

# PYUNGIL<sup>®</sup>

POLYMER INSULATORS | CABLE CONNECTORS | LOADBREAK SWITCHES | BUSHINGS |  
POLYMER ARRESTERS/CUTOUTS | BY-PASS SYSTEMS | SOLID-INSULATED SWITCHBOARD



## BACKGROUND

PYUNGIL Co., Ltd. was founded in 1970 initially as a trading company dealing with various distribution products related with utility industries. Early 1980's, PYUNGIL started manufacturing products under the technical collaboration with reputable US manufacturers. After continuous positive growth, in 1990's PYUNGIL instituted its own R&D center, which has helped to develop the basic technologies which enhanced the performance and quality of the products.

PYUNGIL has introduced polymer insulator for the first time in Korea and implemented production since 1996, and has provided more than 10,000,000 ea of various kinds of polymer insulators to all over the world, and the main customer is Korea Electric Power Corporation (KEPCO) which has the strictest technical specification throughout the world.

## STRONG POINTS

High Technology-based R&D Center  
State-of-the-art Design Facilities  
Operation of Testing Lab  
Operation of Training Center  
Fully Trained Sales Engineers  
Customer-oriented Sales Activities  
30-year Experience & Intermate  
Connection with Customers

## QUALITY

PYUNGIL's system is registered by Korea Quality Assurance to both ISO9001 and ISO14001. This ensures that its quality and consistency is unprecedented in the power industries. PYUNGIL is a leading manufacturer with broad products range, to achieve ISO registration.

PYUNGIL has been doing its best to provide quality products and offer a long warranty as well as services. Technical sales engineers and R&D staffs always strive to provide the proper instruction and advice for their customers, which prevents any potential problems at the field. The highly qualified personnel of the quality department also ensures a reliable product through its own quality system.

All of PYUNGIL products are factory-tested, which assures the reliability of the products. PYUNGIL has more than 100 different kinds of testing equipment, which makes it possible to fulfill zero failure.

## WORLDWIDE EXPERIENCE

PYUNGIL has provided quality products designed, manufactured and tested in accordance with the relevant international industrial standards for major projects around the world.

POLYMER INSULATORS  
CABLE CONNECTORS  
LOADBREAK SWITCHES

BUSHINGS  
POLYMER ARRESTERS/  
CUTOUTS

BY-PASS SYSTEMS  
SOLID-INSULATED  
SWITCHBOARD



# POLYMER INSULATORS

## POLYMER INSULATORS

PYUNGIL polymer insulators have been introduced to cover the weak points of porcelain insulators.

Compared with porcelain insulators, polymer insulators have great performance in both electrical and mechanical characteristics.



Polymer Coupling Insulator



Polymer Insulator for Transmission Line

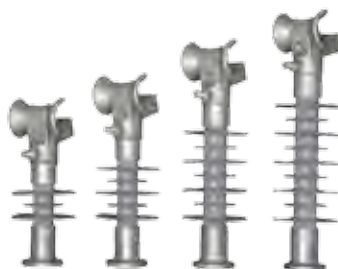
PYUNGIL polymer insulator is based on the molding technologies acquired from its cable connector manufacturing knowhow and polymer insulator technology which were partially transferred from reputable US manufacturers.



Polymer Deadend Insulator for Distribution Line

The production of high quality polymer insulators has been realized through accumulated knowledge and expertise of PYUNGIL.

The voltage ratings of PYUNGIL polymer insulators for distribution line is from 15 kV to 46 kV for dead-end and 15 kV to 69 kV for line post.



Polymer LP Insulators

Both types are type-tested at the independent test labs as per IEEE, IEC, ANSI and CEA standards. Also, PYUNGIL has developed and provided the various kind of polymer railway insulators for Korail. For transmission line, polymer insulators up to 345kV which ensure remarkably low installation & maintenance costs and great system utilization, have also been developed by PYUNGIL.



Polymer Railway Insulator

### FEATURES

- Light Weight/Easy to handle
- Not Breakable
- Excellent Tensile Strength
- Self-Cleaning Phenomenon
- Low Installation Cost

# CABLE CONNECTORS

## CABLE CONNECTORS

PYUNGIL premolded type cable connectors are used for 5 kV to 35 kV underground power system and reduce on-site installation time. The advantages that premolded type has over field-fabricated type and other alternatives include 100% factory assurance testing prior to shipment, simplified construction with built-in insulating, shielding and sealing surface, ease of installation with no special skills or tools, compact, lightweight, durable designs for easy application and reusability in case of improper installation. Units are designed, manufactured and tested as per international industrial standards.



Cable Terminations



Cable Joints

## CABLE TERMINATIONS

PYUNGIL cable terminations effectively control the electrical stress surrounding the terminated cable insulation shield. This is accomplished by using a premolded stress cone that is a part of the termination housing. PYUNGIL terminations are available in single piece and modular design according to the voltage level of the cable.

## CABLE JOINTS

PYUNGIL splicing joints use permanently crimped connectors. Permanently crimped units are rated the same as the cable they are connecting. Joint housing is fully insulated, shielded and sealed for direct burial. PYUNGIL also has solution for the connection of two different sizes of cables, using cable adapters.



600 Amp Connectors



200 Amp Connectors



Mini T-Body

## SEPARABLE CONNECTORS

PYUNGIL separable connectors are available in IEEE and IEC Std. Rated for pad-mounted, subsurface, vault, indoor, outdoor and other applications, units feature interchangeable interfaces which can be easily engaged or separated to provide a convenient method to connect or disconnect cable and equipment in a distribution power system.



# LOADBREAK SWITCHES

## LOADBREAK SWITCHES

PYUNGIL's willingness for the supply of more enhanced electrical equipment has given birth to innovative solid-dielectric switch additionally to conventional gas-insulated loadbreak switches applicable for pole-mount and pad-mount. PYUNGIL loadbreak switches will give the customer optimum performance and dependability.

PYUNGIL adopts sulfur hexafluoride gas(SF6) filled in the switch which is a non-toxic, non-flammable, colorless and odorless gas with excellent dielectric and arc-quenching properties for gas-insulated switch. SF6 gas ensures the positive breaking of small currents together with linear puffer interrupters. SF6 gas pressure inside the switch can be monitored by the built-in pressure transducer.



Pole-mounted SF6 Switch

PYUNGIL solid-dielectric switch adopts epoxy as insulating material and vacuum interrupter for switching part. PYUNGIL solid-dielectric switch, which does not use SF6 gas, is environment-friendly, so it would be a good solution for global warming issued recently due to greenhouse effect.



Pole-mounted Solid-dielectric Switch

PYUNGIL pad-mounted switches are available to multi-way configuration with either 2-position (solid-dielectric) or 3-position (gas-insulated) incorporating integral ground. Pole-mounted switches are available for 400A and 630A. They are easy to be installed with proper mounting bracket and band. Because every switch will be production-tested in accordance with IEC60265-1 to ensure proper operation prior to shipment, field-maintenance is minimized.



Pad-mounted SF6 Switch

# BUSHINGS

## POLYMER ARRESTERS/CUTOUTS

### BUSHINGS

PYUNGIL provides apparatus epoxy bushings with aluminum or copper conductor up to 36 kV in IEEE and IEC standards. Depending on application, flange type with stainless flange to be welded onto the switch tank wall and clamp type to be fixed with clamp & bolts are also available. Both types will not allow any leakage of oil or gas.

PYUNGIL bushings have been supplied to various transformer makers as well as switch makers for decades. Their outstanding performance has been cultivated under PYUNGIL's own strict in-house testing requirements. The bushings are available for use on Air, Oil or SF6 insulated equipment.



Epoxy Bushings

Rubber insulators over apparatus bushing are also available. According to the customers' needs, leakage distance and the other electrical properties can be adjusted. The rubber bushings are designed in accordance with IEEE 386 Std. to fit with apparatus epoxy bushings.



### POLYMER ARRESTERS/CUTOUTS

PYUNGIL polymer surge arresters which are typically 40% lighter than porcelain one in weight, offer reliable and economical surge protection with excellent surge characteristics and convenient installation. The polymer housing provides excellent contamination performance and minimizes the risk of damage during transportation or installation.

PYUNGIL open-type cutouts offer dependable full-range fault-current protection to distribution circuits through 27kV. The PYUNGIL cutouts are light-weighted for easy lifting up the pole and also connected to the line easily and quickly, and designed to be electrically and mechanically interchangeable with the products of S&C, A.B. Chance and ABB.



Arrester



Cutout

# BY-PASS SYSTEMS

## SOLID-INSULATED SWITCHBOARD

### BY-PASS SYSTEMS

PYUNGIL By-pass systems permit outage-free maintenance in contrast to the conventional maintenance method which requires the power interruption of the line to be repaired. PYUNGIL by-pass systems, the combination of PYUNGIL's knowhow for cable connectors and other electrical apparatuses, have come to realize the outage-free maintenance systems.

Considering the convenience of installation, PYUNGIL adopts flexible shielded cable, portable switch and light-weighted parts. Each component of the By-pass systems is rated conforming to relevant industrial standards and designed for easy field-installation using plug-in type connectors.



Bypass Components

### SOLID-INSULATED SWITCHBOARD

PYUNGIL solid-insulated switchboard replaces the outdoor substation which industrial or commercial power customers must have in house. Usually the conventional outdoor mini substation, which consists of many of outdoor type electrical apparatuses such as protective device, sectionalizing switch, metering device, transformer and electrical poles, needs big space with the fence to prevent the access by unauthorized personnel.

Of course, there have been some indoor type switchboards, but they still need big space for safety. PYUNGIL solid-insulated switchboard just needs 17% of the conventional switchboard in footprint, and does not need any fence, because the connection between electrical apparatuses is 100% insulated and shielded.



Solid insulated Switchboard

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