

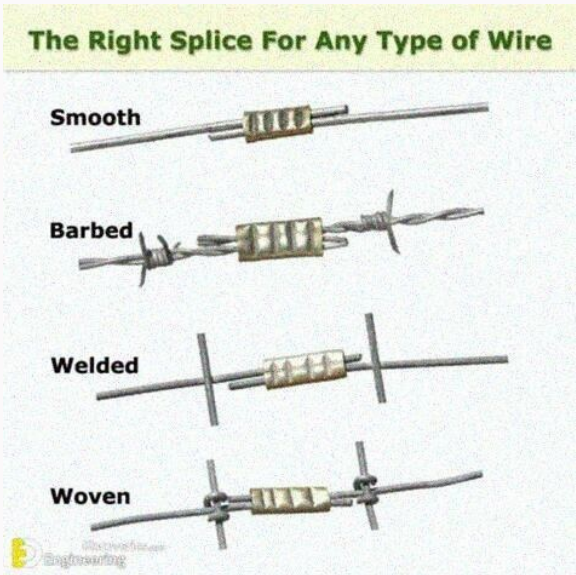
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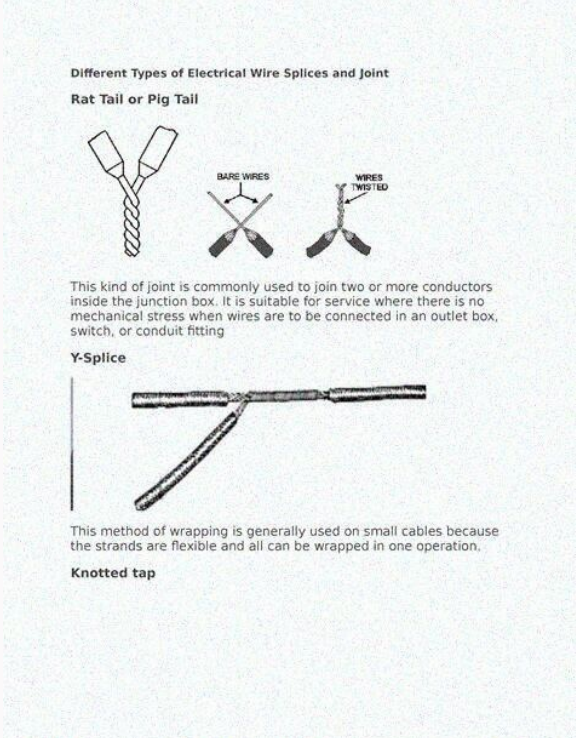

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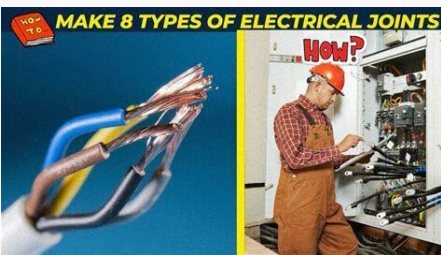
Types of joints in electrical cables. Types of electrical joints pdf.
Types of electrical joint.



Electrical wiring is the process of connecting cables and wires to devices like fuse boxes, switches, sockets, lights, fans, and more, all connected to the main distribution board on a utility pole for continuous power supply. There are two primary methods for electrical wiring: Joint Box or Tee system, which connects appliances through joints; and Loop-in system, where lamps and appliances are connected in parallel. The Joint Box or Tee system is suitable for temporary installations and is cheaper due to fewer cables required. However, it does require joint boxes, which can balance out the cost savings. This method doesn't conceal joints beneath floors or in roof spaces, making fault location easier. In contrast, the Loop-in system is widely used and allows for individual control of appliances. It doesn't require joint boxes, saving money, and makes it easy to locate faults since points are only made at outlets. However, this method requires more wire and can result in increased voltage drop and copper losses. Additionally, looping switches and lamp holders can be challenging. For domestic purposes, the Cleat Wiring system is no longer widely used today. Its advantages include being simple and affordable, making it suitable for temporary use in under-construction buildings or army camps. The open-air setup allows for easy identification and repair of cable faults. Installation and customization are also relatively straightforward. However, there are some drawbacks to consider. Cleat Wiring's appearance is not particularly appealing, and it's not designed for permanent use due to the risk of sagging over time. Additionally, exposure to weather conditions like oil, steam, humidity, smoke, rain, chemicals, and acidic effects can damage the cables and wires. On the other hand, Casing and Capping Wiring was a popular option in the past but has since become obsolete with the advent of Conduit and sheathed wiring systems. Its advantages include being an affordable and long-lasting option that allows for easy customization and repair. However, this system also has its downsides.

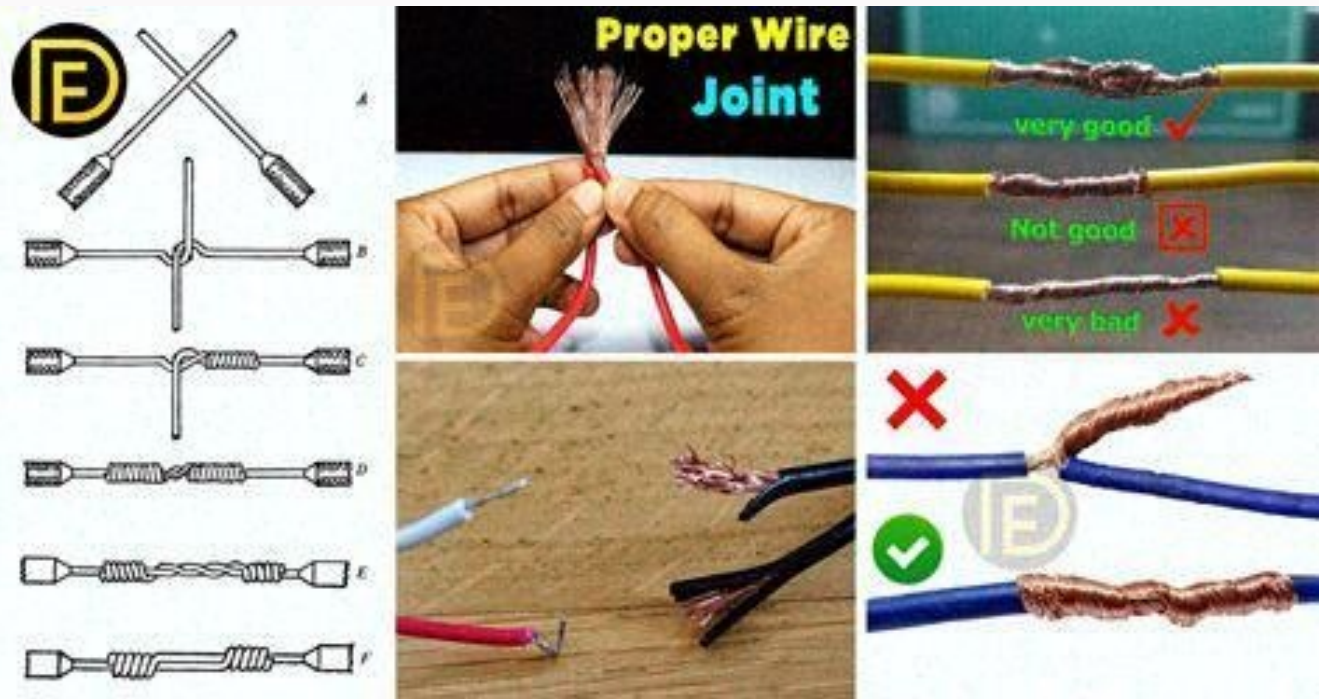


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How many types of electrical joints are there.

Electrical wiring is the process of connecting cables and wires to devices like fuse boxes, switches, sockets, lights, fans, and more, all connected to the main distribution board on a utility pole for continuous power supply. There are two primary methods for electrical wiring: Joint Box or Tee system, which connects appliances through joints; and Loop-in system, where lamps and appliances are connected in parallel. The Joint Box or Tee system is suitable for temporary installations and is cheaper due to fewer cables required. However, it does require joint boxes, which can balance out the cost savings. This method doesn't conceal joints beneath floors or in roof spaces, making fault location easier. In contrast, the Loop-in system is widely used and allows for individual control of appliances. It doesn't require joint boxes, saving money, and makes it easy to locate faults since points are only made at outlets. 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On the other hand, Casing and Capping Wiring was a popular option in the past but has since become obsolete with the advent of Conduit and sheathed wiring systems. Its advantages include being an affordable and long-lasting option that allows for easy customization and repair. However, this system also has its downsides. There's a risk of fire due to the wooden casing and capping, and it's not suitable for use in areas exposed to acidic or alkaline conditions. Repairing this type of wiring can be costly and require additional materials. Finally, Batten Wiring (CTS or TRS) uses single-core or double-core cables with a circular oval shape, which are resistant to chemicals, water, and steam but may be affected by lubricating oil. The cables are run on well-seasoned teak wood battens, held in place by tinned brass link clips. Batten Wiring: A Simple yet Effective Electrical Wiring System The Batten Wiring system offers several advantages, including ease of installation, low cost compared to other wiring systems, and customization flexibility. This type of wiring also provides strong and long-lasting results with minimal risk of leakage current. However, there are some limitations to consider. For instance, this system may not be suitable for areas prone to humidity or chemical effects. Additionally, it's not safe for open or outdoor spaces due to the high risk of fire and wear and tear. Heavy wires can't be used in Batten Wiring, and it's only recommended for use below 250V. Lead Sheathed Wiring: A Protective yet Costly Option The Lead Sheathed Wiring system employs conductors insulated with VIR and covered with an outer sheath of lead-aluminum alloy containing about 95% lead. This provides protection against mechanical damage, moisture, and atmospheric corrosion. The cables are run on wooden batten and fixed using link clips. Conduit Wiring: A Popular yet More Complex Option There are two main types of conduit wiring: Surface Conduit Wiring and Concealed Conduit Wiring. Surface Conduit Wiring involves installing conduits on the surface of walls or roofs, while Concealed Conduit Wiring hides the conduits inside wall slots with plastering. In both cases, steel tubes (conduits) are installed using pipe hooks, and PVC or GI wires are drawn through them. The conduits must be electrically continuous and connected to earth at suitable points in case of steel conduit. Conduit wiring is a professional method for wiring buildings, and PVC conduits are commonly used in domestic settings. This system provides protection against rodent damage, which can cause short circuits. Through pipes, conduit wiring systems are designed with space factors in mind. The type of conduit used depends on the application. Metallic conduits, for instance, come in Class A and Class B varieties, made from steel or thick sheet metal. These conduits are strong but costly. On the other hand, non-metallic conduits like PVC are flexible and easy to bend. Conduit pipes come in various sizes, ranging from 13 mm to 63 mm (or 1/2 inch to 2 inches) in diameter. The advantages of conduit wiring systems include their safety features, such as no risk of mechanical wear or fire damage. They can be customized for future needs and are easy to repair and maintain. Additionally, they provide reliable and long-lasting performance, even in humid or chemically affected environments. However, conduit wiring systems also have some disadvantages. They can be expensive due to the cost of materials like PVC and metallic pipes. Installation may not be simple, and finding defects in the wiring can be challenging. Moreover, there is a risk of electric shock if proper earthing and grounding are not implemented. To compare different wiring systems, we can look at a table that highlights their unique features. In upcoming posts, we will explore the step-by-step process of various wiring systems. Stay tuned and don't forget to subscribe to our blog for more updates! Thanks! To connect wires, use a "married" joint for stranded wires or cables. Remove insulation from both ends up to 8cm, then twist them together and spread the remaining part before coupling. For a tee joint, remove insulation from the center of a horizontal wire and the end of another wire. Place the second wire at a 90-degree angle and take 6-8 turns for joining. Solder the joint with soldering wire. The duplex or double tee joint connects two core cables. Remove insulation from the center of each cable up to 12cm, then twist and join the wires together after removing insulation from the ends. A pigtail joint is a simple way to connect parallel cables or wires. Remove insulation from both ends up to 5cm and twist them together. Finally, a scraf joint connects solid earthing wires from an electric supply pole to ground.