

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.