



PPC INSULATORS

ELECTRIFYING THE WORLD

**PPC Insulators**

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# Hybrid Station Post Insulators

Hybrid station post solution for the highest mechanical strength and heavy pollution performance

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# PPC Hybrid Insulators.

## Strength of Porcelain Meets Composite Pollution Performance

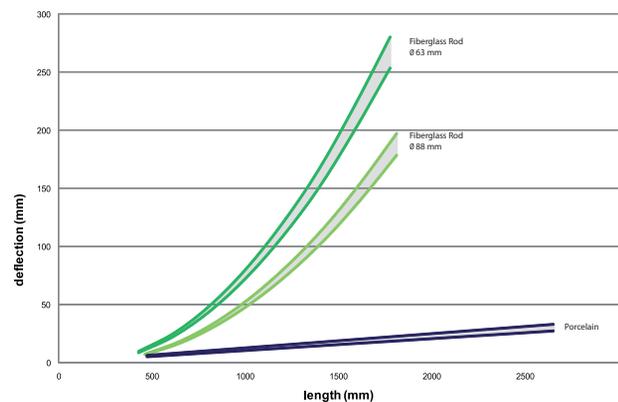
PPC Hybrid Post Insulators are designed to face extreme environmental or demanding pollution conditions. Their hybrid nature helps them to prevent electrical activity on insulators, such as excessive leakage currents, reducing flashovers and consequently power system outages.

### PPC Hybrid Production Capabilities up to 1200 kV AC and 1100 kV DC

BIL 550 - 1050	kN 08, 10, 12.5, 16, 20, >20
BIL 1175 - 1425	kN 06, 08, 10, 12.5, 16, 20, >20
BIL 1550 - 1800	kN 06, 08, 10, 12.5, 16, 20, >20
BIL 2100 - 2550	kN 08, 10, 12.5, 16, 20, >20
BIL > 2550	kN 03, 06, 08, 10, 12.5, 16, 20

Hybrid insulators combine the advantages of porcelain's undisputed mechanical strength superiority, stability and longevity with excellent pollution performance of high-density hydrophobic silicone housings to provide an ideal solution for use in highly contaminated situations. The need for reliable power networks, avoidance of blackouts and substation shutdowns due to frequent maintenance procedures like substation washing forced the insulation industry to react.

The concept behind PPC Hybrid Insulator combines two different technologies. Ensuring the best mechanical support is the isostatically manufactured porcelain core, made of high-strength aluminum oxide, C130 according to IEC 60672. The outer housing is made of silicone rubber, fully complying with IEC 60815, with very good aging characteristics and no known electro-corrosion problems of the rod. The graph below demonstrates the superior mechanical strength of PPC insulators in comparison to composite posts with fiberglass.



Deflection under bending load is one of the most important factors regarding insulator behaviour. It presents a special problem with composite posts with fiberglass rods.

PPC Hybrid Insulators take advantage of our high mechanical strength porcelain rod, offering unique stability along with longtime performance. Using a specific and superior silicone compound with at least 45% ATH level in weight, enabling advanced engineered shed profiles, while maintaining the incomparable mechanical strength of a porcelain insulator.

### Porcelain Core

The porcelain core is manufactured with the PPC Isostatic process taking advantage of tight tolerances and short lead times. Ceramic granulate is pressed into a cylindrical blank at very high pressure. After turning, glazing and firing, the rod is cut to the required length. Hot-dip galvanized fittings made of spheroidal cast iron are then cemented onto the rod.



### Silicone Rubber Housing

High-pressure injection moulding at high temperature is required due to the HTV silicone rubbers high viscosity. Injection moulding is set above 320°F and a pressure of several thousand pounds. The silicone housing is fully bonded to the porcelain solid core, perfectly managing the „triple point“ (fitting-rubber-core). Thanks to high pressure involved in this operation and perfectly engineered process, the rubber housing adheres directly to the fitting without the need for artificial sealing.