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**Types of Insulators on  
Transmission Lines**

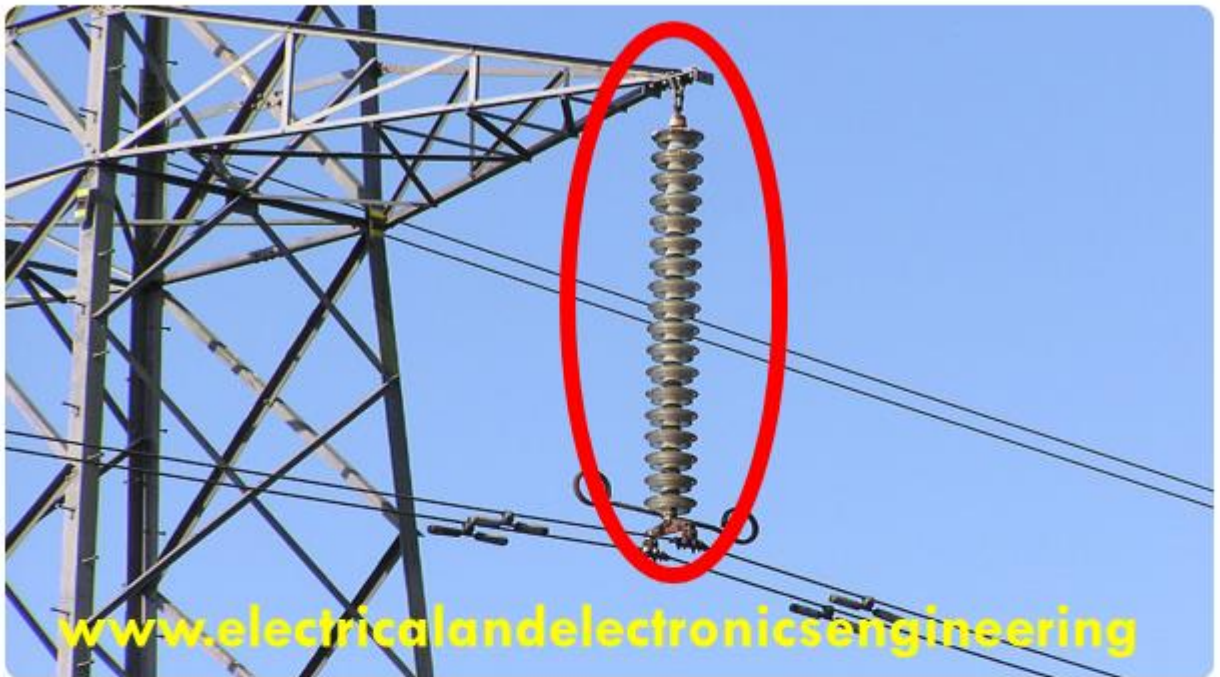


## 1 PIN Type Insulator

A **pin type insulator** is attached above the cross arm. The transmission line conductor passes through the groove on head of insulator. Such insulators are preferred for voltage levels under **33 kV**



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## 2

## Suspension type insulator

A **suspension type insulator** is connected to the crossarms. Suspension type insulator contains number of discs that are connected by metals links forming a string. Transmission line conductors are suspended to these conductors. Suspension insulators are used for high voltage levels that are above 33 kV. Each individual disc is designed for 11 kV.



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### 3

## Shackle insulator

A **shackle insulator** is directly connected to the pole using a bolt. The conductor is tied to the groove of insulator using a binding wire. Shackle insulators can be used in horizontal as well as in vertical configuration.



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## 4

## Strain insulator

A **strain insulator** is accompanied in the places where the transmission lines face a lot of tension. Such condition usually occurs at dead ends and sharp corners where the lines are subjected to greater tension. Usually the suspension type insulators are used in strain configuration, and are thus defined as strain insulators. Sometimes shackle insulators are employed in strain configuration.



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