

Influence of Liquid Soap on The Cable

In the production of copper wire, we tend to forget the care and maintenance of liquid soap, in the actual production process, the liquid soap is a premise to maintain good quality and efficient production.

1. Liquid soap plays three roles

1. Cleaning, copper rod in the drawing process continue to produce fine powder, liquid soap constantly washes die holes to avoid clogging.
2. Cooling, heat is generated when copper rod deformation, liquid soap conducted heat out quickly, and to reduce temperature between copper wire die hole, and to prevent the wire from oxidation and discoloration due to high temperature.
3. Lubrication between the copper wire and the die to maintain a lubricating mold, avoid direct contact with the metal mold adhesion, reducing the coefficient of friction to reduce friction of the metal, making it uniform deformation along the direction of the force, and can increase the degree of deformation of copper, reduced energy consumption, and extends die life. It is seen that the quality of the liquid soap will directly affect the quality of the cable.

2. Effect of liquid soap on the cable has three aspects

1. Concentration, and the concentration is closely related with lubricating effect. Liquid soap increases, coefficient of friction between copper and mold reduced, friction is also reduced accordingly, and tensile strength drops. Conversely, friction increases, also increases the force required to stretch. However, if the concentration is too large, the viscosity of the liquid soap will also rise, flushing will reduce the role of the die hole, and a tensile copper produced liquid soap can not easily be rinsed away, resulting from the wire surface grooves and other quality problems; if the concentration is too small, copper powder suspended in the liquid soap solution is easy, not easy to precipitation, will affect the lubricating effect and after stretching the monofilament surface quality. Therefore, the control of concentration is very important, with respect to the copper wire drawing, the concentration between 5% to 8 % is a ideal state.

2. Temperature. When the liquid soap temperature is too high, the heat generated during wire drawing won't be easy to take away, so that the temperature of the copper and mold will be high, and wire will have oxidation discoloration, and will reduce mold life. It also will affect the lubricant film strength, lubrication is reduced. If liquid soap temperature is too high, it's easy to cause oil-water separation, and will impact the life of equipment. Copper wire drawing's liquid soap temperature should be controlled within 25 ~ 55 °C.
3. Cleanliness, simply say it is the pH value. When it is acidic, it is easy to breed anaerobic within liquid soap internal, causing the liquid black and smelly, and copper and equipment will have corrosion; when it is strongly alkaline, liquid soap residual copper surface will also cause corrosion. So the PH value of liquid soap between 7 to 7.5 is most appropriate.

3. Two factors impacting the external liquid soap

1. The amount of circulation, the pool of liquid soap circulation amount recycled to the inside of the apparatus to be large, if the circulation amount is small, high body temperature, slow flow, the cooling effect is not obvious. Large circulation, the cooling effect is not only good, but also affect the cleaning effect, liquid soap has been in circulation, the internal filling of oxygen, anaerobic bacteria easy to breed.
2. Ventilation between liquid soap, air circulation between the liquid soap will not form a sealed environment, the anaerobic no suitable living space, so that the life of the liquid soap is guaranteed; in addition, good ventilation, for liquid soap temperature is also a slight impact, liquid soap pool heat quickly, to avoid the phenomenon of high oil temperature.
3. When we consider the drawing process, except to consider with mold, equipment and other factors, liquid soap is also a link that cannot be ignored, only all aspects interface, our products can ensure the quality and quantity and to reach a new height.