INSULIGN® POLYMER INSULATOR
VISE TOP PIN TYPE

The Patented **INSULIGN Vise Top Pin Type Polymer Insulator** utilizes a unique plastic clamp mechanism and nylon torque bolts to secure the conductor. The nylon torque bolt with a break-away ring is designed to ensure that the optimal holding force is applied while providing for fast conductor clamping.

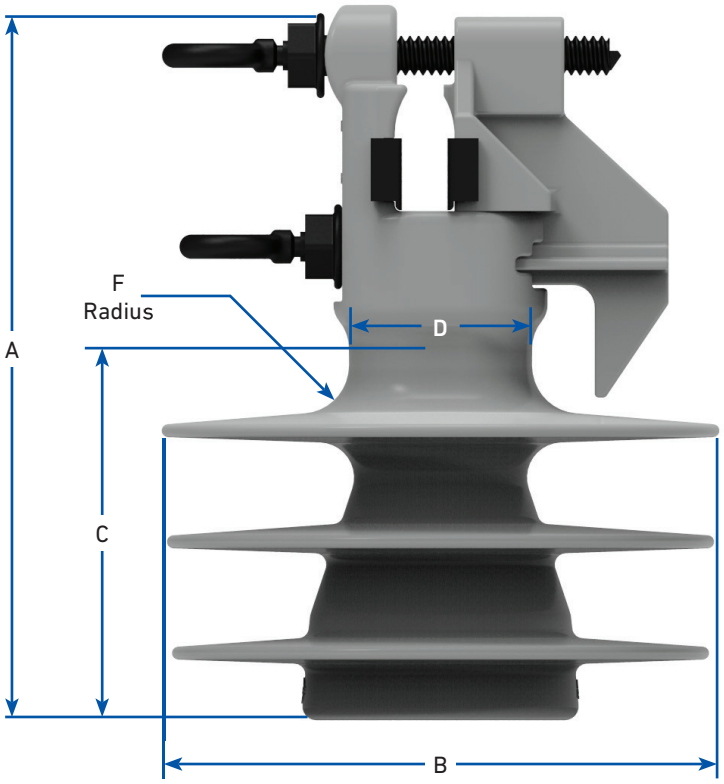
Specific conductor defined inserts are offered for aluminum, copper, and jacketed conductors. PLP also offers patented universal inserts and ceramic inserts which are compatible with all bare conductors. The INSULIGN Vise Top Polymer Insulators meet the electrical and mechanical requirements as defined in ANSI C29.5 and ANSI C29.6 standards of Classes 55-3, 55-4, 55-5, 55-6, 55-7, and 57-1 and they also meet the electrical and mechanical requirements defined in the new ANSI C29.15 standard for polyethylene tie top pin type insulators.

It is recommended that the utility determines the suitability of the Vise Top Polymer Insulator for their application before installation.

FEATURES AND BENEFITS

- Superior moisture and contamination shedding
- UV-stabilized material
- High-impact resistance
- Lightweight design
- Ideal for jumpers and stinger wires
- Insulators meet electrical criteria defined in ANSI C29 applicable specifications
- Universal insert design accepts all conductor types
- 1" or 1-3/8" pin mounting
- Ideal for use with shot gun sticks or hook tool
- Vise Top Stringing Tool available
- 100% recyclable

SPECIFICATIONS



INSULIGN Polymer Insulator - Vise Top Pin Type

Nominal Insulator Dimension								
Catalog Number	Dimension in							Number of Skirts
	A	B	C	D	F (Radius)	Tangent Vise Attachment, Maximum Conductor OD	Side Groove, Maximum Conductor OD	
IP-15-VTX*	8.50	5.50	3.75	2.50	0.50	1.86	1.50	4
IP-25-VTXY*	8.40	7.30	4.50	2.50	0.50	1.86	1.50	3
IP-35-VTXY*	10.13	8.00	5.38	2.50	0.50	1.86	1.50	3

* **X** references insert material
  U = Universal
  C = Ceramic
  M = Aluminum
  M-B = Bronze
  N = Nylon
* **Y** references mounting pin diameter
  1 = 1" Pin
  2 = 1-3/8" Pin

ORDERING INFORMATION

INSULIGN Polymer Insulator – Vise Top Pin Type

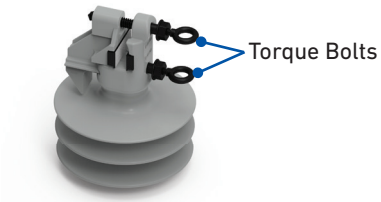
Catalog Number	ANSI Class[1]	Insert	Application	Mounting Pin	Insulator Weight	Units per Carton	Weight per Carton
				in	lbs		lbs
15 kV							
IP-15-VTU	55-3, 55-4	Universal[2]	All Conductor Applications	1	2	18	39
IP-15-VTC		Ceramic	Aluminum & Copper				
IP-15-VTM		Aluminum	Aluminum				
IP-15-VTM-B		Bronze	Copper				
IP-15-VTN		Nylon	Jacketed Conductors				
25 kV							
IP-25-VTU1	55-5	Universal[2]	All Conductor Applications	1	2.3	12	30
IP-25-VTU2				1-3/8			
IP-25-VTC1		Ceramic	Aluminum & Copper	1			
IP-25-VTC2				1-3/8			
IP-25-VTM1		Aluminum	Aluminum	1	2.2		29
IP-25-VTM2				1-3/8			
IP-25-VTM1-B		Bronze	Copper	1			
IP-25-VTM2-B				1-3/8			
IP-25-VTN1		Nylon	Jacketed Conductors	1	2.3		30
IP-25-VTN2				1-3/8			
35 kV							
IP-35-VTU1	55-6	Universal[2]	All Conductor Applications	1	3.2	12	41
IP-35-VTU2	55-7			1-3/8			
IP-35-VTC1	55-6	Ceramic	Aluminum & Copper	1			
IP-35-VTC2	55-7			1-3/8			
IP-35-VTM1	55-6	Aluminum	Aluminum	1			
IP-35-VTM2	55-7			1-3/8			
IP-35-VTM1-B	55-6	Bronze	Copper	1			
IP-35-VTM2-B	55-7			1-3/8			
IP-35-VTN1	55-6	Nylon	Jacketed Conductors	1			
IP-35-VTN2	55-7			1-3/8			

[1] Nominal ANSI C29.5 Class designation - These ANSI specifications are for Wet Processed Porcelain Tie Top Insulators. The Vise Top Insulators meet the electrical criteria defined in the applicable specification.
[2] Patented

ACCESSORIES

Torque Bolt

Two torque bolts are supplied with each Vise Top Polymer Insulator. The breakaway torque ring is designed to ensure that the proper torque and optimum holding force to the conductor will be applied during initial installation. New torque bolts should be used whenever conductors are removed from the Vise Top Insulator, or any time the bolts are unscrewed and initial torque is lost.

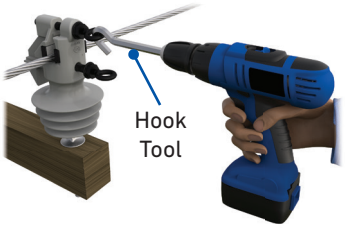


Vise Top
Polymer Insulator

Torque Bolt
Catalog Number: PT-01

Torque Bolt Hook Tool

An aluminum hook tool accessory is offered for use with hydraulic or power wrenches for easy installation of torque bolts.



Torque Bolt Hook Tool
Catalog Number: VTHT-01

Vise Top Stringing Tool

The polyurethane **Vise Top String Tool** (VLST) is offered to aid jacketed conductor installation. The VLST temporarily installs in the vise top clamp, by hand or with hot sticks, and is designed to permit short-span, low-tension, jacketed conductor stringing without the need for stringing blocks.

NOTE: The VLST is not recommended for use with bare conductors, long spans, or line or sag angles over 10 degrees. A properly sized stringing block should be used at the first and last pole at large line or sag angles, or long spans throughout the pull, rather than the stringing tool.

It is recommended that harsh material pulling ropes, such as nylon, be avoided to minimize excessive wear to the inner surface of the stringing tool. It is also suggested that low pulling speeds be used when pulling rope or cable through the tool to avoid excessive wear. The stringing tool can be reused; it is recommended the tool be inspected after each pull to ensure it is suitable for further use. Areas of wear on the tool from previous pulls can be rotated away from where the rope and conductors will rest in the bore during subsequent pulls. Do not reuse the tool if excessive wear is present throughout all areas of the inner bore.

Vise Top String Tool
Catalog Number: IP-VLST-01

ADDITIONAL RESOURCES

For additional information regarding the use and installation of INSULIGN Polymer Insulators - Vise Top Pin Type, use the QR codes listed below.

INSULIGN Polymer Insulator -
Vise & Pivot Vise Top Pin Type
Installation Instructions

INSULIGN Polymer Insulator -
Vise Top Pin Type
Installation Video

INSULIGN Polymer Insulator -
Vise Top Pin Type
Website

TESTING RESULTS

INSULIGN Polymer Insulator - Vise Top Pin Type

Test Results Based on ANSI C29 Standard									
Insulator Data	15 kv Applications		25 kv Applications			35 kv Applications			
	PLP	ANSI C29.5 55-3/55-4	PLP		ANSI C29.5 55-5	PLP	ANSI C29.5 55-6	PLP	ANSI C29.5 55-7
Catalog Number and Application	IP-15-VTX*	N/A	IP-25-VTX-1*	IP-25-VTX-2*	N/A	IP-35-VTX-1*	N/A	IP-35-VTX-2*	N/A
Nominal ANSI Class	55-3	55-3/55-4	55-5	55-5	55-5	55-6	55-6	55-7	55-7
Neck Size/Style	N/A	C/F	N/A	N/A	F	N/A	F/J	N/A	F/J
Typical Operating Voltage Application kV (L-L)	15	15	25	25	25	35	35	35	35
Leakage Distance (in)	16.1	7/9	18.1	17.9	12	23.5	15	23.3	15
Dry Arcing Distance (in)	7	4.5/5	8.7	8.5	6.25	10.5	8	10.4	8
Pin Hole Diameter (in)	1	1	1	1.375	1	1	1	1.375	1.375
Suggested Minimum Pin Length (in)	6	5	6	6	6	7.5	7.5	7.5	7.5
60Hz Dry Flashover (kV)	77	55	89**	89	85	126**	100	113	100
60Hz Wet Flashover (kV)	45	30	55**	55	45	82**	50	75	50
Positive Impulse Flashover (kV)	124	90	142**	142	140	175**	150	157	150
Negative Impulse Flashover (kV)	-160	-110	-223**	-223	-170	-238**	-170	-254	-170
Low Frequency Puncture (kV)	208	90	218	201	115	223	135	194	135
RIV @ 1 MHZ									
10 kV to grd, µV	<5	<50 µV @ 10kV	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15 kV to grd, µV	N/A	N/A	<2**	<2	<100 µV @ 15kV	N/A	N/A	N/A	N/A
22 kV to grd, µV	N/A	N/A	N/A	N/A	N/A	<39**	<100 µV @ 22kV	<26	<100 µV @ 22kV
Cantilever Strength (lbs)	3,000	2,500	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Approximate Weight (lbs)	0.9	N/A	1.3	1.3	N/A	2.8	N/A	2.5	N/A
Maximum Operating Temperature (°C)	120	N/A	120	120	N/A	120	N/A	120	N/A

* **X** = M, M-B, U, C, N

** Electrical test data extrapolated from similar design of Polymer Insulator Pin Hole 1-3/8"