According to the manufacturing method, it can be divided into two categories: solid core and flux-cored , and flux-cored can be divided into gas shielded and self-shielding ; According to the welding process method, it can be divided into submerged arc , gas shielded , electroslag, surfacingand gas, etc.; According to the nature of the welded material, it can be divided into carbon steel , low alloy steel , stainless steel , cast iron and non-ferrous metal .

Welding wire specific introduction:

1. Solid core: Solid is a carbon steel and low-alloy steel wire rod with large output and low alloy element content, which is often smelted by converter; The wire rod with small output and high alloy element content is mostly smelted by electric furnace, which is made by opening and rolling respectively. In order to prevent the welding wire from rusting, surface treatment is applied except for stainless steel welding wire. At present, it is mainly copper plating, including electroplating, copper immersion and electroless copper plating. In recent years, using nanotechnology and modern intermetallic colloidal coating technology, non-copper-plated welding wire has been developed, and the surface of the welding wire is coated to replace copper plating. When the current is large in submerged arc welding, coarse welding wire should be used, and the diameter of the welding wire should be 2.4~6.4 mm; Fine welding wire should be used in gas shielded welding, with a diameter of 0.8~1.6mm.
2. Flux-cored wire: Flux-cored wire is also known as powder-cored wire or tubular wire. In the early 50s of the 20th century, this welding material was first developed in Western Europe. In the 60s of the 20th century, the United States successfully developed flux-cored wires with a diameter of 2.0~2.4 mm for low carbon steel and 490MPa grade steel, and was applied in production. In the 60s of the 20th century, China has manufactured flux-cored welding wire with a diameter of more than 2.4mm, but due to the large pressure of the welding machine's wire feeding roller and the easy flattening of the welding wire, the popularization and application of flux-cored welding wire have been hindered.
3. In the mid-80s of the 20th century, China introduced a complete set of fine-diameter flux-cored wire production equipment from abroad, which expanded the production of flux-cored wire from thick wire to fine wire, and solved the problems existing in the promotion and application of flux-cored wire, so that China's flux-cored wire production has been greatly developed, and has a wide range of applications, and the output in 2006 has reached about 120,000 tons.