

Porcelain Insulator Catalogue

Pingxiang Huahao Insulator Co., Ltd. | Porcelain Insulators for Overhead Lines and Substations



About Huahao

Pingxiang Huahao Insulator Co., Ltd. manufactures porcelain insulators for overhead line and substation applications from Luxi Industrial Park in Pingxiang, Jiangxi. Our extensive knowledge and production technology enable us to produce insulator designs up to 500kV AC and 400kV DC system voltages. Alongside general GB, ANSI, BS, DIN, AS and IEC standard designs for building transmission and distribution lines and substations, we design insulators for specific non-standard applications to meet the varying needs of customers. Our engineers are available to assist you in developing insulators for your particular application. Our product is the result of our extensive experience of the insulator sector, including long-term relationships with customers. It is based on a strong commitment to research and development as well as industry-wide standards, and addresses both customers' business and technology demand.

Range

Category	Product	Headline Rating
Station Post Insulators	Station Post Insulators IEC C4-125	4kN
	Station Post Insulators ANSI TR-208	2,000 pounds (9kN)
Line Post Insulators	Line Post Insulators ANSI 57-2	2,800 pounds (12.5kN)
Pin Type Insulators	High Voltage Pin Type Insulators ANSI 56-3	3,000 pounds (13.6kN)
	Medium Voltage Pin Type Insulators ANSI 55-4	3,000 pounds (13.6kN)
Suspension Insulators	Clevis Type Suspension Insulators ANSI 52-4	15,000 pounds (67kN)
Strain Insulators	Strain Insulators ANSI 54-3	20,000 pounds (91kN)
Spool Insulators	Spool Insulators ANSI 53-2	3,000 pounds (13.6kN)

Station Post Insulators IEC C4-125

Station Post Insulators | Datasheet | Pingxiang Huahao Insulator Co., Ltd.



A porcelain station post insulator designed to IEC C4-125 standards for use in substations and switchgear applications. The insulator provides electrical insulation and mechanical support for busbars and disconnectors. It is suitable for indoor and outdoor installations where high mechanical and electrical strength is required. The design supports system voltages up to 125kV AC as defined by the IEC standard.

Specifications

Parameter	Value
IEC Standard	C4-125
Diameter (D)	130mm
Height (H)	305mm
Creepage Distance	500mm
Cantilever Strength	4kN
Tensile Strength	800N-m
Power Frequency Wet Withstand Voltage	50kV
Power Frequency Dry Withstand Voltage	60kV
Lightning Impulse Withstand Voltage	125kV

Key Benefits

- IEC C4-125 standard design ensures compatibility with international substation specifications
- 4kN cantilever strength supports rigid mounting under dynamic load conditions
- 500mm creepage distance provides reliable performance in polluted environments
- 60kV dry withstand voltage and 50kV wet withstand voltage meet IEC power frequency requirements
- 125kV lightning impulse withstand voltage ensures protection against transient overvoltages
- Porcelain body resists tracking and erosion under long-term electrical stress

Application Scenarios

- Mounting busbars in indoor and outdoor substations where mechanical rigidity is required
- Supporting disconnectors and isolators in high-voltage switchgear assemblies
- Installing in substations located in coastal or industrial areas with high pollution levels
- Replacing aging insulators in existing switchgear where IEC C4-125 is the required standard
- Use in new substation builds where IEC-compliant station post insulators are specified

Materials

- Glazed electrical porcelain dielectric body
- Galvanized steel or forged steel metal fittings

- Portland cement bonding the metal fittings to the porcelain

Use Guide

- Verify the system voltage and pollution level before selecting the insulator
- Ensure the mounting hardware matches the insulator's metal fitting dimensions
- Do not exceed the 4kN cantilever strength under dynamic or wind load conditions
- Inspect for glaze cracks or cement damage before installation
- Handle by the metal fittings to avoid stress on the porcelain body

Certification: ISO 9001:2008 | Standards: GB ANSI BS DIN AS IEC | Design capability up to 500kV AC and 400kV DC. For a quotation email admin@huahaoinsulator.com with the class, coupling type, quantity and destination.

Station Post Insulators ANSI TR-208

Station Post Insulators | Datasheet | Pingxiang Huahao Insulator Co., Ltd.



A porcelain station post insulator to ANSI TR-208 design, used to support and isolate conductors in substation busbar systems and switchgear arrangements. The insulator provides mechanical support and electrical isolation under high voltage conditions. It is designed for fixed mounting applications where rigid conductor positioning is required.

Specifications

Parameter	Value
ANSI Class	TR-208
Diameter (D)	6 9/16 inches (167mm)
Height (H)	14 inches (356mm)
Leakage Distance	24 inches (610mm)
Cantilever Strength	2,000 pounds (9kN)
Tensile Strength	10,000 pounds (44.5kN)
Compression Strength	10,000 pounds (44.5kN)
Torsion Strength	8,000 inch-pounds (904Nm)
Low Frequency Dry Flashover Voltage	110kV
Low Frequency Wet Flashover Voltage	75kV
Critical Impulse Flashover Voltage Positive	170kV
Critical Impulse Flashover Voltage Negative	250kV
Impulse Withstand Voltage	150kV

Key Benefits

- Cantilever strength of 2,000 pounds (9kN) supports conductors under lateral load
- Tensile and compression strength of 10,000 pounds (44.5kN) each ensures stability under axial forces
- Torsion strength of 8,000 inch-pounds (904Nm) resists twisting from conductor movement
- 610mm leakage distance per unit supports performance in polluted and coastal environments
- Dry flashover voltage of 110kV and wet flashover voltage of 75kV meet ANSI TR-208 electrical requirements
- Impulse withstand voltage of 150kV provides protection against transient overvoltages

Application Scenarios

- Substation busbar systems where rigid conductor support is required at switchgear and disconnectors
- High voltage switchgear installations with fixed conductor routing and minimal movement
- Replacements in existing substation layouts where ANSI TR-208 dimensions must be matched
- Industrial sites with high pollution levels where extended leakage distance prevents flashover

- Applications requiring high torsional resistance due to conductor vibration or seismic loading

Materials

- Glazed electrical porcelain dielectric body
- Galvanized malleable iron or forged steel metal fittings
- Portland cement bonding the fittings to the porcelain

Use Guide

- Verify the mounting dimensions and mechanical load requirements match the existing switchgear or busbar layout
- Use the 610mm leakage distance to assess performance in polluted or coastal environments
- Ensure the cantilever strength of 2,000 pounds (9kN) is sufficient for lateral conductor forces including wind and ice
- Handle by the metal fittings and store on the pallet supplied to protect the porcelain body
- Inspect for glaze damage, cement cracks or fitting corrosion before installation

Certification: ISO 9001:2008 | Standards: GB ANSI BS DIN AS IEC | Design capability up to 500kV AC and 400kV DC. For a quotation email admin@huahaoinsulator.com with the class, coupling type, quantity and destination.

Line Post Insulators ANSI 57-2

Line Post Insulators | Datasheet | Pingxiang Huahao Insulator Co., Ltd.



A porcelain line post insulator to ANSI 57-2 with a straight mounting design, used on overhead distribution lines and in substations to support conductors at fixed positions. The insulator provides mechanical support and electrical insulation for systems up to 35kV AC. Its design supports both dry and wet flashover performance and is suitable for urban and industrial environments with moderate pollution levels.

Specifications

Parameter	Value
ANSI Class	57-2
Diameter (D)	6 inches (152mm)
Height (H)	12 inches (305mm)
Leakage Distance	22 inches (559mm)
Dry Arcing Distance	9 1/2 inches (241mm)
Cantilever Strength	2,800 pounds (12.5kN)
Cantilever Strength Routine Test	1,000 pounds (5kN)
Type Application Voltage	35kV
Low Frequency Dry Flashover Voltage	110kV
Low Frequency Wet Flashover Voltage	85kV
Critical Impulse Flashover Voltage Positive	180kV
Critical Impulse Flashover Voltage Negative	205kV
Test Voltage RMS to Ground	22kV
Maximum RIV at 1000 kHz	100 microvolts

Key Benefits

- Straight mounting design allows rigid conductor positioning at poles and substations
- Cantilever strength of 2,800 pounds (12.5kN) supports conductor weight and wind loading
- 22 inches (559mm) leakage distance resists tracking in polluted and coastal environments
- Dry arcing distance of 9 1/2 inches (241mm) sets flashover performance for system voltage
- Routine proof test at 1,000 pounds (5kN) verifies mechanical integrity before shipment
- Radio influence voltage of 100 microvolts at 1000 kHz meets low EMI standards for urban areas

Application Scenarios

- Distribution line poles where conductors must be fixed at a rigid offset from the pole
- Substation busbar supports where conductor alignment and clearance are critical
- Urban feeders with moderate pollution levels requiring extended leakage distance

- Industrial zones with dust and moisture where tracking resistance is essential
- Replacements for existing ANSI 57-2 insulators in distribution systems

Materials

- Glazed electrical porcelain dielectric body
- Galvanized malleable iron or forged steel mounting cap and base fittings
- Portland cement bonding the metal fittings to the porcelain

Use Guide

- Verify the mounting base and cap dimensions match your pole or busbar hardware before ordering
- Use the 559mm leakage distance to assess performance in polluted or coastal zones
- Ensure the maximum working load does not exceed the 2,800 pound (12.5kN) cantilever strength including wind and ice
- Handle by the metal fittings and store on the pallet supplied to protect the porcelain body
- Inspect for glaze damage or cement cracks before installation

Certification: ISO 9001:2008 | Standards: GB ANSI BS DIN AS IEC | Design capability up to 500kV AC and 400kV DC. For a quotation email admin@huahaoinsulator.com with the class, coupling type, quantity and destination.

High Voltage Pin Type Insulators ANSI 56-3

Pin Type Insulators | Datasheet | Pingxiang Huahao Insulator Co., Ltd.



A porcelain pin type insulator to ANSI 56-3 with a single pin mounting, used on overhead distribution lines and substation busbars. The insulator supports a type application voltage of 34.5kV AC. Mechanical strength is rated at 3,000 pounds (13.6kN) cantilever. Electrical performance meets design ratings for dry and wet flashover, impulse flashover, and puncture. The 533mm leakage distance supports pollution-resistant designs.

Specifications

Parameter	Value
ANSI Class	56-3
Diameter (D)	10 1/2 inches (267mm)
Height (H)	7 1/2 inches (191mm)
Leakage Distance	21 inches (533mm)
Dry Arcing Distance	9 1/2 inches (241mm)
Minimum Pin Height	8 inches (203mm)
Cantilever Strength	3,000 pounds (13.6kN)
Type Application Voltage	34.5kV
Low Frequency Dry Flashover Voltage	125kV
Low Frequency Wet Flashover Voltage	80kV
Critical Impulse Flashover Voltage Positive	205kV
Critical Impulse Flashover Voltage Negative	265kV
Low Frequency Puncture Voltage	165kV
Test Voltage RMS to Ground	30kV
Maximum RIV at 1000 kHz	200 microvolts

Key Benefits

- Single pin mounting simplifies installation on distribution poles and substation structures
- 3,000 pounds (13.6kN) cantilever strength supports heavy conductor loads on straight and lightly curved lines
- 533mm leakage distance per unit provides robust performance in polluted or coastal environments
- 241mm dry arcing distance sets predictable flashover behaviour under high voltage stress
- 125kV dry flashover and 80kV wet flashover ratings meet ANSI 56-3 design requirements
- 200 microvolts maximum RIV at 1000 kHz ensures minimal radio interference at 30kV RMS test voltage

Application Scenarios

- Distribution lines in industrial zones with high dust or salt contamination

- Substation busbar supports where space is limited and pin type insulators are preferred
- Overhead lines with moderate voltage and high mechanical load from conductor weight
- Replacements on existing poles where ANSI 56-3 is the standard pin type design
- Lines in areas with frequent fog or rain where wet flashover performance is critical

Materials

- Glazed electrical porcelain dielectric body
- Galvanized malleable iron or forged steel pin and cap fittings
- Portland cement bonding the metal fittings to the porcelain

Use Guide

- Verify the system voltage is 34.5kV AC before ordering to ensure correct application
- Check that the mounting hardware on the pole or busbar matches the pin type design
- Ensure the minimum pin height of 8 inches (203mm) is available for secure installation
- Use in polluted or coastal areas where the 533mm leakage distance provides adequate protection
- Inspect for glaze damage or cement cracks before installation to avoid electrical failure

Certification: ISO 9001:2008 | Standards: GB ANSI BS DIN AS IEC | Design capability up to 500kV AC and 400kV DC. For a quotation email admin@huahaoinsulator.com with the class, coupling type, quantity and destination.

Medium Voltage Pin Type Insulators ANSI 55-4

Pin Type Insulators | Datasheet | Pingxiang Huahao Insulator Co., Ltd.



A porcelain pin type insulator to ANSI 55-4 with a pin and socket coupling, used in overhead distribution lines and substation applications. The insulator is designed for a type application voltage of 13.2kV. It provides mechanical support and electrical insulation for conductors mounted on poles or towers. The design supports string configurations for various voltage and pollution levels.

Specifications

Parameter	Value
ANSI Class	55-4
Diameter (D)	5 1/2 inches (140mm)
Height (H)	4 3/8 inches (111mm)
Leakage Distance	9 inches (229mm)
Dry Arcing Distance	5 inches (127mm)
Minimum Pin Height	5 inches (127mm)
Cantilever Strength	3,000 pounds (13.6kN)
Type Application Voltage	13.2kV
Low Frequency Dry Flashover Voltage	65kV
Low Frequency Wet Flashover Voltage	35kV
Critical Impulse Flashover Voltage Positive	105kV
Critical Impulse Flashover Voltage Negative	130kV
Low Frequency Puncture Voltage	95kV
Test Voltage RMS to Ground	10kV
Maximum RIV at 1000 kHz	50 microvolts

Key Benefits

- Pin and socket coupling allows direct mounting on standard poles and towers without additional hardware
- 3,000 pounds (13.6kN) cantilever strength supports conductors under wind and ice loading
- 229mm leakage distance per unit supports string design in moderate pollution environments
- 127mm dry arcing distance sets predictable flashover performance under dry conditions
- Low frequency dry flashover voltage of 65kV and wet flashover voltage of 35kV meet ANSI 55-4 electrical ratings
- Maximum RIV of 50 microvolts at 1000 kHz ensures minimal radio interference at 10kV RMS to ground

Application Scenarios

- Distribution lines on wooden or concrete poles in urban and rural areas with moderate pollution
- Substation busbar support where insulation coordination requires a pin type insulator

- Replacements on existing pole-mounted equipment where ANSI 55-4 is the original design
- Lines in areas with moderate salt or dust contamination where extended leakage distance is needed
- New construction projects requiring a standard pin type insulator with proven electrical and mechanical performance

Materials

- Glazed electrical porcelain dielectric body
- Galvanized malleable iron or forged steel pin and socket fittings
- Portland cement bonding the metal fittings to the porcelain

Use Guide

- Verify the supporting hardware on the pole or tower matches the pin and socket dimensions before ordering
- Use the type application voltage of 13.2kV as the basis for system design, not the flashover voltage
- Ensure the cantilever strength of 3,000 pounds (13.6kN) is sufficient for the conductor weight and environmental loads
- Inspect for glaze damage and cement cracks before installation to avoid premature failure
- Do not exceed the maximum working load or apply lateral forces beyond the cantilever rating

Certification: ISO 9001:2008 | Standards: GB ANSI BS DIN AS IEC | Design capability up to 500kV AC and 400kV DC. For a quotation email admin@huahaoinsulator.com with the class, coupling type, quantity and destination.

Strain Insulators ANSI 54-3

Strain Insulators | Datasheet | Pingxiang Huahao Insulator Co., Ltd.



A porcelain strain insulator to ANSI 54-3 with a threaded stud and nut coupling, used in tension strings on overhead transmission and distribution lines. The insulator supports mechanical load and electrical insulation in line terminations, dead-ends, and direction changes. Tensile strength is 20,000 pounds (91kN) with a low frequency dry flashover voltage of 35kV and wet flashover voltage of 18kV.

Specifications

Parameter	Value
ANSI Class	54-3
Diameter (D)	3 3/8 inches (86mm)
Height (H)	5 1/2 inches (140mm)
Leakage Distance	2 1/4 inches (57mm)
Tensile Strength	20,000 pounds (91kN)
Low Frequency Dry Flashover Voltage	35kV
Low Frequency Wet Flashover Voltage	18kV

Key Benefits

- Threaded stud and nut coupling allows secure, bolted connection without loose parts
- 20,000 pounds (91kN) tensile strength supports high mechanical load in tension strings
- 57mm leakage distance per unit provides electrical insulation in moderate pollution environments
- Porcelain dielectric resists tracking and erosion under long-term UV and corona exposure
- ANSI 54-3 dimensions ensure compatibility with standard tension hardware
- Low frequency wet flashover voltage of 18kV supports reliable performance in damp conditions

Application Scenarios

- Tension strings at line terminations where the conductor must be anchored to a tower
- Dead-end strings at direction changes or at the end of a line segment
- Line reconstruction where existing threaded stud hardware must be reused
- Distribution lines with high mechanical load due to long spans or heavy conductors
- Areas with moderate pollution levels where extended leakage distance is required

Materials

- Glazed electrical porcelain dielectric body
- Galvanized malleable iron or forged steel threaded stud and nut fittings
- Portland cement bonding the metal fittings to the porcelain

Use Guide

- Verify the tower hardware is threaded stud and nut before ordering to avoid coupling mismatch
- Use the tensile strength rating of 20,000 pounds (91kN) as the maximum mechanical load limit
- Do not exceed the low frequency wet flashover voltage of 18kV in damp conditions
- Handle by the metal fittings and store on the pallet supplied to protect the porcelain sheds
- Inspect for cement growth cracks and glaze damage before stringing

Certification: ISO 9001:2008 | Standards: GB ANSI BS DIN AS IEC | Design capability up to 500kV AC and 400kV DC. For a quotation email admin@huahaoinsulator.com with the class, coupling type, quantity and destination.

Spool Insulators ANSI 53-2

Spool Insulators | Datasheet | Pingxiang Huahao Insulator Co., Ltd.



A porcelain spool insulator to ANSI 53-2 with a cylindrical body and two metal fittings, used in overhead transmission and distribution lines for mechanical support and electrical insulation. The design provides a compact solution for low to medium voltage applications where space is limited. Transverse strength is 3,000 pounds (13.6kN) with a dry flashover voltage of 25kV and wet flashover voltages of 12kV (vertical) and 15kV (horizontal).

Specifications

Parameter	Value
ANSI Class	53-2
Diameter (D)	3 1/8 inches (79mm)
Height (H)	3 inches (76mm)
Transverse Strength	3,000 pounds (13.6kN)
Low Frequency Dry Flashover Voltage	25kV
Low Frequency Wet Flashover Voltage Vertical	12kV
Low Frequency Wet Flashover Voltage Horizontal	15kV

Key Benefits

- Compact cylindrical design fits in tight spaces on poles and towers
- Transverse strength of 3,000 pounds (13.6kN) supports line tension under wind and ice loading
- Dry flashover voltage of 25kV ensures reliable insulation under dry conditions
- Wet flashover voltage of 15kV (horizontal) provides performance in wet environments
- Glazed porcelain body resists tracking and erosion from moisture and pollution
- Standard ANSI 53-2 dimensions allow compatibility with existing hardware

Application Scenarios

- Supporting overhead conductors on distribution poles in urban or suburban areas with limited clearance
- Installing on transmission lines where mechanical load is moderate and space is constrained
- Replacements in existing systems where ANSI 53-2 is already specified and used
- Use in areas with moderate pollution levels where wet flashover performance is critical
- Applications requiring a compact insulator with predictable electrical and mechanical ratings

Materials

- Glazed electrical porcelain dielectric body
- Galvanized malleable iron or forged steel metal fittings
- Portland cement bonding the fittings to the porcelain

Use Guide

- Verify the system voltage and pollution level before selecting the insulator

- Ensure the mounting hardware matches the ANSI 53-2 dimensions to avoid fit issues
- Do not exceed the transverse strength of 3,000 pounds (13.6kN) under wind and ice loading
- Inspect for glaze cracks and cement bonding damage before installation
- Handle by the metal fittings to avoid porcelain damage during handling

Certification: ISO 9001:2008 | Standards: GB ANSI BS DIN AS IEC | Design capability up to 500kV AC and 400kV DC. For a quotation email admin@huahaoinsulator.com with the class, coupling type, quantity and destination.

Clevis Type Suspension Insulators ANSI 52-4

Suspension Insulators | Datasheet | Pingxiang Huahao Insulator Co., Ltd.



A porcelain disc insulator to ANSI 52-4 with clevis and tongue coupling, used in suspension and tension strings on overhead transmission and distribution lines. Discs are stacked to build the string length the line voltage and pollution level require, so one stock item covers many tower designs. Combined mechanical and electrical strength is 15,000 pounds (67kN) with a maximum working load of 7,500 pounds (33.5kN).

Specifications

Parameter	Value
ANSI Class	52-4
Diameter (D)	10 inches (254mm)
Spacing (S)	5 3/4 inches (146mm)
Leakage Distance	12 5/8 inches (320mm)
Dry Arcing Distance	7 3/4 inches (197mm)
Combined M&E; Strength	15,000 pounds (67kN)
Routine Proof Test Load	7,500 pounds (33.5kN)
Time Load Test Value	10,000 pounds (44.5kN)
Maximum Working Load	7,500 pounds (33.5kN)
Impact Strength	55 inch-pounds (6.2Nm)
Low Frequency Dry Flashover Voltage	80kV
Low Frequency Wet Flashover Voltage	50kV
Critical Impulse Flashover Voltage Positive	125kV
Critical Impulse Flashover Voltage Negative	130kV
Low Frequency Puncture Voltage	110kV
Test Voltage RMS to Ground	10kV
Maximum RIV at 1000 kHz	50 microvolts

Key Benefits

- Clevis and tongue coupling assemblies without loose ball and socket security clips
- One disc class covers many voltages because string length is set by disc count
- Combined M&E; rating of 15,000 pounds (67kN) gives a 2:1 margin over the 7,500 pound working load
- Porcelain dielectric does not track or erode under long-term UV and corona exposure
- 320mm leakage distance per disc supports string design for polluted and coastal routes
- Routine proof tested at 7,500 pounds (33.5kN) so every unit shipped has been load verified

Application Scenarios

- Suspension strings at tangent towers on overhead transmission lines
- Tension and dead-end strings where the line changes direction or terminates at a portal
- Line reconstruction where existing clevis and tongue hardware must be reused
- Coastal and industrial corridors where salt or cement dust demands extra string leakage
- Distribution feeder crossings that require a higher mechanical rating than pin type insulators

Materials

- Glazed electrical porcelain dielectric body
- Galvanized malleable iron or forged steel clevis and tongue fittings
- Portland cement bonding the fittings to the porcelain

Use Guide

- Set the disc count from the system voltage and the site pollution level not from the disc rating alone
- Check the tower hardware is clevis and tongue before ordering to avoid a coupling mismatch
- Keep the maximum working load at or below 7,500 pounds (33.5kN) including ice and wind loading
- Handle by the metal fittings and store on the pallet supplied to protect the porcelain sheds
- Inspect for cement growth cracks and glaze damage before stringing

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