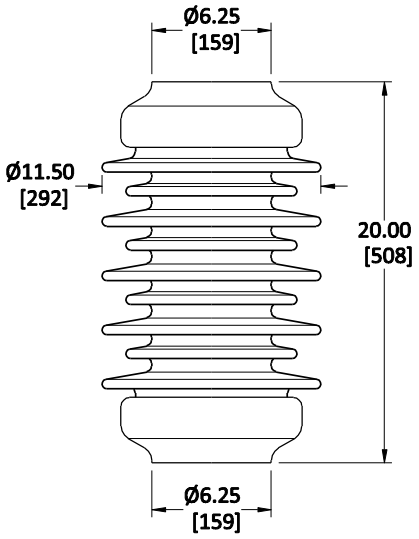
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.50 [12] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315210-70
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315231-70
High Strength

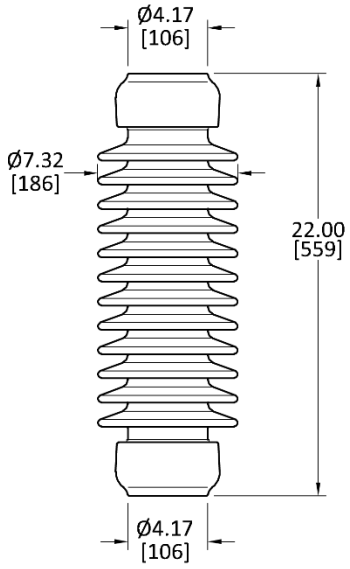


(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315241-70+L
Extra High Strength

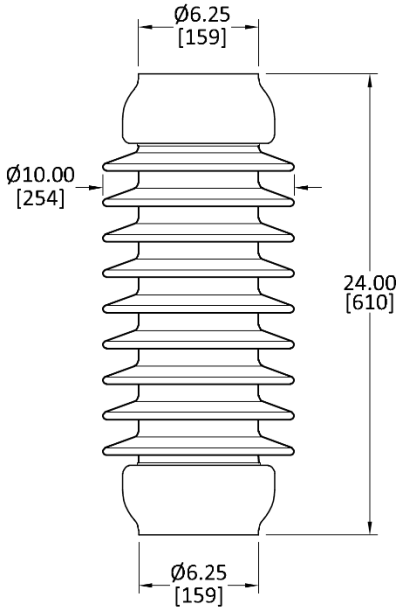
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315210-70**	**315231-70**	**315241-70+L**
Catalog Number **(Brown)**	**315210**	**315231**	**315241+L**
Catalog Number **(RG®)**	**535210A**	**535231A**	**535241A+L**
ANSI Technical Reference Number	**T.R. 210**	**T.R. 231**	**T.R. 241**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	37 [940]	37 [940]	37 [940]
Leakage Distance, High Leak, in. [mm]	---	52 [1321]	---
Leakage Distance, Extra High Leak, inches [mm]	54 [1372]	---	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	2000 [8.9]	4000 [17.7]	8000 [35.6]
Tensile Strength, lbs. [kN]	12000 [53.4]	25000 [111.2]	28000 [124.5]
Torsion Strength, in-lbs. [kNm]	10000 [1.13]	20000 [2.26]	40000 [4.52]
Compression Strength, lbs. [kN]	15000 [66.7]	30000 [133.4]	60000 [266.9]
Electrical Values			
Impulse Flashover, Positive, kV	225	225	225
Low Frequency Withstand, 10 Sec. Wet, kV	80	80	80
Impulse Withstand, kV	200	200	200
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	22	22	22
Maximum RIV, Microvolts at 1000 kHz	100	100	100
Net Weight, Each, lbs. [kg]	34.4 [15.6]	59.5 [27.0]	110.1 [49.9]



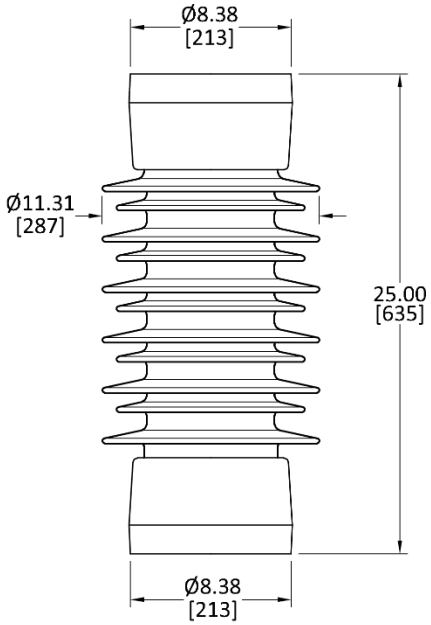
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.50 [13] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315214-70
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315267-70
High Strength

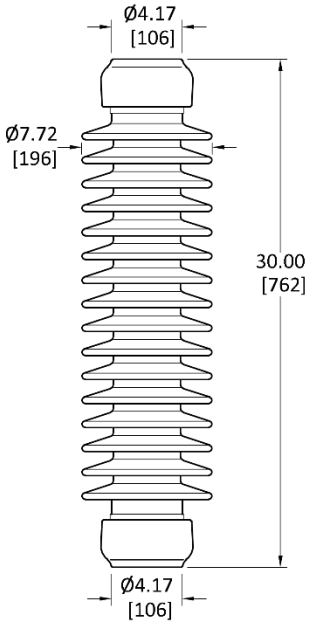


(4) TAPPED HOLES
3/4-10 +.015" OVERSIZE
.88 [22] FULL THREAD
ON 7.00 [178] BOLT CIRCLE

318459-70
Extra High Strength

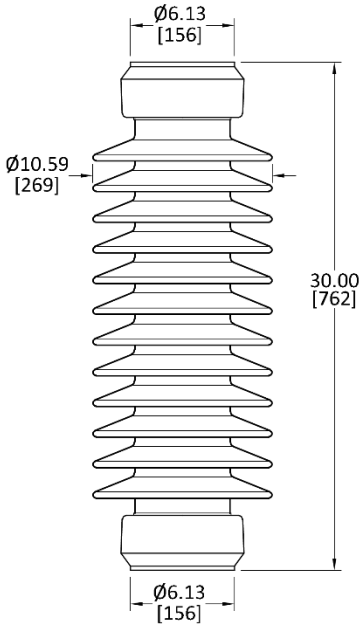
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315214-70**	**315267-70**	**318459-70**
Catalog Number **(Brown)**	**315214**	**315267**	**318459**
Catalog Number **(RG®)**	**535214A**	**535267A**	**500198A**
ANSI Technical Reference Number	**T.R. 214**	**T.R. 267**	**---**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	43 [1092]	43 [1092]	50 [1270]
Leakage Distance, High Leak, in. [mm]	65 [1651]	60 [1524]	65 [1651]
Leakage Distance, Extra High Leak, inches [mm]	---	65 [1651]	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	2000 [8.9]	4000 [17.8]	8000 [35.6]
Tensile Strength, lbs. [kN]	14000 [62.2]	25000 [111.2]	40000 [177.9]
Torsion Strength, in-lbs. [kNm]	12000 [1.35]	20000 [2.26]	90000 [7.96]
Compression Strength, lbs. [kN]	15000 [66.7]	60000 [266.9]	12000 [533.8]
Electrical Values			
Impulse Flashover, Positive, kV	280	280	280
Low Frequency Withstand, 10 Sec. Wet, kV	100	100	100
Impulse Withstand, kV	250	250	250
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	30	30	30
Maximum RIV, Microvolts at 1000 kHz	200	200	200
Net Weight, Each, lbs. [kg]	45.2 [20.5]	112.4 [51.0]	138.3 [62.7]



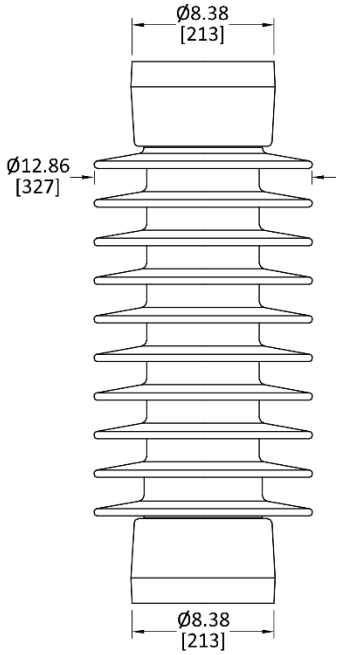
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.50 [13] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315216-70
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315278-70
High Strength

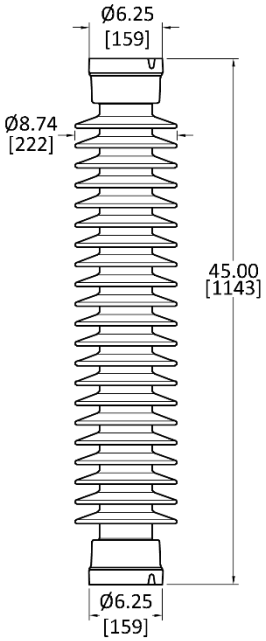


(4) TAPPED HOLES
3/4-10 +.015" OVERSIZE
.88 [22] FULL THREAD
ON 7.00 [178] BOLT CIRCLE

318461-70
Extra High Strength

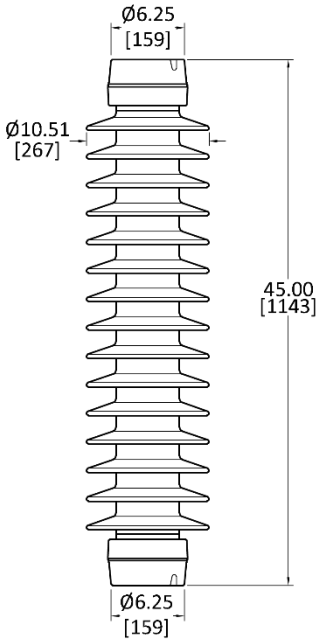
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315216-70**	**315278-70**	**318461-70**
Catalog Number **(Brown)**	**315216**	**315278**	**318461**
Catalog Number **(RG®)**	**535216A**	**535278A**	**500201A**
ANSI Technical Reference Number	**T.R. 216**	---	---
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	72 [1829]	72 [1829]	72 [1829]
Leakage Distance, High Leak, in. [mm]	95 [2413]	101 [2565]	102 [2591]
Leakage Distance, Extra High Leak, inches [mm]	107.5 [2731]	114 [2896]	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	1500 [6.7]	3000 [17.7]	6000 [26.7]
Tensile Strength, lbs. [kN]	16000 [71.2]	25000 [111.2]	40000 [177.9]
Torsion Strength, in-lbs. [kNm]	15000 [1.69]	40000 [4.52]	90000 [7.96]
Compression Strength, lbs. [kN]	25000 [111.2]	60000 [266.9]	120000 [533.6]
Electrical Values			
Impulse Flashover, Positive, kV	390	390	390
Low Frequency Withstand, 10 Sec. Wet, kV	145	145	145
Impulse Withstand, kV	350	350	350
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	44	44	44
Maximum RIV, Microvolts at 1000 kHz	200	200	200
Net Weight, Each, lbs. [kg]	66.1 [30.0]	129.0 [58.5]	184.5 [83.7]



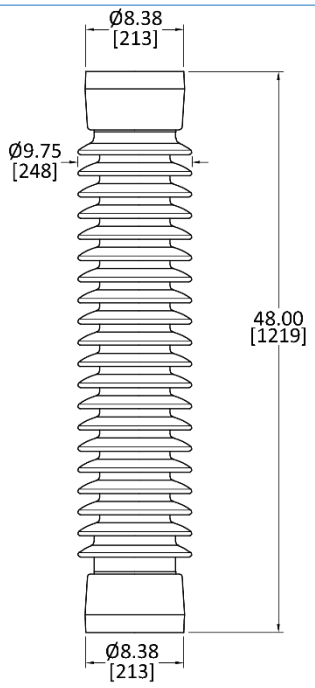
(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315286-70+L
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315287-70+L
High Strength

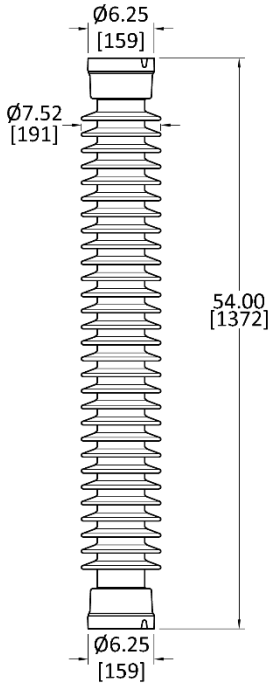


(4) TAPPED HOLES
3/4-10 +.015" OVERSIZE
.88 [22] FULL THREAD
ON 7.00 [178] BOLT CIRCLE

318457-70
Extra High Strength

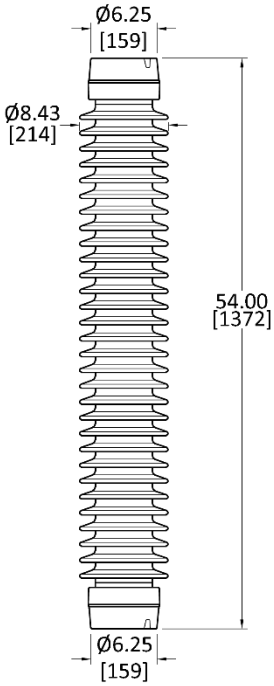
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315286-70+L**	**315287-70+L**	**318457-70**
Catalog Number **(Brown)**	**315286+L**	**315287+L**	**318457**
Catalog Number **(RG®)**	**535286A+L**	**535287A+L**	**500027A**
ANSI Technical Reference Number	**T.R. 286**	**T.R. 287**	**---**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	99 [2515]	99 [2515]	99 [2515]
Leakage Distance, High Leak, in. [mm]	152 [3861]	149 [3785]	135 [3429]
Leakage Distance, Extra High Leak, inches [mm]	165 [4191]	160 [4064]	155 [3937]
Mechanical Values			
Cantilever Strength, lbs. [kN]	1700 [7.6]	2600 [11.6]	4500 [20.0]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	40000 [177.9]
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	120000 [13.56]
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	120000 [533.8]
Electrical Values			
Impulse Flashover, Positive, kV	610	610	610
Low Frequency Withstand, 10 Sec. Wet, kV	230	230	230
Impulse Withstand, kV	550	550	550
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	73	73	73
Maximum RIV, Microvolts at 1000 kHz	200	200	200
Net Weight, Each, lbs. [kg]	127.6 [57.9]	74.21 [33.7]	220.5 [100.0]



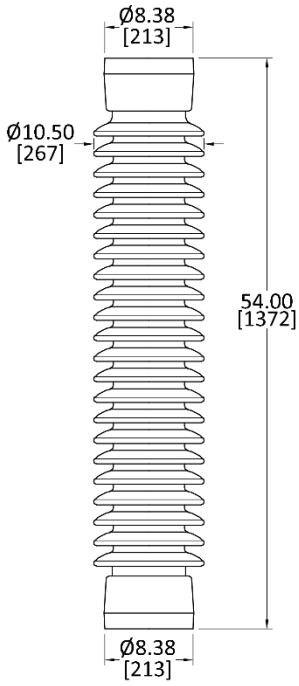
(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315288-70+L
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315289-70+L
High Strength

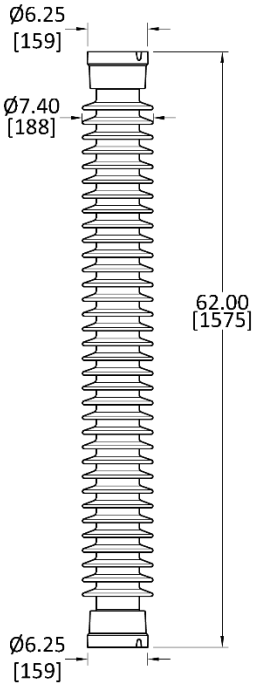


(4) TAPPED HOLES
3/4-10 +.015" OVERSIZE
.88 [22] FULL THREAD
ON 7.00 [178] BOLT CIRCLE

314857-70
Extra High Strength

Characteristics

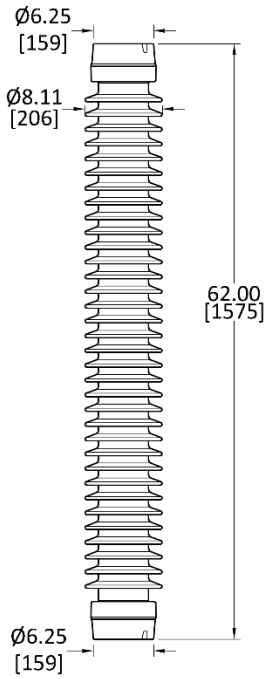
Catalog Number **(Light Gray-ANSI 70)**	**315288-70+L**	**315289-70+L**	**314857-70**
Catalog Number **(Brown)**	**315288+L**	**315289+L**	**314857**
Catalog Number **(RG®)**	**535288A+L**	**535289A+L**	**500202A**
ANSI Technical Reference Number	**T.R. 288**	**T.R. 289**	**---**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	116 [2946]	116 [2946]	116 [2946]
Leakage Distance, High Leak, in. [mm]	185 [4699]	187 [4750]	177 [4496]
Leakage Distance, Extra High Leak, inches [mm]	202 [5131]	202 [5131]	190 [4826]
Mechanical Values			
Cantilever Strength, lbs. [kN]	1450 [6.45]	2200 [9.8]	4100 [18.2]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	40000 [177.9]
Torsion Strength, in-lbs. [kNm]	60000 [6.77]	90000 [10.16]	120000 [13.55]
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	120000 [533.8]
Electrical Values			
Impulse Flashover, Positive, kV	710	710	710
Low Frequency Withstand, 10 Sec. Wet, kV	275	275	275
Impulse Withstand, kV	650	650	650
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	88	88	88
Maximum RIV, Microvolts at 1000 kHz	200	200	200
Net Weight, Each, lbs. [kg]	133.8 [60.7]	180.4 [81.8]	291.5 [132.2]



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315291-70+L

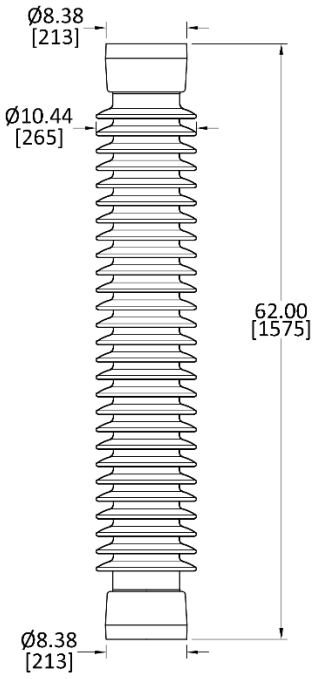
Standard Strength



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315295-70+L

High Strength



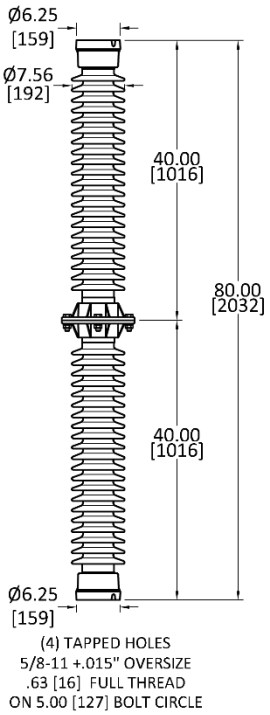
(4) TAPPED HOLES
3/4-10 +.015" OVERSIZE
.88 [22] FULL THREAD
ON 7.00 [178] BOLT CIRCLE

318441-70

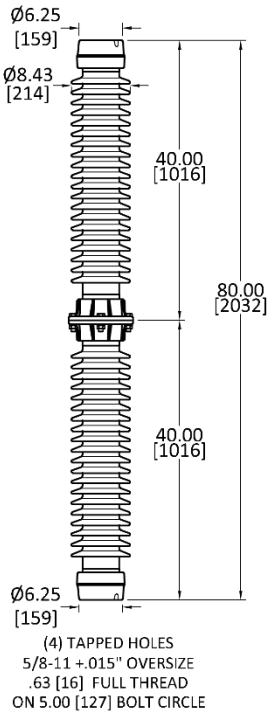
Extra High Strength

Characteristics

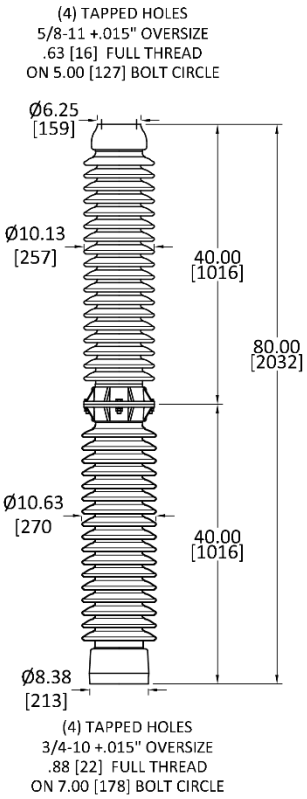
Catalog Number **(Light Gray-ANSI 70)**	**315291-70+L**	**315295-70+L**	**318441-70**
Catalog Number **(Brown)**	**315291+L**	**315295+L**	**318441**
Catalog Number **(RG®)**	**535291A+L**	**535295A+L**	**500029A**
ANSI Technical Reference Number	**T.R. 291**	**T.R. 295**	**---**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	132 [3353]	132 [3353]	132 [3353]
Leakage Distance, High Leak, in. [mm]	200 [5080]	200 [5080]	185 [4700]
Leakage Distance, Extra High Leak, inches [mm]	215 [5461]	215 [5461]	
Mechanical Values			
Cantilever Strength, lbs. [kN]	1200 [5.3]	1850 [8.2]	3500 [15.6]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	40000 [177.9]
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	120000 [13.55]
Compression Strength, lbs. [kN]	60000 [266.8]	75000 [333.6]	120000 [533.8]
Electrical Values			
Impulse Flashover, Positive, kV	810	810	810
Low Frequency Withstand, 10 Sec. Wet, kV	315	315	315
Impulse Withstand, kV	750	750	750
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	103	103	103
Maximum RIV, Microvolts at 1000 kHz	500	500	500
Net Weight, Each, lbs. [kg]	146.0 [66.2]	193.0 [87.5]	294.4 [133.5]



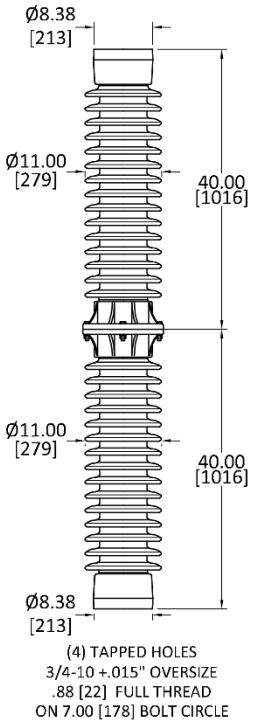
315304-70+L
Standard Strength



315308-70+L
High Strength



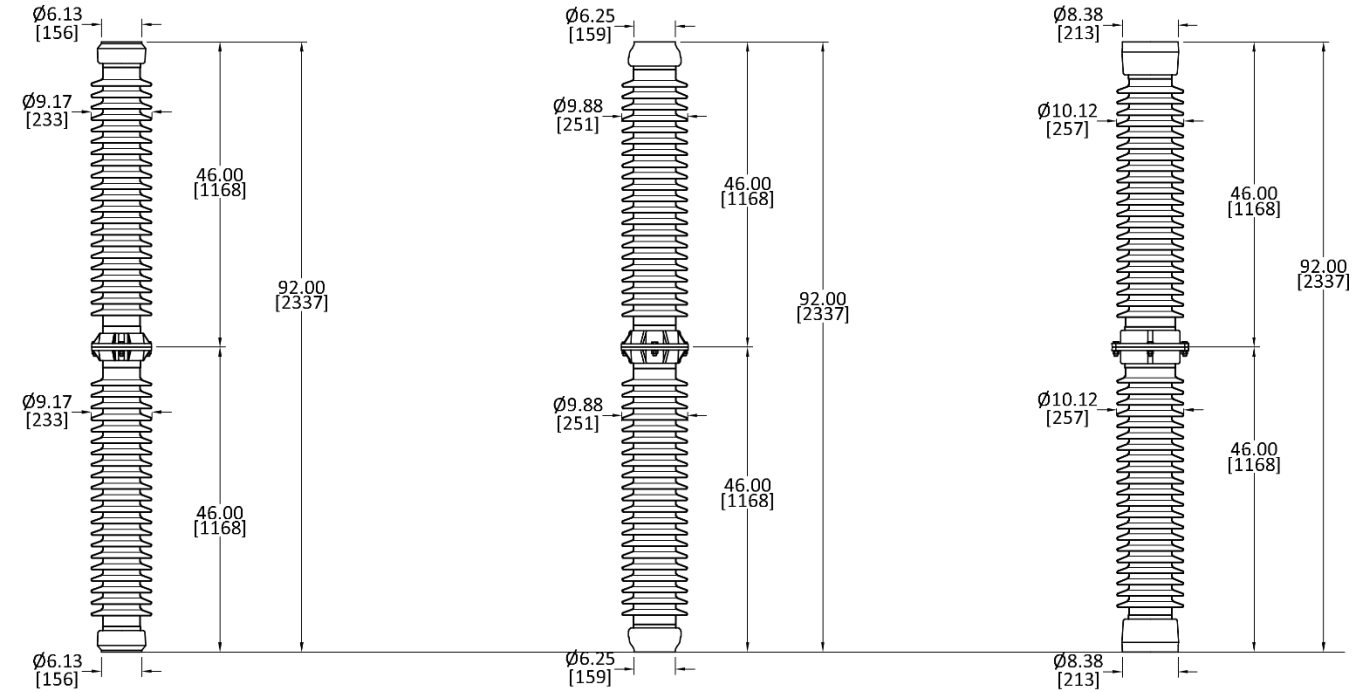
314925-70+L
Extra High Strength



314161-70
Extra High Strength

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315304-70+L**	**315308-70+L**	**314925-70+L**	**314161-70**
Catalog Number **(Brown)**	**315304+L**	**315308+L**	**314925+L**	**314161**
Catalog Number **(RG®)**	**535304A+L**	**535308A+L**	**500301A+L**	**500181A**
ANSI Technical Reference Number	**T.R. 304**	**T.R. 308**	**---**	**---**
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	165 [4191]	165 [4191]	185 [4699]	164 [4166]
Leakage Distance, High Leak, in. [mm]	262 [6655]	244 [6198]	260 [6604]	248 [6299]
Leakage Distance, Extra High Leak, inches [mm]	286 [7264]	260 [6604]	283 [7188]	275 [6985]
Mechanical Values				
Cantilever Strength, lbs. [kN]	950 [4.2]	1450 [6.4]	2750 [12.2]	2750 [12.2]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	20000 [89.0]	40000 [177.9]
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	60000 [6.77]	120000 [13.56]
Compression Strength, lbs. [kN]	60000 [266.8]	75000 [333.6]	60000 [266.9]	120000 [533.6]
Electrical Values				
Impulse Flashover, Positive, kV	1010	1010	1010	1010
Low Frequency Withstand, 10 Sec. Wet, kV	385	385	385	385
Impulse Withstand, kV	900	900	900	900
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	146	146	146	146
Maximum RIV, Microvolts at 1000 kHz	500	500	500	500
Net Weight, Each, lbs. [kg]	220.5 [100.0]	264.6 [120.0]	370.5 [168.1]	469.0 [212.7]



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.69 [17] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315312-70
Standard Strength

(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

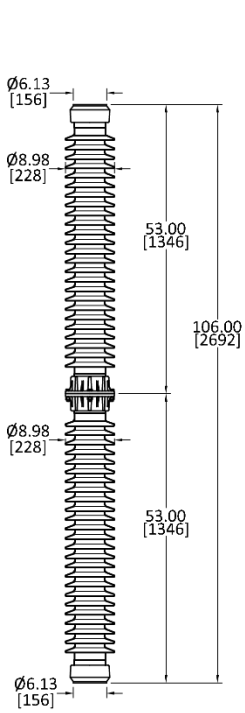
315316-70
High Strength

(4) TAPPED HOLES
3/4-10 +.015" OVERSIZE
.88 [22] FULL THREAD
ON 7.00 [178] BOLT CIRCLE

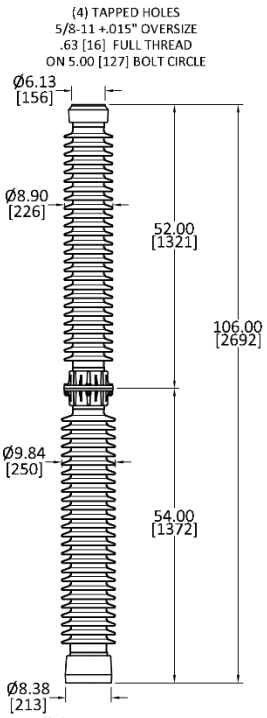
315362-70
Extra High Strength

Characteristics

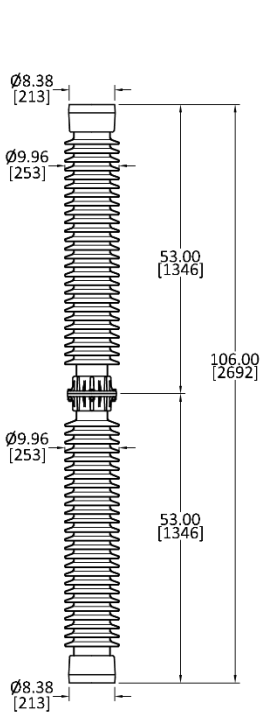
Catalog Number **(Light Gray-ANSI 70)**	**315312-70**	**315316-70**	**315362-70**
Catalog Number **(Brown)**	**315312**	**315316**	**315362**
Catalog Number **(RG®)**	**535312A**	**535316A**	**535362A**
ANSI Technical Reference Number	**T.R. 312**	**T.R. 316**	**T.R. 362**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	198 [5029]	198 [5029]	198 [5029]
Leakage Distance, High Leak, in. [mm]	320 [8128]	318 [8077]	300 [7620]
Leakage Distance, Extra High Leak, inches [mm]	347 [8814]	345 [8763]	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	800 [3.6]	1250 [5.6]	2300 [10.2]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	40000 [177.9]
Torsion Strength, in-lbs. [kNm]	40000 4.52]	90000 [10.17]	120000 [13.55]
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	100000 [444.8]
Electrical Values			
Impulse Flashover, Positive, kV	1210	1210	1210
Low Frequency Withstand, 10 Sec. Wet, kV	455	455	455
Impulse Withstand, kV	1050	1050	1050
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	146	146	146
Maximum RIV, Microvolts at 1000 kHz	500	500	500
Net Weight, Each, lbs. [kg]	339.5 [154.0]	403.4 [183.0]	458.6 [208.0]



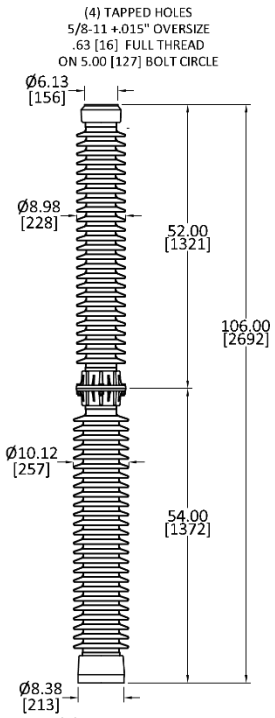
315324-70
Standard Strength



315367-70
High Strength



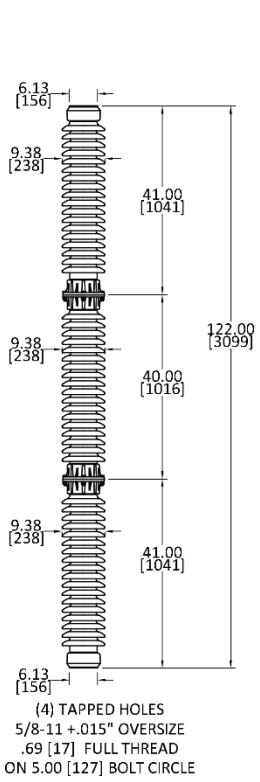
315368-70
Extra High Strength



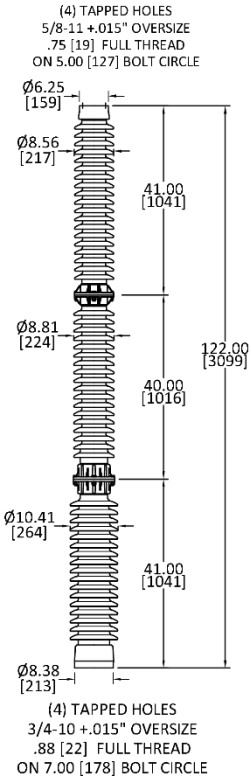
315369-70
Extra High Strength

Characteristics

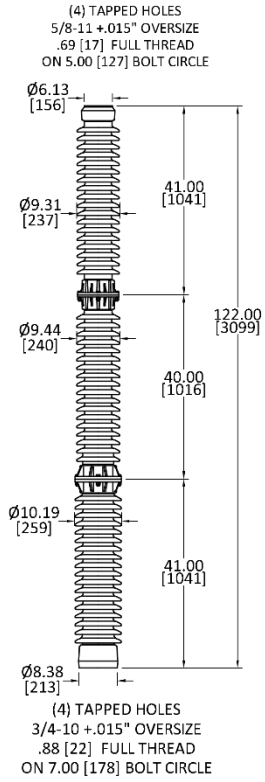
Catalog Number **(Light Gray-ANSI 70)**	**315324-70**	**315367-70**	**315368-70**	**315369-70**
Catalog Number **(Brown)**	**315324**	**315367**	**315368**	**315369**
Catalog Number **(RG®)**	**535324A**	**535367A**	**535368A**	**535369A**
ANSI Technical Reference Number	**T.R. 324**	**T.R. 367**	**T.R. 368**	**T.R. 369**
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	231 [5867]	231 [5867]	231 [5867]	231 [5867]
Leakage Distance, High Leak, in. [mm]	364 [9246]	340 [8636]	350 [8890]	350 [8890]
Leakage Distance, Extra High Leak, inches [mm]	436 [11074]	402 [10210]	390 [9906]	---
Mechanical Values				
Cantilever Strength, lbs. [kN]	1000 [4.5]	1450 [6.4]	2000 [8.9]	2050 [9.1]
Tensile Strength, lbs. [kN]	25000 [111.2]	20000 [89.0]	40000 [177.9]	20000 [89.0]
Torsion Strength, in-lbs. [kNm]	90000 [10.17]	40000 [4.52]	120000 [13.55]	40000 [4.52]
Compression Strength, lbs. [kN]	75000 [266.9]	60000 [266.9]	100000 [444.8]	60000 [266.9]
Electrical Values				
Impulse Flashover, Positive, kV	1410	1410	1410	1410
Low Frequency Withstand, 10 Sec. Wet, kV	525	525	525	525
Impulse Withstand, kV	1300	1300	1300	1300
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	220	220	220	220
Maximum RIV, Microvolts at 1000 kHz	1000	1000	1000	1000
Net Weight, Each, lbs. [kg]	374.8 [170.0]	414.5 [188.0]	502.7 [228.0]	432.1 [196.0]



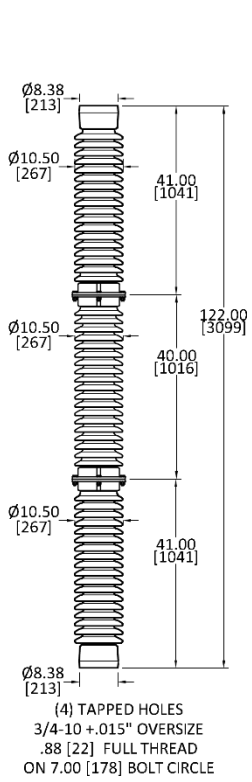
315330-70
Standard Strength



315367-70
High Strength



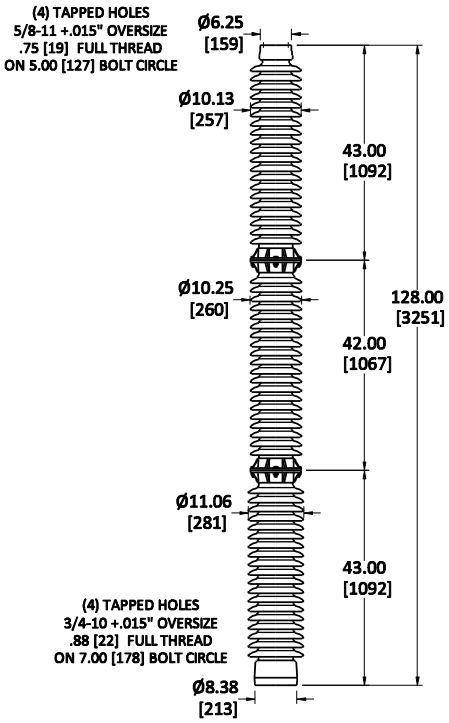
315368-70
Extra High Strength



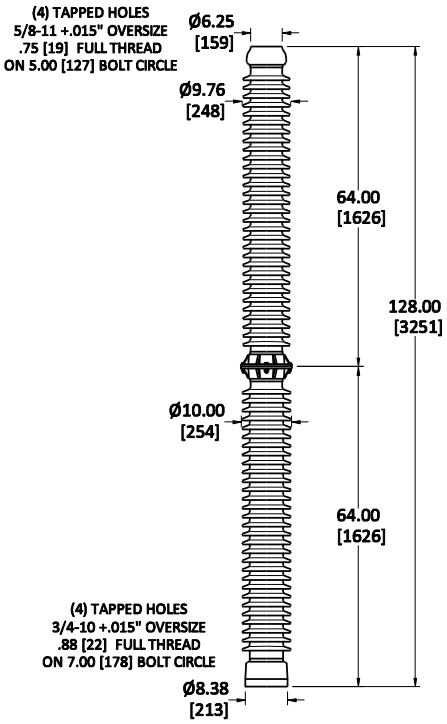
315369-70
Extra High Strength

Characteristics

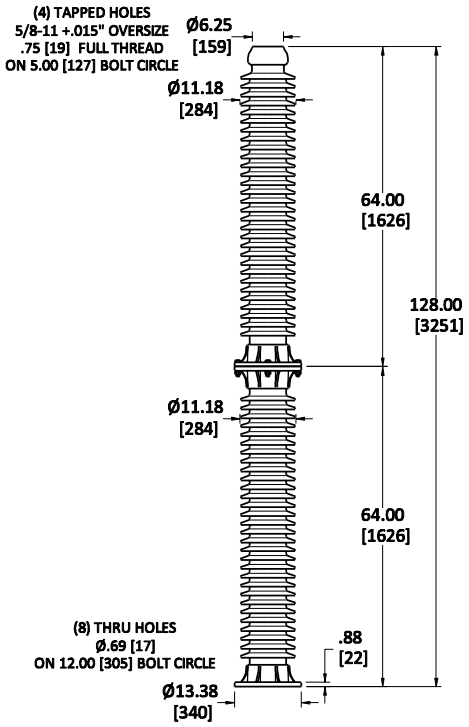
Catalog Number **(Light Gray-ANSI 70)**	**315330-70**	**315371-70**	**315373-70**	**315372-70**
Catalog Number **(Brown)**	**315330**	**315371**	**315373**	**315372**
Catalog Number **(RG®)**	**535330A**	**535371A**	**535373A**	**535372A**
ANSI Technical Reference Number	**T.R. 330**	**T.R. 371**	**T.R. 373**	**T.R. 372**
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	264 [6606]	264 [6606]	264 [6705]	264 [6704]
Leakage Distance, High Leak, in. [mm]	---	395 [10033]	394 [10008]	350 [8890]
Leakage Distance, Extra High Leak, inches [mm]	---	---	440 [11176]	---
Mechanical Values				
Cantilever Strength, lbs. [kN]	900 [4.0]	1170 [5.2]	1750 [7.8]	1750 [7.8]
Tensile Strength, lbs. [kN]	25000 [111.2]	20000 [89.0]	20000 [89.0]	40000 [177.9]
Torsion Strength, in-lbs. [kNm]	90000 [10.16]	40000 [4.52]	40000 [4.52]	120000 [13.55]
Compression Strength, lbs. [kN]	75000 [333.6]	60000 [266.9]	60000 [266.9]	100000 [444.8]
Electrical Values				
Impulse Flashover, Positive, kV	1610	1610	1610	1610
Low Frequency Withstand, 10 Sec. Wet, kV	590	590	590	590
Impulse Withstand, kV	1470	1470	1470	1470
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	220	220	220	220
Maximum RIV, Microvolts at 1000 kHz	1000	1000	1000	1000
Net Weight, Each, lbs. [kg]	481.3 [218.3]	476.4 [216.1]	539.0 [244.5]	650.3 [295.0]



314732-70
Standard Strength



315379-70+L
High Strength

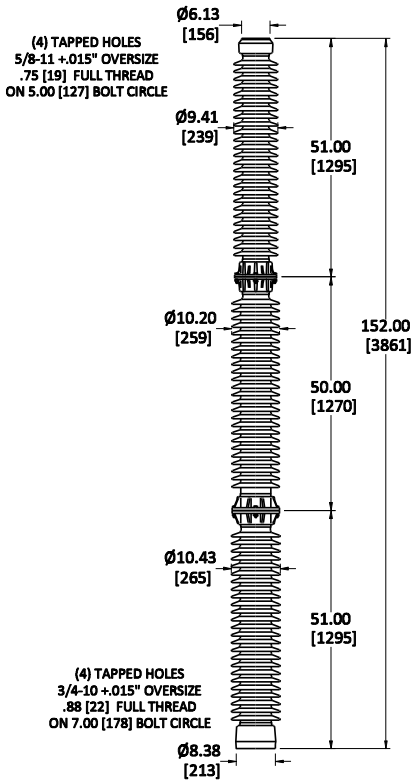


315380-70+L
Extra High Strength

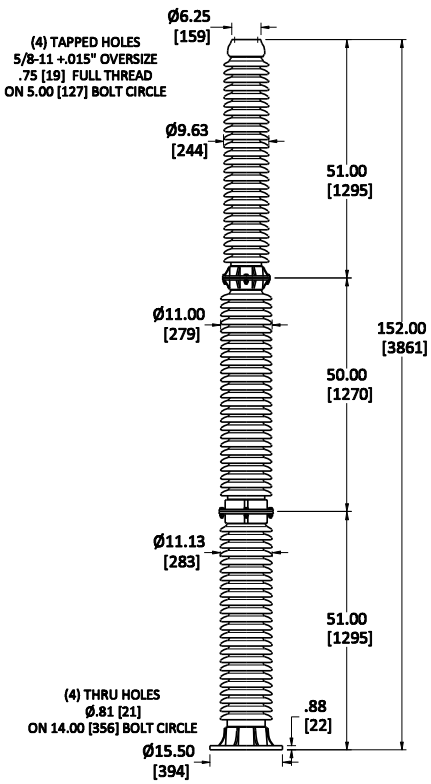
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**314732-70**	**315379-70+L**	**315380-70+L**
Catalog Number **(Brown)**	**314732**	**315379+L**	**315380+L**
Catalog Number **(RG®)**	**500203A**	**535379A+L**	**535380A+L**
ANSI Technical Reference Number	**---**	**T.R. 379**	**T.R. 380**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	320 [8128]	280 [7112]	305 [7747]
Leakage Distance, High Leak, in. [mm]	439 [11150]	439 [11150]	416 [10566]
Leakage Distance, Extra High Leak, inches [mm]	---	---	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	1000 [4.5]	1700 [7.6]	2500 [11.1]
Tensile Strength, lbs. [kN]	20000 [89.0]	20000 [89.0]	25000 [111.2]
Torsion Strength, in-lbs. [kNm]	60000 [6.77]	40000 [4.52]	60000 [6.78]
Compression Strength, lbs. [kN]	60000 [266.9]	60000 [266.9]	60000 [266.9]
Electrical Values			
Impulse Flashover, Positive, kV	1710	1710	1710
Low Frequency Withstand, 10 Sec. Wet, kV	620	620	620
Impulse Withstand, kV	1550	1550	1550
Radio Influence Voltage Data **			
Test Voltage, Rms to Ground, kV	318	318	318
Maximum RIV, Microvolts at 1000 kHz	2000	2000	2000
Net Weight, Each, lbs. [kg]	379.3 [172.0]	573.2 [260.0]	760.6 [345.0]

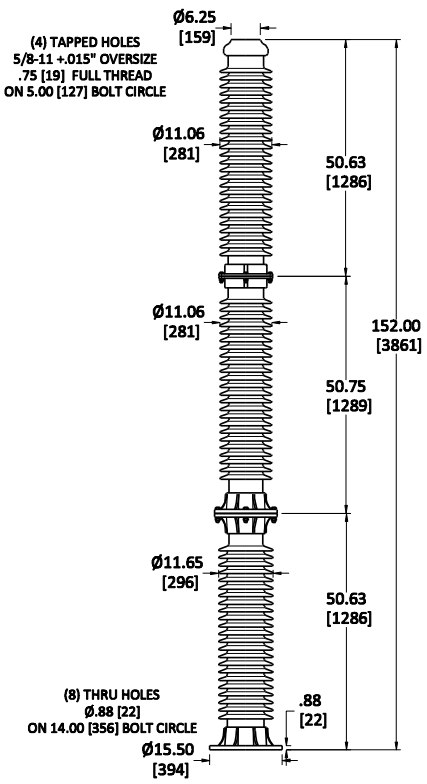
** 1550 kV BIL may require corona rings to achieve RIV rating depending on application.
See later page for Lapp Universal Corona Ring.



315391-70
Standard Strength



315392-70+L
High Strength

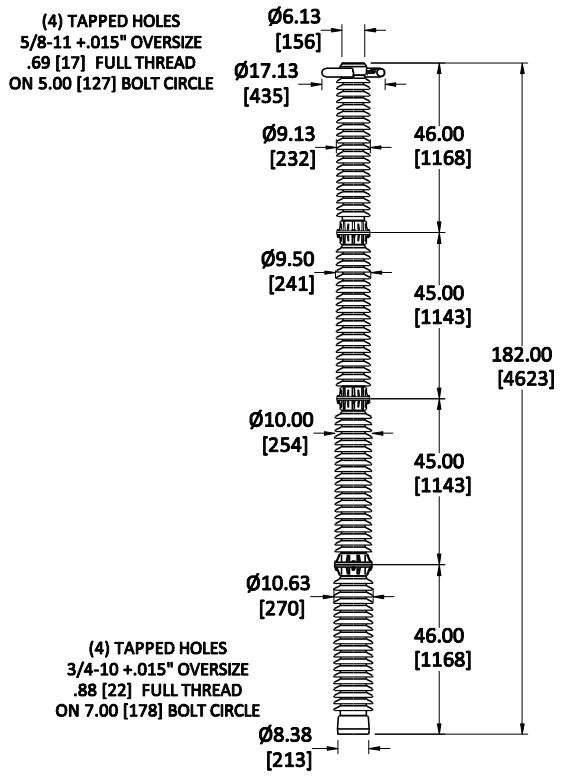


315393-70+L
Extra High Strength

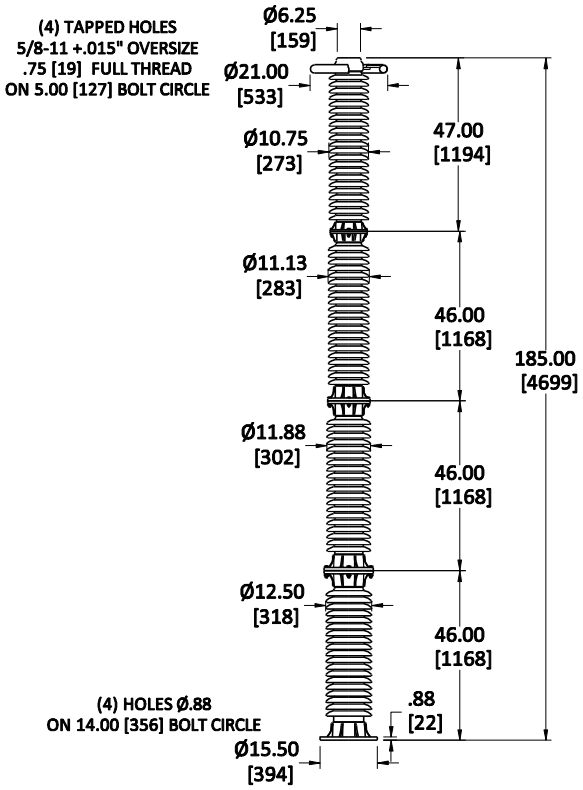
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315391-70**	**315392-70+L**	**315393-70+L**
Catalog Number **(Brown)**	**315391**	**315392+L**	**315393+L**
Catalog Number **(RG®)**	**535391A**	**535392A+L**	**535393A+L**
ANSI Technical Reference Number	**T.R. 391**	**T.R. 392**	**T.R. 393**
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	370 [9398]	360 [9144]	360 [9144]
Leakage Distance, High Leak, in. [mm]	510 [12954]	530 [13462]	518 [13157]
Leakage Distance, Extra High Leak, inches [mm]	570 [14478]	575 [14605]	---
Mechanical Values			
Cantilever Strength, lbs. [kN]	1400 [6.2]	1750 [7.8]	2500 [11.1]
Tensile Strength, lbs. [kN]	20000 [89.0]	20000 [89.0]	25000 [111.2]
Torsion Strength, in-lbs. [kNm]	60000 [6.77]	60000 [6.77]	90000 [10.16]
Compression Strength, lbs. [kN]	60000 [266.9]	60000 [266.9]	90000 [400.3]
Electrical Values			
Impulse Flashover, Positive, kV	2000	2000	2000
Low Frequency Withstand, 10 Sec. Wet, kV	710	710	710
Impulse Withstand, kV	1800	1800	1800
Radio Influence Voltage Data **			
Test Voltage, Rms to Ground, kV	318	318	318
Maximum RIV, Microvolts at 1000 kHz	2000	2000	2000
Net Weight, Each, lbs. [kg]	690.0 [313.0]	816.8 [370.5]	966.7 [438.5]

** 1800 kV BIL may require corona rings to achieve RIV rating depending on application.
See later page for Lapp Universal Corona Ring.



315400-70+L
Standard Strength



315401-70+L
High Strength

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315400-70+L**	**315401-70+L**	---
Catalog Number **(Brown)**	**315400+L**	**315401+L**	---
Catalog Number **(RG®)**	**535400A+L**	**535401A+L**	---
ANSI Technical Reference Number	**T.R. 400**	**T.R. 401**	---
Dimensions			
Leakage Distance, Reference Standard, in. [mm]	432 [10973]	432 [10973]	
Leakage Distance, High Leak, in. [mm]	---	563 [14300]	
Leakage Distance, Extra High Leak, inches [mm]	---	---	
Mechanical Values			
Cantilever Strength, lbs. [kN]	1200 [5.3]	2000 [8.9]	
Tensile Strength, lbs. [kN]	20000 [89.0]	20000 [89.0]	
Torsion Strength, in-lbs. [kNm]	60000 [6.77]	60000 [6.77]	
Compression Strength, lbs. [kN]	60000 [266.9]	60000 [266.9]	
Electrical Values			
Impulse Flashover, Positive, kV	2370	2250	
Low Frequency Withstand, 10 Sec. Wet, kV	830	830	
Impulse Withstand, kV	2050	2050	
Radio Influence Voltage Data			
Test Voltage, Rms to Ground, kV	---	---	
Maximum RIV, Microvolts at 1000 kHz	---	---	
Net Weight, Each, lbs. [kg]	833.4 [378.0]	1218.3 [552.6]	

** 2050 kV BIL may require corona rings to achieve RIV rating depending on application. See later page for Lapp Universal Corona Ring.

Cap and Pin Replacement Insulators
Design Advantages and Specifications

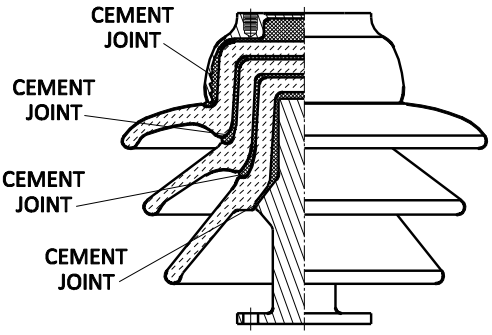
The LAPP Cap and Pin Replacement station post offers electric utilities a direct replacement for cap and pin insulators, featuring all the characteristics required for reliable substation operation. Long-term experience with both the station post and cap and pin insulator has shown that there are generic design deficiencies of the cap and pin that can almost certainly lead to insulator failure in service. When comparing the two designs, the station post's advantages become evident and its viability as a replacement for the cap and pin become clear.

Porcelain has very high compressive strength (80,000 psi), sixteen times greater than its tensile strength (5,000 psi). Station post insulators are designed to take advantage of this strength by avoiding conditions which place porcelain in tension. Cap and pin insulators can be subject to tensile forces generated between two or more porcelain shells from two possible sources: "growth" within the cement joint, and thermal expansion differences.

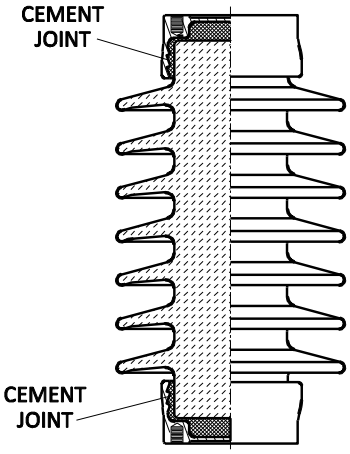
"Growth" within the cement joint can be a result of reactions between the cement and foreign chemical substances, such as industrial contaminants which may in the service environment of the insulator. As these reactions proceed, the joint swells or "grows".

The cap and pin design may employ up to three separate internal joints, and swelling generates bursting (tensile) forces on the porcelain shells, ultimately leading to cracking.

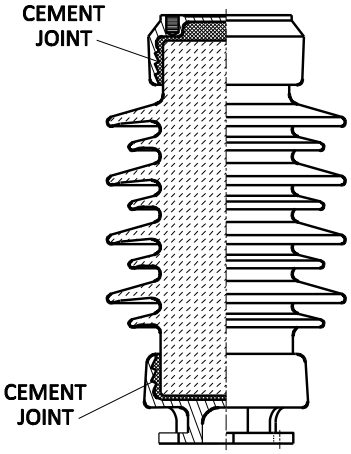
The station post design uses only external cement joints. Under conditions of "growth", external joints preclude the development of tensile stresses on the porcelain. Stresses are comprehensive in nature, loading the porcelain in its strongest state.



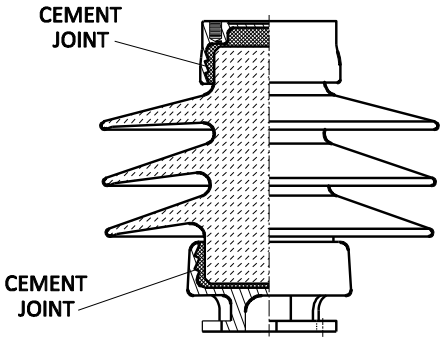
CAP AND PIN INSULATOR



STATION POST



PEDESTAL POST

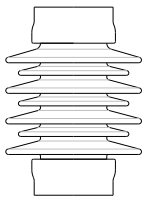
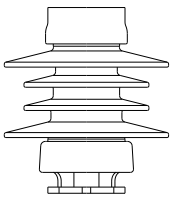
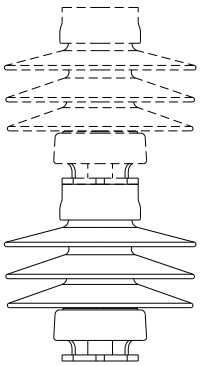


STACKING POST

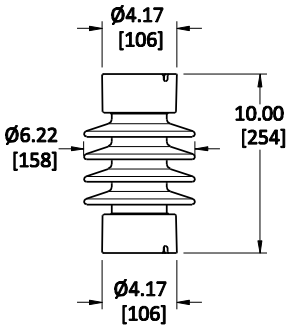
Cap and Pin Replacement Insulators
Design Advantages and Specifications

- The station post insulator design is simpler than the cap and pin insulator design. Each station post section employs a large, single piece of porcelain. In contrast, the cap and pin is composed of one to three individual porcelain shells nested together and joined by cement. The simpler design and use of fewer cemented joints means that station posts are more rigid and exhibit less deflection under load than do cap and pin insulators, an important feature in switch applications.

- **Specifications**
  - Light Gray-ANSI 70 glaze is standard on all Cap and Pin Replacement station post insulators. Brown glaze is also available.
  - The IEEE standard for maximum recommended working load is:
    - 40% of published cantilever rating
    - 50% of published torsion rating
    - 50% of published tension rating
  - For short circuit loads only, the maximum recommended working load is 100% of published ratings when using formulas from ANSI C37-1972.
  - Caps and flanges are made of drop forged steel, malleable iron or ductile iron and hot-dip galvanized.
  - Tapped holes are Unified National Coarse Thread Series: 1/2”-13 and 5/8”-11. Holes are tapped 0.15” oversize to allow for the use of galvanized cap screws

	T.R.	Height (in.)	Lt. Gray Glaze Catalog Number	RG® Glaze Catalog Number	Section Qty.	Cantilever Strength (lbs.) Upright	Cantilever Strength (lbs.) Underhung	Tension Strength (lbs.)	Torsion Strength (lbs.)	Compression Strength (lbs.)	BIL (kV)
 **Station Post Replacements**	4	10.0	**315205-70**	**535205A**	1	2000	2000	8500	7000	10000	110
	44	10.0	**315044-70**	**535044A**	1	4000	4000	15000	14000	20000	110
	7	12.0	**315007-70**	**535007A**	1	2000	2000	5000	8000	10000	150
	46	12.0	**315046-70**	**535046A**	1	4000	4000	20000	16000	20000	150
	10	15.0	**315010-70**	**535010A**	1	2000	2000	7000	10000	15000	200
	49	15.0	**315049-70**	**535049A**	1	4000	4000	20000	20000	30000	200
	13	18.0	**315013-70**	**535013A**	1	2000	2000	8000	12000	15000	250
	53	20.0	**315053-70**	**535053A**	1	4000	4000	15000	20000	30000	250
	16	29.0	**315016-70**	**535016A**	1	1500	1500	12000	15000	25000	350
	56	29.0	**315056-70**	**535056A**	1	3000	3000	25000	40000	60000	350
	19	43.5	**315019-70**	**535019A**	1	1700	1700	20000	60000	60000	550
	173	43.5	**315173-70**	**535173A**	1	2900	2900	25000	90000	90000	550
	25	58.0	**315025-70**	**535025A**	1	1200	1070	20000	40000	60000	750
	174	58.0	**315174-70**	**535174A**	1	2000	1750	25000	90000	75000	750
	126	72.5	**315126-70**	**535126A**	2	910	910	20000	40000	60000	900
	175	72.5	**315175-70**	**535175A**	2	1450	1450	25000	90000	75000	900
	128	87.0	**315128-70**	**535128A**	2	750	700	20000	40000	60000	1050
	176	87.0	**315176-70**	**535176A**	2	1170	1100	25000	90000	75000	1050
 **Pedestal Post Replacements**	4	10.0	**317004-70**	**537004A**	1	2000	1000	5000	7000	10000	110
	44	10.0	**317044-70**	**537044A**	1	4000	3000	10000	14000	20000	110
	7	12.0	**317007-70**	**537007A**	1	2000	1000	5000	8000	10000	150
	46	12.0	**317046-70**	**537046A**	1	4000	3000	10000	16000	20000	150
	10	15.0	**317010-70**	**537010A**	1	2000	1000	7000	10000	15000	200
	49	15.0	**317049-70**	**537049A**	1	4000	3000	14000	20000	30000	200
	13	18.0	**317013-70**	**537013A**	1	2000	1000	8000	12000	15000	250
	53	20.0	**317053-70**	**537053A**	1	4000	2500	20000	40000	60000	250
	16	29.0	**317016-70**	**537016A**	1	1500	1000	12000	15000	25000	350
	56	29.0	**317056-70**	**537056A**	1	3000	2350	20000	40000	60000	350
	19	43.5	**317019-70**	**537019A**	1	1700	1470	20000	40000	60000	550
	173	43.5	**317173-70**	**537173A**	1	2900	2350	20000	40000	60000	550
	25	58.0	**317025-70**	**537025A**	1	1700	1470	20000	40000	60000	750
	174	58.0	**317174-70**	**537174A**	1	2000	1750	25000	90000	75000	750
	126	72.5	**317126-70**	**537126A**	2	910	840	20000	40000	60000	900
	175	72.5	**317175-70**	**537175A**	2	1450	1350	25000	90000	75000	900
	128	87.0	**317128-70**	**537128A**	2	750	700	20000	40000	60000	1050
	176	87.0	**317176-70**	**537176A**	2	1170	1100	25000	90000	75000	1050
 **Stacking Post**	140	14.5	**319140-70**	**539140**	1	7000	4000	20000	40000	60000	210
	139	14.5	**319139-70**	**539139**	1	10000	6000	25000	90000	75000	210
	56	29.0	**319056-70**	**539056**	2	3000	2350	20000	40000	60000	350
	---	29.0	**314982-70**	**534982**	2	4500	3500	20000	40000	60000	350
	19	43.5	**319019-70**	**539019**	3	1700	1470	20000	40000	60000	550
	173	43.5	**319173-70**	**539173**	3	2900	2400	25000	90000	75000	550
	25	58.0	**319025-70**	**539025**	4	1200	1070	20000	40000	60000	750
	174	58.0	**319174-70**	**539174**	4	2000	1750	25000	90000	75000	750
	126	72.5	**319126-70**	**539126**	5	910	840	20000	40000	60000	900
	175	72.5	**319175-70**	**539175**	5	1450	1350	25000	90000	75000	900
	128	87.0	**319128-70**	**539128**	6	750	700	20000	40000	60000	1050
	176	87.0	**319176-70**	**539176**	6	1170	1100	25000	90000	75000	1050

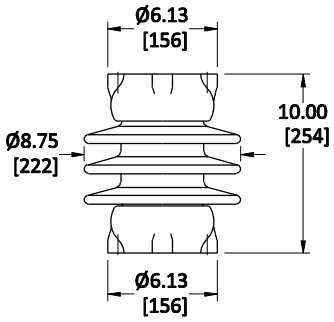
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.50 [13] FULL THREAD
ON 3.00 [76] BOLT CIRCLE



(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.50 [13] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315205-70
STATION POST

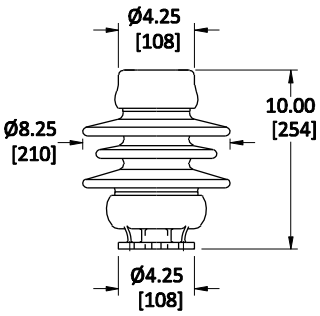
(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315044-70
STATION POST

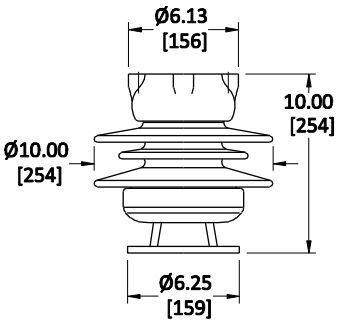
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 3.00 [76] BOLT CIRCLE



(4) SLOTS
.53 [13] WIDE
ON 3.00 [76]
BOLT CIRCLE

317004-70
PEDESTAL POST

(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE



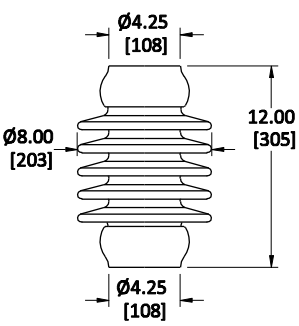
(4) THRU HOLES
Ø.69 [17]
ON 5.00 [127]
BOLT CIRCLE

317044-70
PEDESTAL POST

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315205-70**	**315044-70**	**317004-70**	**317044-70**
Catalog Number **(Brown)**	**315205**	**315044**	**317004**	**317044**
Catalog Number **(RG®)**	**535205A**	**535044A**	**537004A**	**537044A**
ANSI Technical Reference Number	T.R. 4	T.R. 44	T.R. 4	T.R. 44
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	15.5 [394]	14.5 [368]	12 [305]	14 [356]
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	2000 [8.9]	4000 [17.8]	2000 [8.9]	4000 [17.8]
Cantilever Strength, Underhung, lbs. [kN]	2000 [8.9]	4000 [17.8]	1000 [4.4]	4000 [13.3]
Tensile Strength, lbs. [kN]	8500 [37.8]	15000 [66.7]	5000 [22.2]	10000 [44.5]
Torsion Strength, in-lbs. [kNm]	7000 [0.79]	14000 [1.6]	7000 [0.79]	14000 [1.58]
Compression Strength, lbs. [kN]	10000 [44.5]	20000 [89.0]	10000 [44.5]	20000 [89.0]
Electrical Values				
Impulse Flashover, Positive, kV	125	125	125	125
Low Frequency Withstand, 10 Sec. Wet, kV	45	45	45	45
Impulse Withstand, kV	110	110	110	110
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	10	10	10	10
Maximum RIV, Microvolts at 1000 kHz	50	50	50	50
Net Weight, Each, lbs. [kg]	15.4 [7.0]	32.2 [14.6]	22.0 [10.0]	31.3 [14.2]

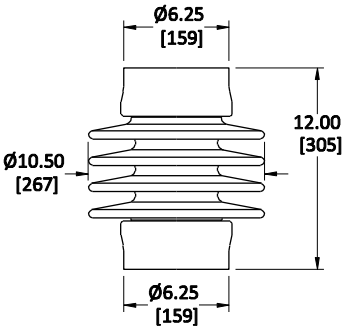
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 3.00 [76] BOLT CIRCLE



(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315007-70
STATION POST

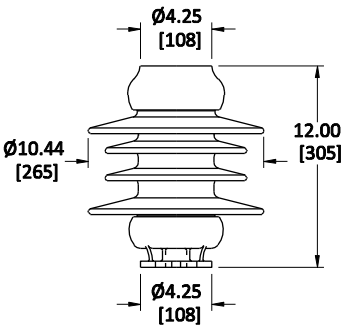
(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315046-70
STATION POST

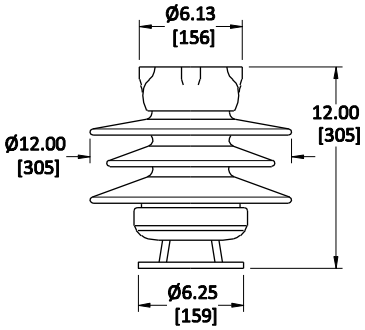
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 3.00 [76] BOLT CIRCLE



(4) SLOTS
.53 [13] WIDE
ON 3.00 [76]
BOLT CIRCLE

317007-70
PEDESTAL POST

(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

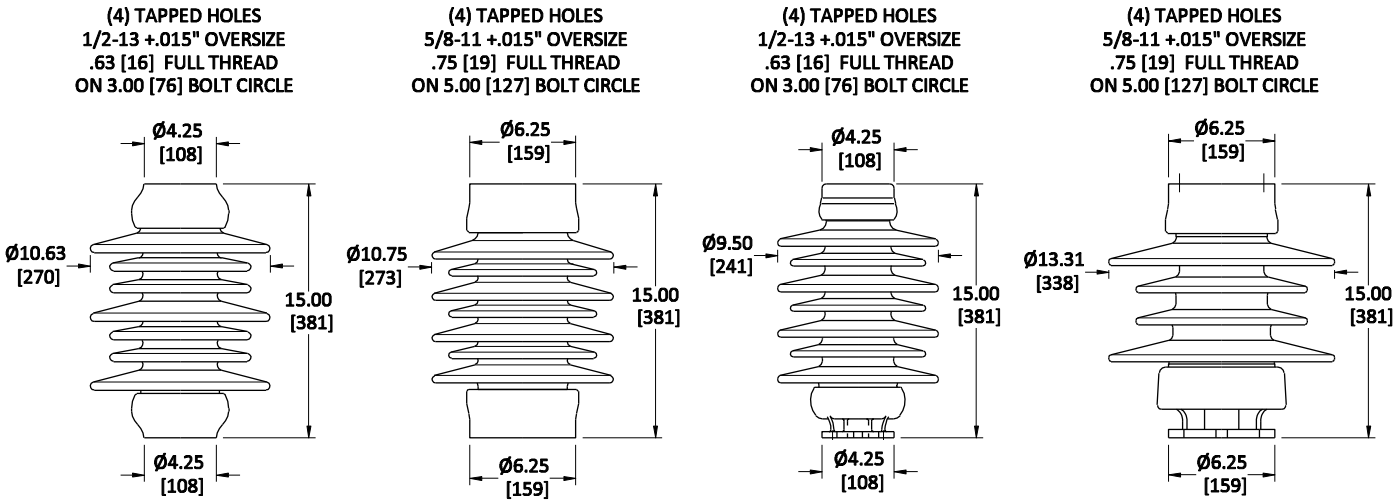


(4) THRU HOLES
Ø.69 [17]
ON 5.00 [127]
BOLT CIRCLE

317046-70
PEDESTAL POST

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315007-70**	**315046-70**	**317007-70**	**317046-70**
Catalog Number **(Brown)**	**315007**	**315046**	**317007**	**314046**
Catalog Number **(RG®)**	**535007A**	**535046A**	**537007A**	**537046A**
ANSI Technical Reference Number	T.R. 7	T.R. 46	T.R. 7	T.R. 46
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	20 [508]	24 [610]	20 [508]	18 [457]
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	2000 [8.9]	4000 [17.8]	2000 [8.9]	4000 [17.8]
Cantilever Strength, Underhung, lbs. [kN]	2000 [8.9]	4000 [17.8]	1000 [4.4]	3000 [13.3]
Tensile Strength, lbs. [kN]	5000 [22.2]	20000 [89.0]	5000 [22.2]	10000 [44.5]
Torsion Strength, in-lbs. [kNm]	8000 [0.90]	16000 [1.81]	8000 [0.90]	16000 [1.81]
Compression Strength, lbs. [kN]	10000 [44.5]	20000 [89.0]	10000 [44.5]	20000 [89.0]
Electrical Values				
Impulse Flashover, Positive, kV	170	170	170	170
Low Frequency Withstand, 10 Sec. Wet, kV	60	60	60	60
Impulse Withstand, kV	150	150	150	150
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	15	15	15	15
Maximum RIV, Microvolts at 1000 kHz	100	100	100	100
Net Weight, Each, lbs. [kg]	32.0 [14.5]	49.4 [22.4]	32.3 [14.7]	41.0 [18.6]



(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315010-70
STATION POST

(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.75 [19] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315049-70
STATION POST

(4) SLOTS
.53 [13] WIDE
ON 3.00 [76]
BOLT CIRCLE

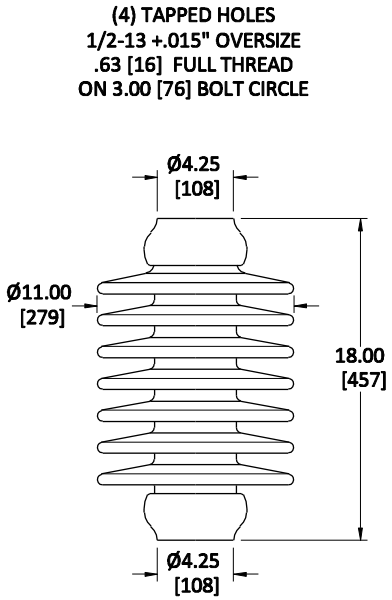
317010-70
PEDESTAL POST

(4) SLOTS
.56 [14]
ON 5.00 [127]
BOLT CIRCLE

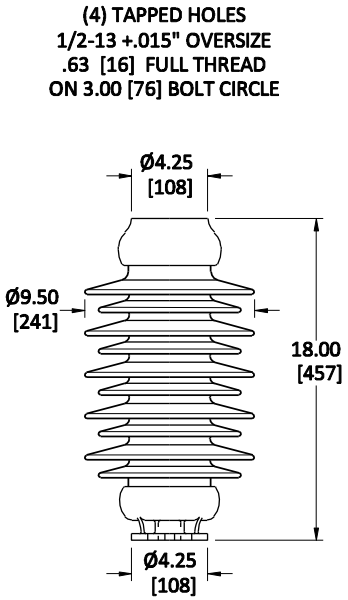
317049-70
PEDESTAL POST

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315010-70**	**315049-70**	**317010-70**	**317049-70**
Catalog Number **(Brown)**	**315010**	**315049**	**317010**	**314049**
Catalog Number **(RG®)**	**535010A**	**535049A**	**537010A**	**537049A**
ANSI Technical Reference Number	T.R. 10	T.R. 49	T.R. 10	T.R. 49
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	38 [965]	35 [889]	28 [711]	28 [711]
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	2000 [8.9]	4000 [17.8]	2000 [8.9]	4000 [17.8]
Cantilever Strength, Underhung, lbs. [kN]	2000 [8.9]	4000 [17.8]	1000 [4.4]	3000 [13.3]
Tensile Strength, lbs. [kN]	7000 [31.1]	20000 [89.0]	7000 [31.1]	14000 [62.3]
Torsion Strength, in-lbs. [kNm]	10000 [1.13]	20000 [2.26]	10000 [1.13]	20000 [2.26]
Compression Strength, lbs. [kN]	15000 [66.7]	30000 [133.4]	15000 [66.7]	30000 [133.4]
Electrical Values				
Impulse Flashover, Positive, kV	225	225	225	225
Low Frequency Withstand, 10 Sec. Wet, kV	80	80	80	80
Impulse Withstand, kV	200	200	200	200
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	22	22	22	22
Maximum RIV, Microvolts at 1000 kHz	100	100	100	100
Net Weight, Each, lbs. [kg]	43.4 [19.7]	56.8 [25.8]	39.1 [17.7]	68.5 [31.1]



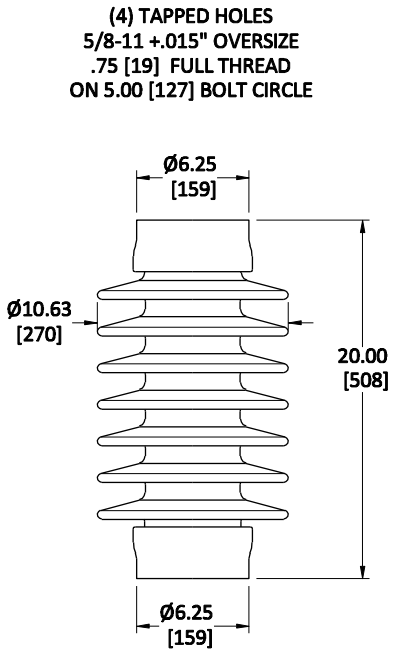
315013-70
STATION POST



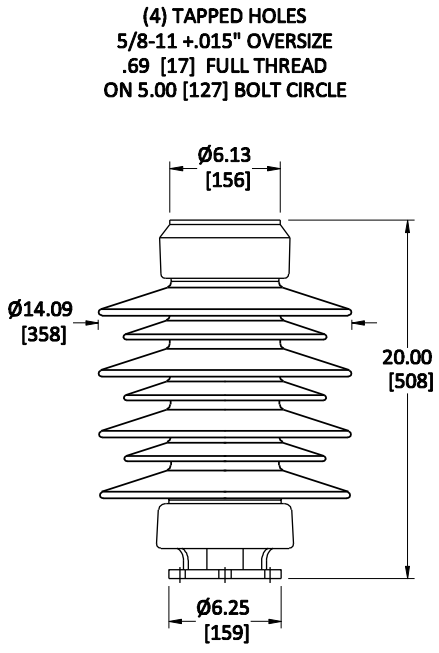
317013-70
PEDESTAL POST

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315013-70**	**---**	**317013-70**	**---**
Catalog Number **(Brown)**	**315013**	**---**	**317013**	**---**
Catalog Number **(RG®)**	**535013A**	**---**	**537013A**	**---**
ANSI Technical Reference Number	T.R. 13	---	T.R. 13	---
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	50 [1270]	---	45 [1143]	---
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	2000 [8.9]	---	2000 [8.9]	---
Cantilever Strength, Underhung, lbs. [kN]	2000 [8.9]	---	1000 [4.4]	---
Tensile Strength, lbs. [kN]	8000 [35.5]	---	8000 [35.6]	---
Torsion Strength, in-lbs. [kNm]	12000 [1.36]	---	12000 [1.36]	---
Compression Strength, lbs. [kN]	15000 [66.7]	---	15000 [66.7]	---
Electrical Values				
Impulse Flashover, Positive, kV	280	---	280	---
Low Frequency Withstand, 10 Sec. Wet, kV	100	---	100	---
Impulse Withstand, kV	250	---	250	---
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	30	---	30	---
Maximum RIV, Microvolts at 1000 kHz	200	---	200	---
Net Weight, Each, lbs. [kg]	59.9 [27.0]	---	42.3 [19.2]	---



315053-70
STATION POST

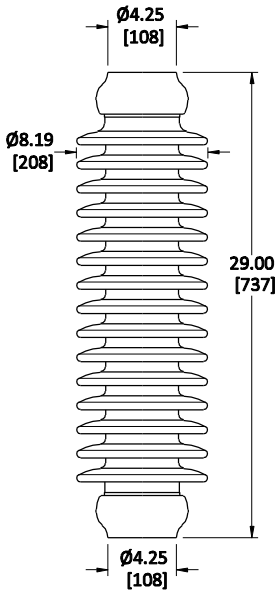


317053-70
PEDESTAL POST

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315053-70**	**---**	**317053-70**	**---**
Catalog Number **(Brown)**	**315053**	**---**	**317053**	**---**
Catalog Number **(RG®)**	**535053A**	**---**	**537053A**	**---**
ANSI Technical Reference Number	T.R. 53	---	T.R. 53	---
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	40 [1016]	---	37 [940]	---
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	4000 [17.8]	---	4000 [17.8]	---
Cantilever Strength, Underhung, lbs. [kN]	4000 [17.8]	---	2500 [11.1]	---
Tensile Strength, lbs. [kN]	15000 [66.7]	---	20000 [89.0]	---
Torsion Strength, in-lbs. [kNm]	20000 [2.26]	---	40000 [4.52]	---
Compression Strength, lbs. [kN]	30000 [133.4]	---	60000 [266.9]	---
Electrical Values				
Impulse Flashover, Positive, kV	280	---	280	---
Low Frequency Withstand, 10 Sec. Wet, kV	100	---	100	---
Impulse Withstand, kV	250	---	250	---
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	30	---	30	---
Maximum RIV, Microvolts at 1000 kHz	200	---	200	---
Net Weight, Each, lbs. [kg]	77.9 [35.3]	---	88.4 [40.1]	---

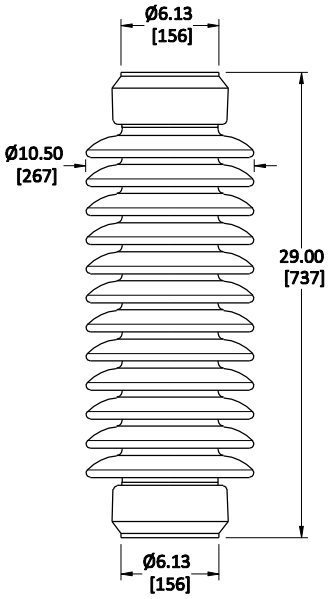
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 3.00 [76] BOLT CIRCLE



(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 3.00 [76] BOLT CIRCLE

315016-70
STATION POST

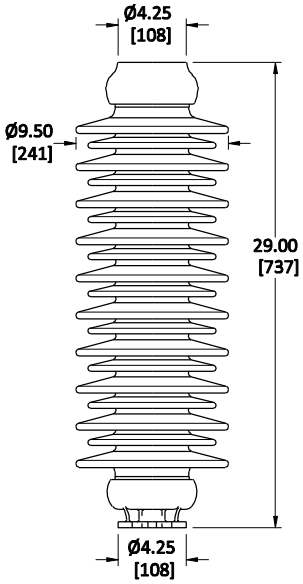
(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.69 [17] FULL THREAD
ON 5.00 [127] BOLT CIRCLE



(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.69 [17] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

315056-70
STATION POST

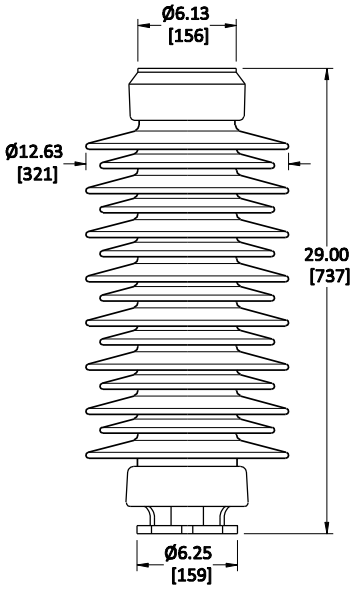
(4) TAPPED HOLES
1/2-13 +.015" OVERSIZE
.63 [16] FULL THREAD
ON 3.00 [76] BOLT CIRCLE



(4) SLOTS
.56 [14] WIDE
ON 3.00 [76]
BOLT CIRCLE

317016-70
PEDESTAL POST

(4) TAPPED HOLES
5/8-11 +.015" OVERSIZE
.69 [17] FULL THREAD
ON 5.00 [127] BOLT CIRCLE

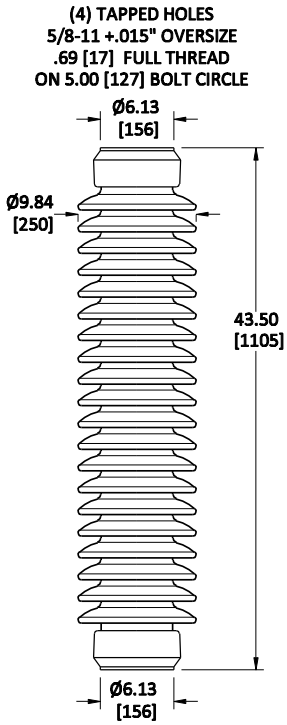


(4) THRU HOLES
Ø.69 [17]
ON 5.00 [127]
BOLT CIRCLE

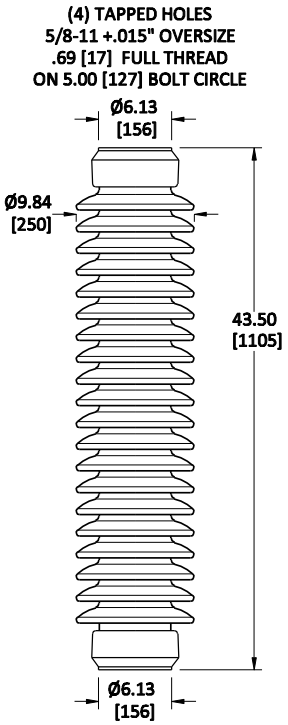
317056-70
PEDESTAL POST

Characteristics

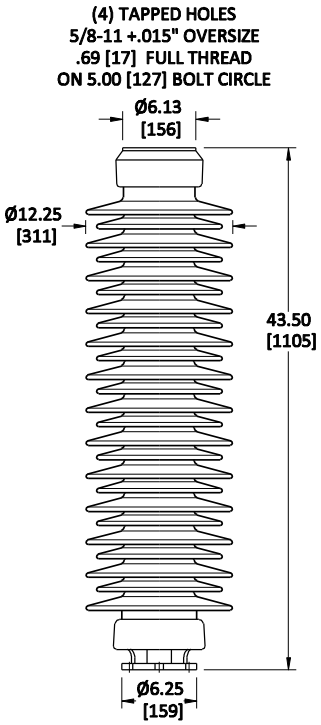
Catalog Number **(Light Gray-ANSI 70)**	**315016-70**	**315056-70**	**317016-70**	**317056-70**
Catalog Number **(Brown)**	**315016**	**315056**	**317016**	**317056**
Catalog Number **(RG®)**	**535016A**	**535056A**	**537016A**	**537056A**
ANSI Technical Reference Number	T.R. 16	T.R. 56	T.R. 16	T.R. 56
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	69 [1752]	70 [1778]	80 [2032]	94 [2388]
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	1500 [6.7]	3000 [13.3]	1500 [6.7]	3000 [13.3]
Cantilever Strength, Underhung, lbs. [kN]	1500 [6.7]	3000 [13.3]	1000 [4.4]	2350 [10.4]
Tensile Strength, lbs. [kN]	12000 [53.4]	25000 [111.2]	12000 [53.3]	20000 [89.0]
Torsion Strength, in-lbs. [kNm]	15000 [1.69]	40000 [4.52]	15000 [1.69]	40000 [2.26]
Compression Strength, lbs. [kN]	25000 [111.2]	60000 [266.9]	25000 [111.2]	60000 [266.9]
Electrical Values				
Impulse Flashover, Positive, kV	390	365	390	410
Low Frequency Withstand, 10 Sec. Wet, kV	145	145	145	160
Impulse Withstand, kV	350	350	350	350
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	44	44	44	44
Maximum RIV, Microvolts at 1000 kHz	200	200	200	200
Net Weight, Each, lbs. [kg]	72.2 [32.7]	129.0 [58.5]	94.0 [42.6]	140.0 [63.9]



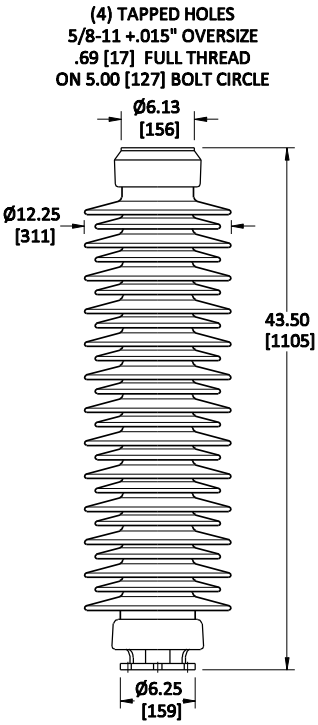
315019-70
STATION POST



315173-70
STATION POST



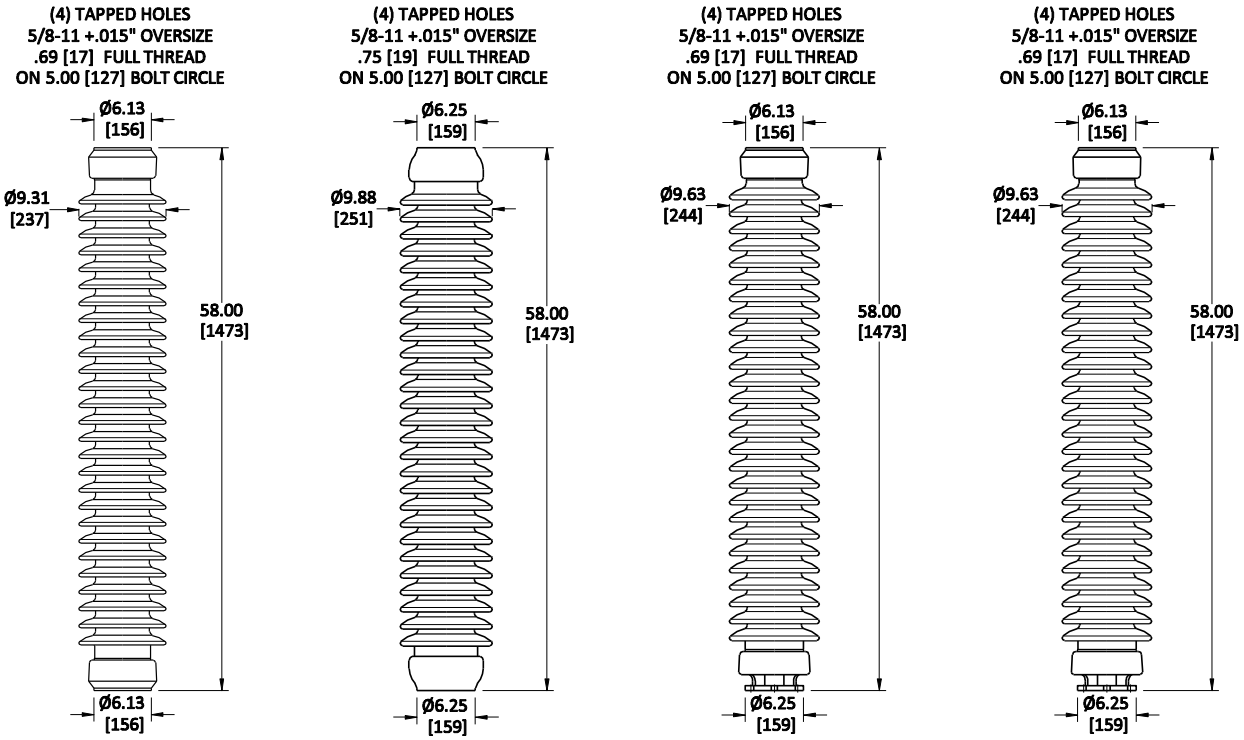
317019-70
PEDESTAL POST



317173-70
PEDESTAL POST

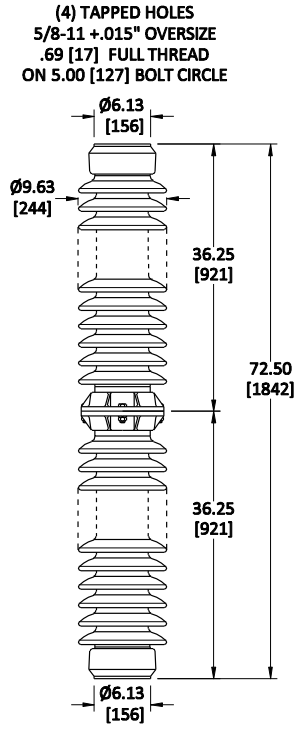
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315019-70**	**315173-70**	**317019-70**	**317173-70**
Catalog Number **(Brown)**	**315019**	**315173**	**317019**	**317173**
Catalog Number **(RG®)**	**535019A**	**535173A**	**537019A**	**537173A**
ANSI Technical Reference Number	T.R. 19	T.R. 173	T.R. 19	T.R. 173
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	99 [2515]	99 [2515]	157 [3988]	157 [3988]
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	1700 [6.7]	2900 [12.9]	1700 [7.6]	2900 [12.9]
Cantilever Strength, Underhung, lbs. [kN]	1700 [6.7]	2900 [12.9]	1700 [89.0]	2350 [10.5]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	20000 [89.0]	25000 [111.2]
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	40000 [4.52]	90000 [10.16]
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	60000 [266.9]	75000 [333.6]
Electrical Values				
Impulse Flashover, Positive, kV	610	610	610	610
Low Frequency Withstand, 10 Sec. Wet, kV	230	230	230	230
Impulse Withstand, kV	550	550	550	550
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	73	73	73	73
Maximum RIV, Microvolts at 1000 kHz	200	200	200	200
Net Weight, Each, lbs. [kg]	194.3 [88.1]	194.3 [88.1]	221.8 [100.6]	221.8 [100.6]

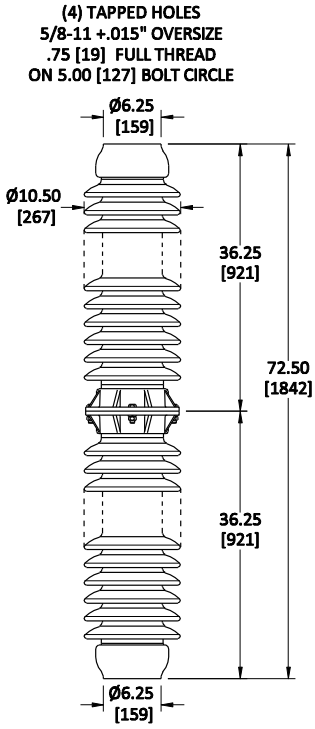


Characteristics

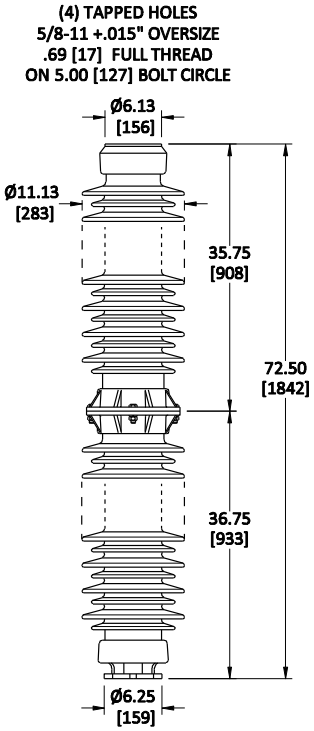
Catalog Number **(Light Gray-ANSI 70)**	**315025-70**	**315174-70**	**317025-70**	**317174-70**
Catalog Number **(Brown)**	**315025**	**315174**	**317025**	**317174**
Catalog Number **(RG®)**	**535025A**	**535174A**	**537025A**	**537174A**
ANSI Technical Reference Number	T.R. 25	T.R. 174	T.R. 25	T.R. 174
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	132 [3353]	132 [3353]	142 [3607]	142 [3607]
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	1200 [5.3]	2000 [8.9]	1200 [5.3]	2000 [8.9]
Cantilever Strength, Underhung, lbs. [kN]	1070 [4.8]	2000 [8.9]	1070 [4.8]	1750 [7.8]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	20000 [89.0]	25000 [111.2]
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	40000 [4.52]	90000 [10.16]
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	60000 [266.9]	75000 [333.6]
Electrical Values				
Impulse Flashover, Positive, kV	810	810	810	810
Low Frequency Withstand, 10 Sec. Wet, kV	315	315	315	315
Impulse Withstand, kV	750	750	750	750
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	103	103	103	103
Maximum RIV, Microvolts at 1000 kHz	200	200	200	200
Net Weight, Each, lbs. [kg]	202.4 [91.8]	261.6 [118.7]	217.9 [98.8]	246.0 [111.6]



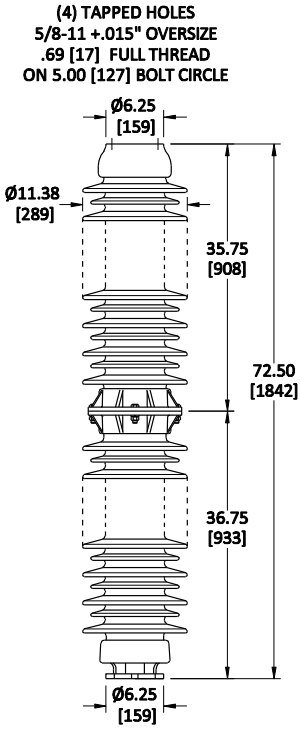
315126-70
STATION POST



315175-70
STATION POST



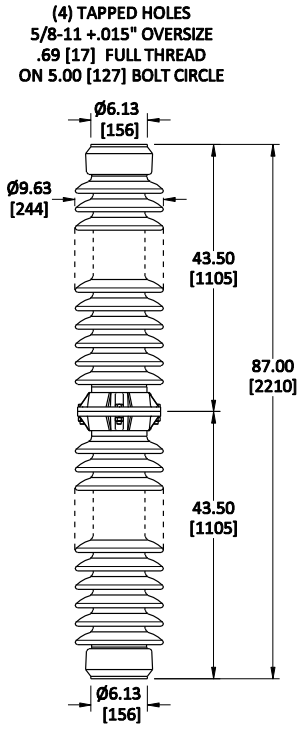
317126-70
PEDESTAL POST



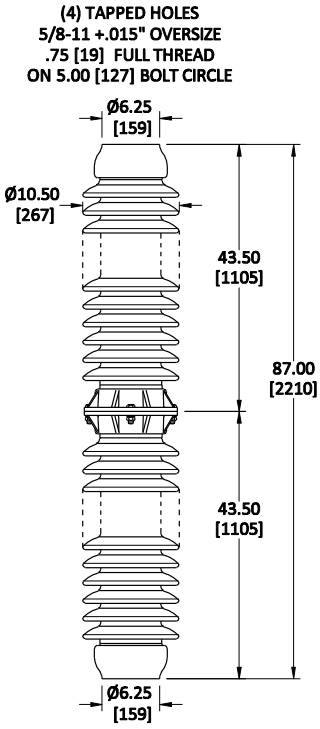
317175-70
PEDESTAL POST

Characteristics

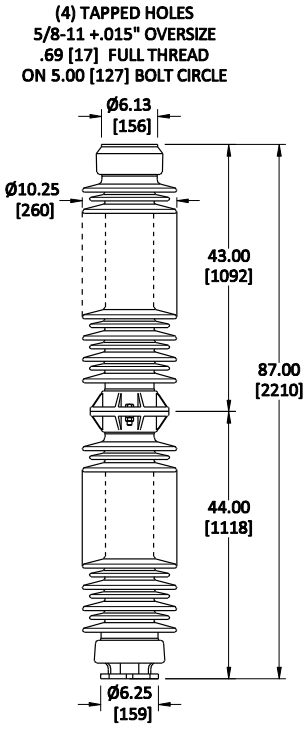
Catalog Number **(Light Gray-ANSI 70)**	**315126-70**	**315175-70**	**317126-70**	**317175-70**
Catalog Number **(Brown)**	**315126**	**315175**	**317126**	**317175**
Catalog Number **(RG®)**	**535126A**	**535175A**	**537126A**	**537175A**
ANSI Technical Reference Number	T.R. 126	T.R. 175	T.R. 126	T.R. 175
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	165 [4191]	165 [4191]	182 [4623]	230 [5842]
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	910 [4.0]	1450 [6.4]	910 [4.0]	1450 [6.4]
Cantilever Strength, Underhung, lbs. [kN]	910 [4.0]	1450 [6.4]	840 [3.7]	1350 [6.0]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	20000 [89.0]	25000 [111.2]
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	40000 [4.52]	90000 [10.16]
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	60000 [266.9]	75000 [333.6]
Electrical Values				
Impulse Flashover, Positive, kV	1010	1010	1010	1010
Low Frequency Withstand, 10 Sec. Wet, kV	385	385	385	385
Impulse Withstand, kV	900	900	900	900
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	125	125	125	125
Maximum RIV, Microvolts at 1000 kHz	500	500	500	500
Net Weight, Each, lbs. [kg]	273.9 [124.2]	338.2 [153.4]	287.5 [130.4]	380.9 [172.8]



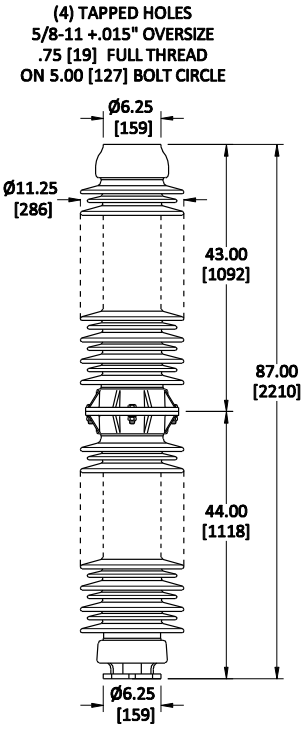
315126-70
STATION POST



315175-70
STATION POST



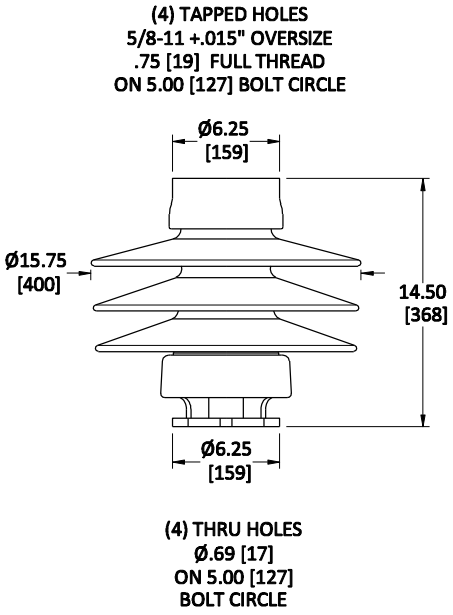
317126-70
PEDESTAL POST



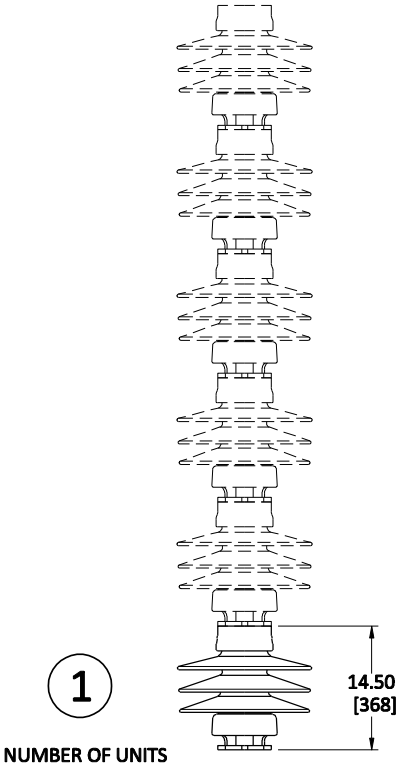
317175-70
PEDESTAL POST

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**315128-70**	**315176-70**	**317128-70**	**317176-70**
Catalog Number **(Brown)**	**315128**	**315176**	**317128**	**317176**
Catalog Number **(RG®)**	**535128A**	**535176A**	**537128A**	**537176A**
ANSI Technical Reference Number	T.R. 128	T.R. 176	T.R. 128	T.R. 176
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	198 [5029]	198 [5029]	198 [5029]	285 [7239]
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	750 [3.3]	1170 [5.2]	750 [3.3]	1170 [5.2]
Cantilever Strength, Underhung, lbs. [kN]	750 [3.3]	1170 [5.2]	700 [3.1]	1100 [4.9]
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	20000 [89.0]	25000 [111.2]
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	40000 [4.52]	90000 [10.16]
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	60000 [266.9]	75000 [333.6]
Electrical Values				
Impulse Flashover, Positive, kV	1210	1210	1210	1210
Low Frequency Withstand, 10 Sec. Wet, kV	455	455	455	455
Impulse Withstand, kV	1050	1050	1050	1050
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	146	146	146	146
Maximum RIV, Microvolts at 1000 kHz	500	500	500	500
Net Weight, Each, lbs. [kg]	317.5 [144.0]	391.9 [177.8]	330.7 [150.0]	409.2 [185.6]



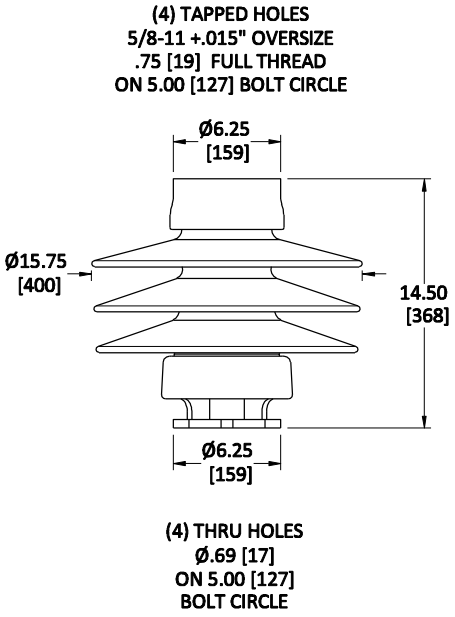
319140-70 & 319139-70
PEDESTAL POST UNIT



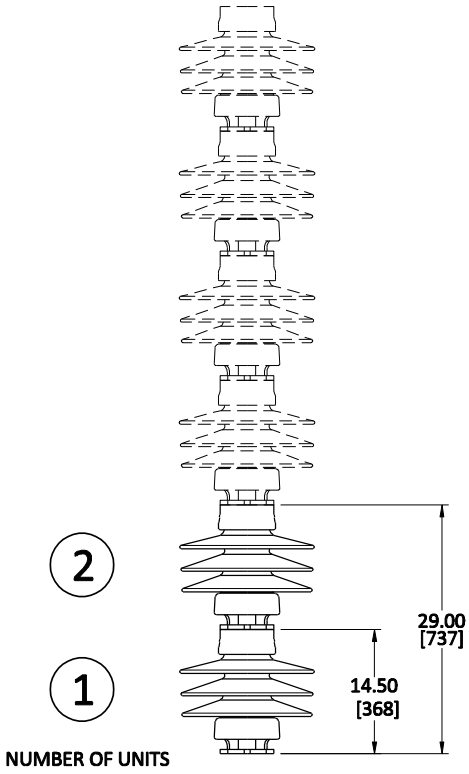
NUMBER OF UNITS
IN ASSEMBLY

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**319140-70**	**319139-70**	---	---
Catalog Number **(Brown)**	**319140**	**319139**	---	---
Catalog Number **(RG®)**	**539140**	**539139**	---	---
ANSI Technical Reference Number	T.R. 140	T.R. 139	---	---
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	33 [838]	33 [838]	---	---
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	7000 [31.1]	10000 [44.4]	---	---
Cantilever Strength, Underhung, lbs. [kN]	4000 [17.8]	6000 [26.6]	---	---
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	---	---
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	---	---
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	---	---
Electrical Values				
Impulse Flashover, Positive, kV	235	235	---	---
Low Frequency Withstand, 10 Sec. Wet, kV	75	75	---	---
Impulse Withstand, kV	210	210	---	---
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	22	22	---	---
Maximum RIV, Microvolts at 1000 kHz	100	100	---	---
Net Weight, Each, lbs. [kg]	76.8 [34.8]	84.3 [38.2]	---	---



PEDESTAL POST UNIT

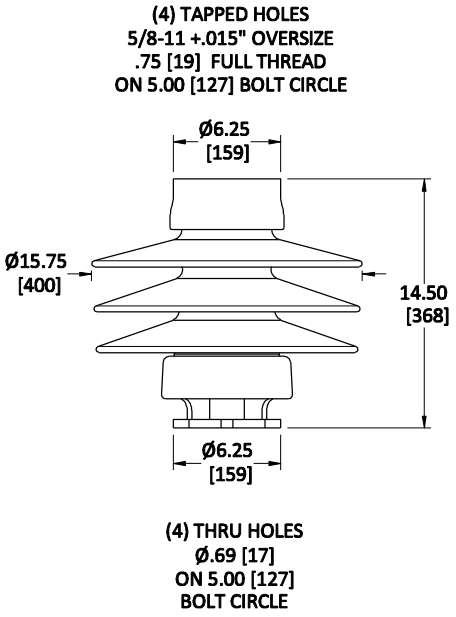


NUMBER OF UNITS
IN ASSEMBLY

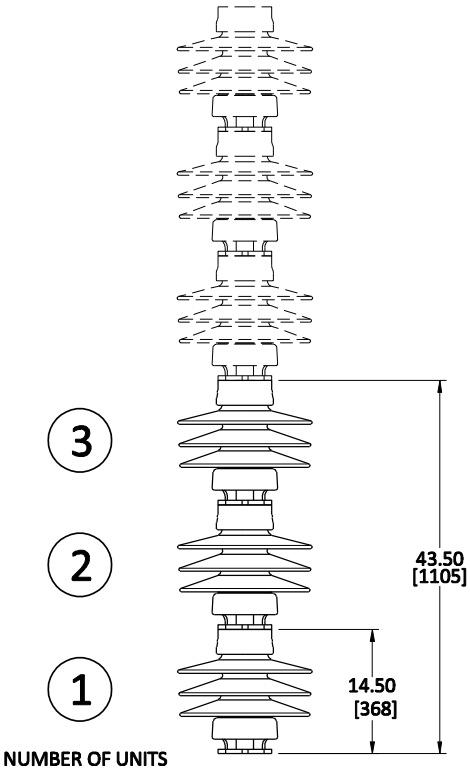
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**319056-70**	**314982-70**	---	---
Catalog Number **(Brown)**	**319056**	**314982**	---	---
Catalog Number **(RG®)**	**539056**	**500264**	---	---
ANSI Technical Reference Number	T.R. 56	---	---	---
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	66 [1676]	66 [1676]	---	---
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	3000 [13.3]	4500 [20.0]	---	---
Cantilever Strength, Underhung, lbs. [kN]	2350 [10.5]	3500 [15.5]	---	---
Tensile Strength, lbs. [kN]	20000 [89.0]	20000 [89.0]	---	---
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	40000 [4.52]	---	---
Compression Strength, lbs. [kN]	60000 [266.9]	60000 [266.9]	---	---
Electrical Values				
Impulse Flashover, Positive, kV	410	410	---	---
Low Frequency Withstand, 10 Sec. Wet, kV	160*	160*	---	---
Impulse Withstand, kV	350*	350*	---	---
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	44	44	---	---
Maximum RIV, Microvolts at 1000 kHz	200	200	---	---
Net Weight, Each, lbs. [kg]	153.5 [69.6]	161.1 [73.1]	---	---

*Withstand ratings are predicated on the use of a subbase 3.50” high or its equivalent.



PEDESTAL POST UNIT

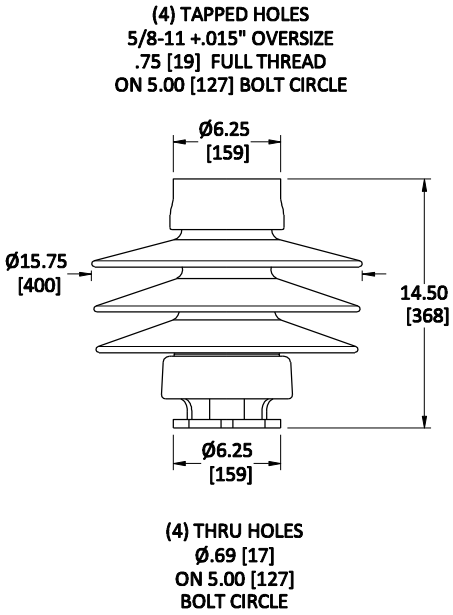


NUMBER OF UNITS IN ASSEMBLY

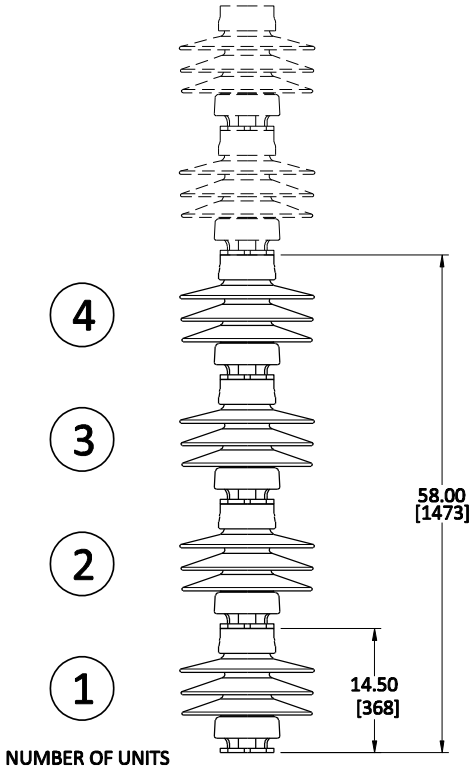
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**319019-70**	**319173-70**	---	---
Catalog Number **(Brown)**	**319019**	**319173**	---	---
Catalog Number **(RG®)**	**539019**	**539173**	---	---
ANSI Technical Reference Number	T.R. 19	T.R. 173	---	---
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	99 [2515]	99 [2515]	---	---
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	1700 [7.6]	2900 [12.9]	---	---
Cantilever Strength, Underhung, lbs. [kN]	1470 [6.5]	2400 [10.6]	---	---
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	---	---
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	---	---
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	---	---
Electrical Values				
Impulse Flashover, Positive, kV	610	610	---	---
Low Frequency Withstand, 10 Sec. Wet, kV	230*	230*	---	---
Impulse Withstand, kV	550*	550*	---	---
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	73	73	---	---
Maximum RIV, Microvolts at 1000 kHz	200	200	---	---
Net Weight, Each, lbs. [kg]	230.3 [507.7]	161.0 [73.0]	---	---

*Withstand ratings are predicated on the use of a subbase 3.50” high or its equivalent.



PEDESTAL POST UNIT

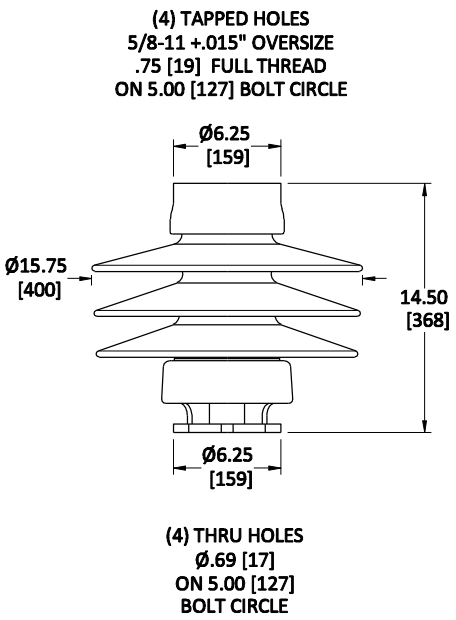


NUMBER OF UNITS
IN ASSEMBLY

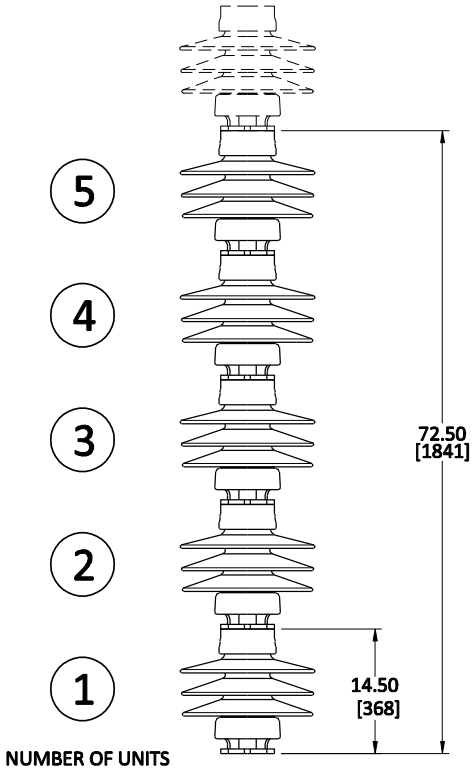
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**319025-70**	**319174-70**	---	---
Catalog Number **(Brown)**	**319025**	**319174**	---	---
Catalog Number **(RG®)**	**539025**	**539174**	---	---
ANSI Technical Reference Number	T.R. 25	T.R. 174	---	---
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	132 [3353]	132 [3353]	---	---
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	1200 [5.3]	2000 [8.8]	---	---
Cantilever Strength, Underhung, lbs. [kN]	1070 [4.8]	1750 [7.7]	---	---
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	---	---
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	---	---
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	---	---
Electrical Values				
Impulse Flashover, Positive, kV	810	810	---	---
Low Frequency Withstand, 10 Sec. Wet, kV	315*	315*	---	---
Impulse Withstand, kV	750*	750*	---	---
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	103	103	---	---
Maximum RIV, Microvolts at 1000 kHz	200	200	---	---
Net Weight, Each, lbs. [kg]	307.0 [676.8]	337.3 [743.6]	---	---

*Withstand ratings are predicated on the use of a subbase 3.50” high or its equivalent.



PEDESTAL POST UNIT

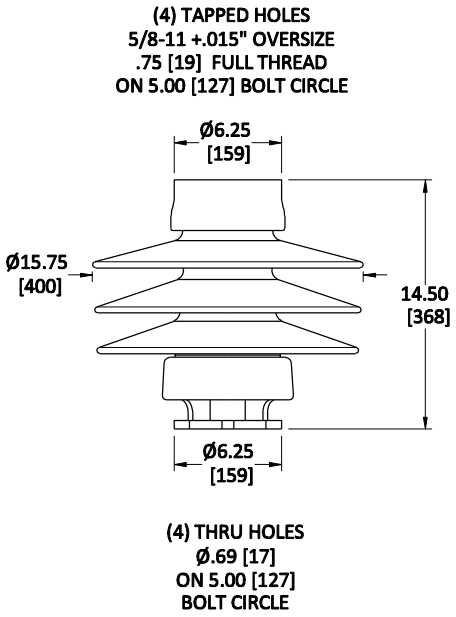


NUMBER OF UNITS
IN ASSEMBLY

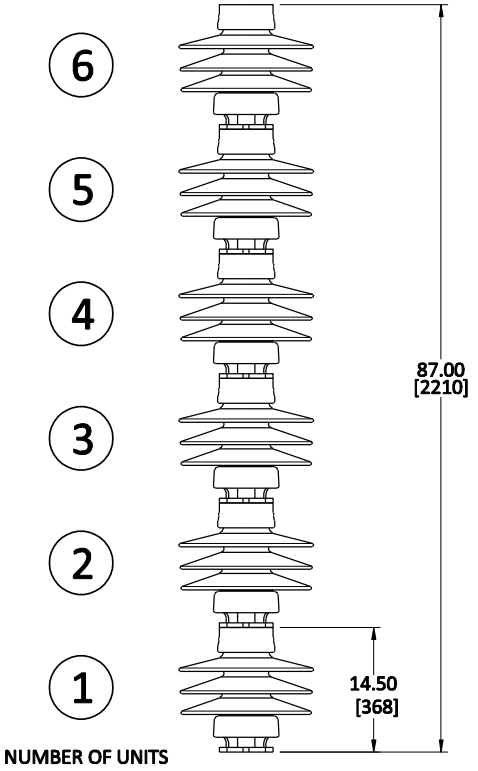
Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**319126-70**	**319175-70**	---	---
Catalog Number **(Brown)**	**319126**	**319175**	---	---
Catalog Number **(RG®)**	**539126**	**539175**	---	---
ANSI Technical Reference Number	T.R. 126	T.R. 175	---	---
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	165 [4191]	165 [4191]	---	---
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	910 [4.0]	1450 [6.4]	---	---
Cantilever Strength, Underhung, lbs. [kN]	840 [3.7]	1350 [6.0]	---	---
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	---	---
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	---	---
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	---	---
Electrical Values				
Impulse Flashover, Positive, kV	1010	1010	---	---
Low Frequency Withstand, 10 Sec. Wet, kV	385*	385*	---	---
Impulse Withstand, kV	900*	900*	---	---
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	125	125	---	---
Maximum RIV, Microvolts at 1000 kHz	500	500	---	---
Net Weight, Each, lbs. [kg]	383.7 [174.0]	421.7 [191.3]	---	---

*Withstand ratings are predicated on the use of a subbase 3.50” high or its equivalent.



PEDESTAL POST UNIT



NUMBER OF UNITS
IN ASSEMBLY

Characteristics

Catalog Number **(Light Gray-ANSI 70)**	**319128-70**	**319176-70**	---	---
Catalog Number **(Brown)**	**319128**	**319176**	---	---
Catalog Number **(RG®)**	**539128**	**539176**	---	---
ANSI Technical Reference Number	T.R. 128	T.R. 176	---	---
Dimensions				
Leakage Distance, Reference Standard, in. [mm]	198 [5029]	198 [5029]	---	---
Mechanical Values				
Cantilever Strength, Upright, lbs. [kN]	750 [3.3]	1170 [5.2]	---	---
Cantilever Strength, Underhung, lbs. [kN]	700 [3.1]	1100 [4.8]	---	---
Tensile Strength, lbs. [kN]	20000 [89.0]	25000 [111.2]	---	---
Torsion Strength, in-lbs. [kNm]	40000 [4.52]	90000 [10.16]	---	---
Compression Strength, lbs. [kN]	60000 [266.9]	75000 [333.6]	---	---
Electrical Values				
Impulse Flashover, Positive, kV	1210	1210	---	---
Low Frequency Withstand, 10 Sec. Wet, kV	455*	455*	---	---
Impulse Withstand, kV	1050*	1050*	---	---
Radio Influence Voltage Data				
Test Voltage, Rms to Ground, kV	146	146	---	---
Maximum RIV, Microvolts at 1000 kHz	500	500	---	---
Net Weight, Each, lbs. [kg]	460.5 [208.8]	506.0 [229.5]	---	---

*Withstand ratings are predicated on the use of a subbase 3.50” high or its equivalent.

Cavity Core Number	Solid Core Number
10470-70	315202-70
11654-70	315046-70
24760-70	315286-70+L
25393-70	315041-70
25565-70	315208-70
25567-70	315214-70
27077-70	315205-70
34245-70	315222-70
34246-70	315225-70
34247-70	315227-70
34248-70	315231-70
34249-70	315267-70
34250-70	315278-70
34534-70	315232-70+L
34535-70	315235-70+L
34536-70	315237-70+L
34537-70	315241-70+L
50439-70	315316-70+L
50637-70	315312-70
50742-70	315304-70+L
50908-70	315288-70+L
51161-70	315291-70+L
51202-70	314161-70
51560-70	315330-70
51606-70	315324-70
51688-70	315308-70+L
51689-70	315362-70
52161-70	315295-70+L
52591-70	315289-70+L
53412-70	315368-70
53143-70	315372-70
53161-70	318441-70
54794-70	315287-70+L
55953-70	318457-70

Cavity Core Number	Solid Core Number
56241-70	314857-70
59668-70	314867-70
79297-70	315391-70
80044-70	314925-70+L
80104-70	315369-70
80110-70	315379-70+L
80621-70	315367-70
90603-70	315316-70+L
90742-70	315308-70+L
91507-70	315373-70
91987-70	315330-70
93350-70	315393-70+L
93447-70	315371-70
9521A-70	315216-70
97112-70	315392-70+L
97805-70	315016-70
9784-70	315007-70
9785-70	315210-70
98151-70	314732-70
98154-70	315401-70+L
300744-70	315391-70
303050-70	315308-70+L
305943-70	315013-70
308135-70	315010-70
309386-70	315304-70+L
309387-70	315380-70+L
309388-70	315312-70
309588-70	318461-70
309821-70	317019-70
311313-70	318459-70
311729-70	315019-70
311905-70	315324-70
311906-70	315368-70
311907-70	315367-70

Cavity Core Number	Solid Core Number
311908-70	315369-70
311998-70	315392-70+L
311999-70	315393-70+L
312554-70	314867-70
312555-70	315401-70+L
312793-70	315174-70
312794-70	315173-70
312799-70	315128-70
312800-70	315176-70
312801-70	315044-70
312802-70	315049-70
312803-70	315053-70
312812-70	315126-70
312813-70	315175-70
312997-70	319140-70
313473-70	319019-70
313475-70	319126-70
313993-70	319056-70
314199-70	319128-70
314201-70	317056-70
314228-70	317126-70
314504-70	317013-70
314505-70	317016-70
314564-70	317053-70
314591-70	319139-70
314615-70	317004-70
314777-70	317174-70
314828-70	317046-70
314965-70	315056-70
314970-70	314970-70
314982-70	314982-70
314994-70	319025-70