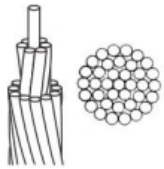
# Conductor Strand Types

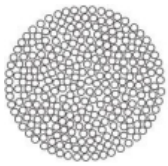
Compare wire and cable conductor strand types, quickly and easily with our clear diagrams and simple explanations.

## Concentric Strand



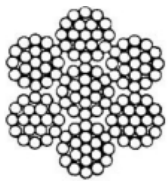
A concentric stranded conductor consists of a central wire or core surrounded by one or more layers of helically laid wires. Each layer after the first has six more wires than the preceding layer. Except in compact stranding, each layer is usually applied in a direction opposite to that of the layer under it.

## Bunch Strand



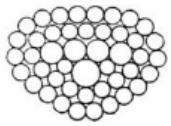
The term bunch stranding is applied to a collection of strands twisted together in the same direction without regard to the geometric arrangement.

## Rope Strand



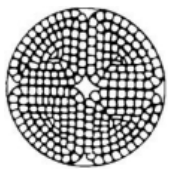
A rope stranded conductor is a concentric stranded conductor each of whose component strands is itself stranded. A rope stranded conductor is described by giving the number of groups laid together to form the rope and the number of wires in each group.

## Sector Conductor



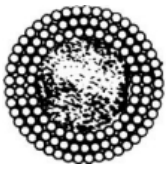
A sector conductor is a stranded conductor whose cross-section is approximately the shape of a sector of a circle. A multiple conductor insulated cable with sector conductors has a smaller diameter than the corresponding cable with round conductors.

## Segmental Conductor



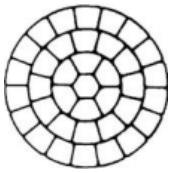
A segmental conductor is a round, stranded conductor composed of three or four sectors slightly insulated from one another. This construction has the advantage of lower AC resistance due to increased surface area and skin effect.

## Annular Conductor



An annular conductor is a round, stranded conductor whose strands are laid around a suitable core. The core is usually made wholly or mostly of nonconducting material. This construction has the advantage of lower total AC resistance for a given cross-sectional area of conducting material due to the skin effect.

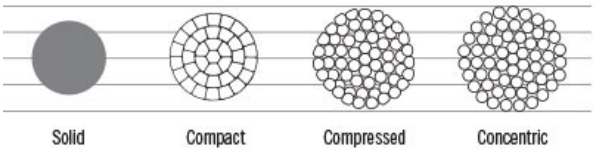
## Compact Strand



A compact stranded conductor is a round or sector conductor having all layers stranded in the same direction and rolled to a predetermined ideal shape. The finished conductor is smooth on the surface and contains practically no interstices or air spaces. This results in a smaller diameter.

## Compressed Strand

Compressed conductors are intermediate in size between standard concentric conductors and compact conductors. A comparison is shown below:




In a concentric stranded conductor, each individual wire is round and considerable space exists between wires. In a compressed conductor, the conductor has been put through a die that “squeezes out” some of the space between wires. In a compact conductor each wire is preformed into a trapezoidal shape before the wires are stranded together into a finished conductor. This results in even less space between wires. A compact conductor is, therefore, the smallest in diameter (except for a solid conductor, of course).



Wire Wisdom

Browse Our Products

## Related

- Wire Wisdoms
- Knowledge Drop: Medium-Voltage Cable Dissection

Communications
Security
Networking
Hardware and Supplies
Industrial Communication and Control

E-Commerce
Technical
Finance/Credit

**HOW WE CAN HELP**

Help
Find a Location
Request a Catalog
Email Us
Supplier Updates on COVID-19
Do Not Sell My Personal Information

**WHO ARE WE**

Careers
Corporate Responsibility
Investor Relations

**ACCESSIBILITY**

Give Feedback