

Electrical Contact Materials

The successful operation of electrical contacts is function of various factors. While selecting a suitable material for electrical contact, we have to consider the factors. Some of most important factors of these are listed below –

- Contact resistance
- Contact force
- Voltage and current

Electrical Carbon Materials

Carbon is widely used in electrical engineering. Electrical carbon materials are manufactured from graphite and other forms of carbon.

Carbon is having following applications in **electrical Engineering**—

- For making filament of **incandescent lamp**
- For making electrical contacts

- For making **resistors**
- For making brushes for electrical machines such as DC machines, **alternators**.
- For making battery cell elements
- Carbon electrodes for electric furnaces
- Arc lighting and welding electrodes
- Component for vacuum valves and tubes
- For making parts for telecommunication equipment's

Material for Brushes Used in Electrical Machines

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Before selecting the material for brushes, we should keep in our mind following requirements in a brush –

- Contact resistance
- Thermal stability
- Lubrication properties
- Mechanical strength
- Low brittleness

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Material used for Brushes in electrical machines are listed below-

- Carbon
- Natural graphite
- Electro graphite
- Metal graphite
- Copper

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Materials Used for Fuse Elements

Fuse element is primary requirement of a fuse unit. The fuse element should have following properties-

Low resistance – to avoid the undesirable **voltage** drop across the fuse element, so that it should effects the normal functioning or performance of circuit or device or equipment

Low melting point – the fuse element must have low melting point. So that it blow out due to heating by excess current during over load or short circuit.

Different types of metals and alloys are used for fuse element. Some of these elements are listed below –

- Aluminum
- Lead and tin
- Copper
- Silver
- Rose' Alloys