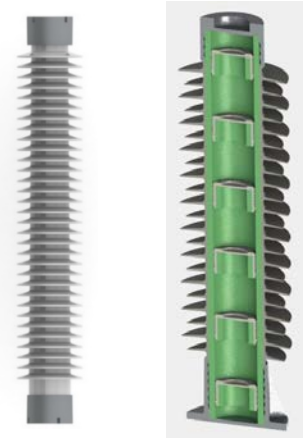
Substation Post Insulator Porcelain & BambuX™

ZDVolt designs and manufactures AC and DC bushings up to 1100 kV. In addition, the company produces hollow insulators as well as standard station post insulators, with products covering porcelain and composite substation post insulators up to 1000 kV.



Single-piece porcelain post insulators can reach up to 2 meters in height with a diameter of 800 mm. Single piece composite “Bamboo-type” post insulators can reach up to 6 meters in height with a diameter of 800 mm. All products fully comply with ANSI/IEEE C29 standards for porcelain and composite TR series, as well as IEC 60273 and IEC 60168 C-series standards.

Over the past 20+ years of global ultra-high voltage (UHV) development, dry-forming isostatic production equipment and technologies have advanced significantly. Building on more than two decades of experience, ZDVolt has implemented patented **enhanced cold isostatic pressing (CIP)** dry-forming equipment along with automated machining technologies. These enable production of single units with a maximum diameter of 800 mm and height (length) up to 6 meters.

While maintaining consistent C130-grade porcelain strength, this process significantly reduces production time—**from 60 days with traditional wet processes to just 10 days**—greatly improving forming efficiency. At the same time, it ensures consistent quality while substantially lowering production costs. Porcelain post insulators can also be coated with RTV or semi-conductive glaze according to specific requirements.

ZDVolt’s patented **BambuX™** series of composite post insulators are designed and manufactured to meet IEC and ANSI/IEEE standards for AC applications up to 1000 kV. The company uses a **Continuous Windings Fiberglass Pipe (CWFP)** to produce fiberglass-reinforced plastic (FRP) insulating tubes, achieving strength superior to conventional filament winding methods.

For ±500 kV DC applications, a single section can achieve a cantilever load of 12.5 kN. For 1000 kV AC systems, three sections are used to achieve an SCL of 3000 lbs, while 765 kV / 750 kV systems use two sections with the same SCL rating.

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The patented BambuX[tm] design and manufacturing technology ensures insulation performance and mechanical strength while eliminating issues commonly associated with solid composite insulators, such as cracking, as well as problems found in filled composite insulators, including internal monitoring and air leakage. In addition, the cost of high-voltage BambuX[tm] composite post insulators is comparable to that of high-strength porcelain post insulators.