

NEOCAB®

Wires & Cables



OVERHEAD TRANSMISSION CONDUCTOR

ACSR / AAAC / AAC CONDUCTORS

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NEOCAB is among the leading makers of HIGH GRADE Electric Cables & Conductors that enable industrial and domestic customers with one-stop-shop electrical cabling solutions. At NEOCAB, our goal is to create products that meet the exact needs of the customers as per their specific requirements.

OVERHEAD TRANSMISSION & DISTRIBUTION LINE CONDUCTORS

Overhead Transmission & Distribution Line conductors carry and distribute electrical energy from one place to another. It is a very important component of overhead electrical transmission and distribution systems. These conductors are used for overhead transmission and distribution to carry generated power all the way from generating stations to the end users.

All types of Distribution line conductors are in stranded form in order to increase the flexibility and service life. Solid wires, except for very small cross sectional area, are very difficult to handle and, also, they tend to crystallize at the point of support because of swinging in winds.

The choice of conductor depends on:

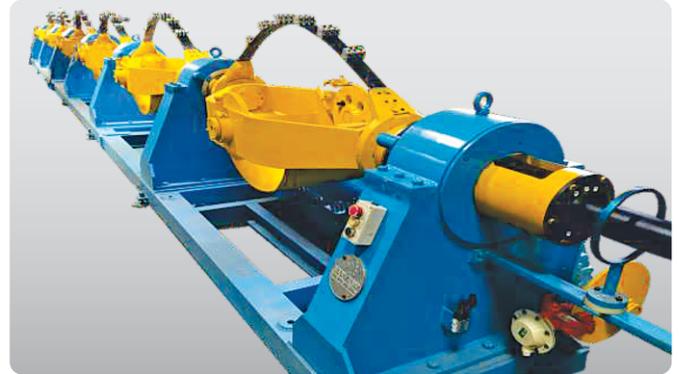
- The cost and efficiency required
- Voltage band required
- Environmental considerations at installation site
- External Load Factor
- Length, Density and Strength required

An ideal conductor has following features:

- Maximum possible electrical conductivity
- High tensile strength so that it can withstand mechanical stresses
- With least possible specific gravity i.e. weight/unit volume
- Least possible cost without sacrificing other required specifications

Ideally in early days copper (Cu) conductors was used for transmitting energy in stranded hard drawn form to increase tensile strength. But now it has been replaced by Aluminium (alone or mixed with other materials) due to following reasons:

- Aluminium based conductors are Economical as compared to Copper based Conductors
- Aluminium based Conductors offer larger diameter for same amount of current which reduces corona effect around conductors
- Aluminium and other materials that required to form Conductors are available in abundance and its easily recyclable

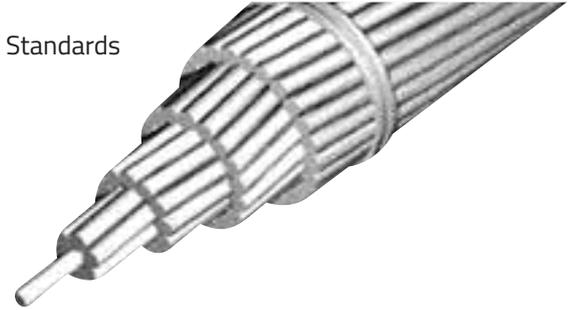


Automatic PLC Controlled Stranding Machines for Conductor making



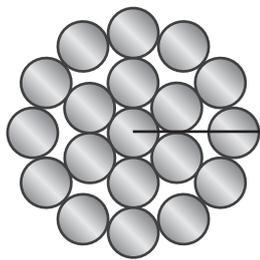
NEOCAB offers below mentioned conductors with internationally accepted Quality Standards at Economical End User Cost

- **AAC: All Aluminum Conductor**
- **AAAC : All Aluminium Alloy Conductor**
- **ACSR : Aluminium Conductor, Steel Reinforced**
- **ACAR : Aluminium Conductor, Alloy Reinforced**



ALL ALUMINIUM STRANDED CONDUCTORS (AAC)

This type is sometimes also referred as ASC (Aluminium Stranded Conductor). It is made up of strands of EC grade or Electrical Conductor grade aluminium. AAC conductor has conductivity about 61% IACS (International Annealed Copper Standard). Despite having good conductivity because of its relatively poor strength. AAC has limited use in transmission and rural distribution lines. However, AAC can be seen in urban areas for distribution where spans are usually short but higher conductivity is required.



Hard Drawn Aluminium Wire Stranded Together

The conductor consists of hard drawn Aluminium wires stranded in successive layers in opposite direction and the outer layer is in the right hand direction. In case required, neutral grease shall be applied between the layers of AAC except the outer layer.

Standard:

- IS 398(Part 1): 1996,
- BS EN 50182:2001,
- ASTM 8231-78,
- IEC 61089 and other International Specifications

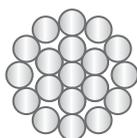
Manufactured and Tests: All mechanical and electrical properties are In accordance with the specifications and approved data sheets, can be provided on demand.

Application: AAC bare conductors are used for overhead power transmission lines having short spans, mostly in Urban Domestic Applications.

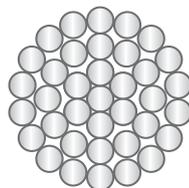
Construction of Stranded AAC/ AAAC Conductor



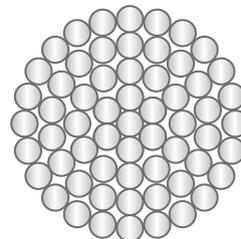
7(1+6)



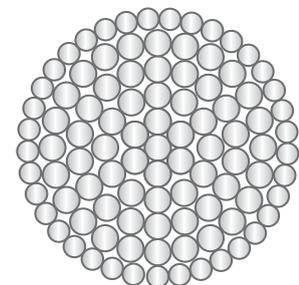
19(1+6+12)



37(1+6+12+18)



61(1+6+12+18+24)



91(1+6+12+18+24+37)

AAAC : ALL ALUMINUM ALLOY CONDUCTOR

These conductors are made from aluminium alloy 6201 which is a high strength Aluminium-Magnesium-Silicon alloy. This alloy conductor offers good electrical conductivity (about 52.5% IACS) with better mechanical strength. Because of AAAC's lighter weight as compared to ACSR of equal strength and current capacity, AAAC may be used for distribution purposes. However, it is not usually preferred for transmission. Also, AAAC conductors can be employed in coastal areas because of their excellent corrosion resistance.

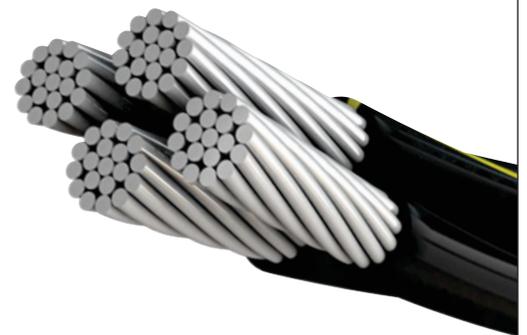
The conductor consists of Aluminium-Magnesium-Silicon Alloy wires stranded in successive layers in opposite direction and the outer layer is in the right hand direction. In case required, neutral grease shall be applied between the layers of AAC except the outer layer.

Manufactured and Tests: All mechanical and electrical properties are In accordance with the specifications and approved data sheets, can be provided on demand.

Application: Ideal for distribution purposes and for installations requiring Longer Span. It is also installed at coastal areas because of their excellent corrosion resistance.

Standard:

- IS 398(Part 4): 1994,
- BS EN 50182:2001,
- ASTM B399-1997,
- IEC 61089 and other International Specifications.

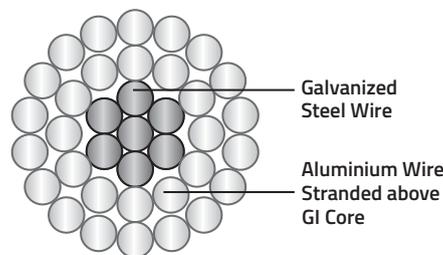
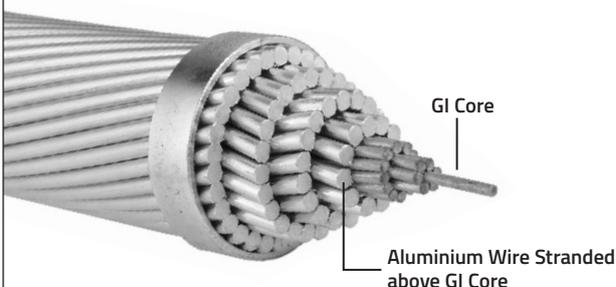


ACSR : ALUMINUM CONDUCTOR, STEEL REINFORCED

ACSR consists of a solid or stranded steel core with one or more layers of high purity Aluminium wires wrapped in spiral. The core wire zinc coated (galvanized) steel or if required aluminium coated (aluminized) steel for certain applications.

Galvanization is generally of thin coating and is applied to protect the steel from corrosion. The central steel core provides additional mechanical strength and, hence, sag is significantly less than all other aluminium conductors.

ACSR with higher steel content is selected where higher mechanical strength is required, such as river crossing. ACSR conductors are very widely used for all transmission and distribution purposes requiring longer span.



Standard:

- IS 398(Part 2): 1996,
- BS EN 50182:2001,
- ASTM B232-B232 M1999,
- EC 61089-1991 and other International Specifications.

Manufactured and Tests: All mechanical and electrical properties are In accordance with the specifications and approved data sheets, can be provided on demand.

Application: Ideal for High Tension transmission line requiring long spans

NEOCAB POWER PRIVATE LIMITED

Plot No. 875/6/2, Near J. K. Fertilizer, Denapura,
Adas-388305, Dist. Anand, Gujarat, India.

Mob.: +91-76000 213 42

Email.: neocabpipl@gmail.com / inquiry@neocabindia.com

