SWITCHGEAR

Insulators

Station Post Insulators ▪ Line Post Insulators ▪ Disk Insulators

Insulators provide critical mechanical support and dielectric separation in high-voltage substations and overhead networks. Engineered for Australian conditions and compliant with IEC/AS standards, our range offers durability, flexibility, and proven performance even in the harshest operating environments.

What's in the Range

- **Station Post Insulators (Porcelain, Solid-Core):** For substations and switchyards with voltage capabilities from 33 kV up to 220 kV and above, with high cantilever strength and long creepage paths.
- **Line Post / Long-Rod & Tie-Top (Polymeric and Porcelain):** For overhead line applications (typ. 15–69 kV and up to 135 kV in listed items) with specified SML and impulse withstand levels.
- **Disc (Suspension) Insulators (Porcelain & Glass):** Modular stringing for transmission lines with 70–160 kN electro-mechanical strength options and standard ball & socket or tongue & clevis hardware.

High Voltage Reliability

All insulators comply with IEC and Australian standards and are batch and type tested at NATA-equivalent laboratories to verify dielectric and mechanical performance.

Robust Materials

Available in non-porous electrical porcelain (solid core posts) and polymeric designs for line applications; porcelain units supplied in Munsell Grey glaze unless specified.

Optimised Creepage Performance

Multiple pollution levels (up to Level IV/Very Heavy) with extended creepage distances to reduce flashover in harsh environments.

Proven Mechanical Strength Expanders

Ratings from 70–160 kN (disc units), high cantilever station posts, and defined SML for polymeric line posts ensure reliable hardware interfaces.

PLP CLD insulect VERSATILITY VIA COLLABORATION

Functionality & Options

- **Electrical Insulation & Support:** Solid-core station posts insulate and mechanically support busbars, switches, and apparatus; line posts and discs support and insulate conductors on overhead lines.
- **Voltage Coverage:** Offerings cover LV/MV to 500 kV across porcelain and polymeric families (application-dependent).
- **End-Fittings / Interfaces:** Ball & socket, tongue & clevis, clevis & tongue, and tie-top variants are available to match line hardware standards.
- **Pollution & Creepage Options:** Multiple creepage selections and shed profiles to match site pollution severity classes.
- **Glaze/Color:** Munsell Grey standard; special glaze on request.

Key Components

- **Porcelain Body:** Non-porous electrical porcelain per industry standards (solid-core posts).
- **Metal End Fittings:** Hot-dip galvanized caps/flanges; standard hole patterns for common bolt circles on station posts.
- **Sealing/Cementing:** Portland cement/quartz sand systems used in porcelain assemblies.

Standards & Testing

- IEC & Australian Standards compliance across dimensional, electrical, and mechanical requirements; products are batch tested to Australian Standards and type tested at NATA-equivalent labs.
- Capability up to 800 kV is indicated for porcelain portfolios from listed manufacturers.

Selection Checklist

- **Application & Location**: Substation equipment support (choose Station Post); line suspension/tension (choose Disc); distribution/tap points (choose Line Post).
- **System Voltage & BIL**: Match rated voltage and verify BIL / impulse withstand margins per system protection studies. (See tables above for representative BIL/impulse values.)
- **Pollution Severity & Creepage:** Select creepage distance for site pollution class (up to Level IV / Very Heavy) and consider shed profile (porcelain vs polymeric).
- **Mechanical Requirements**: Confirm cantilever for posts and electro-mechanical / SML for line/disc units to meet span loads, wind, and hardware geometry.
- **End-Fitting Compatibility:** Choose ball & socket, tongue & clevis, clevis & tongue, or tie-top to integrate with existing hardware.
- **Standards & Testing:** Ensure project specs reference IEC/AS and require batch/type testing documentation.

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