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HISTORY TIN-PLATING

The spread of electricity in the mid-19th century led to a huge rise in the demand for cable conductors. At the time, it proved difficult to find appropriate insulating materials. Latex, rubber or rubber-based materials were mostly used, sometimes reinforced with textiles. In practice, these materials were very unpopular, as the copper reacted with the sulphurous components of the rubber coating, which made removing the latter considerably more difficult. However, prior tin plating of the copper wire before insulation was an effective way of preventing this reaction, allowing simple and clean removal of the synthetic materials. Thus, tin plating was soon universally accepted as the surface of choice for copper wires. In addition, tin-plated wire showed better solderability as well as good lubricating properties during drawing.

Since the development of modern, PVC-based insulators that no longer react with the copper wire, tin plating has lost its former importance for the cable industry. Yet despite this, tin-plated wire is still regarded as a premium product that is ideal for military and other critical applications. And although for the most part bare copper wires are meanwhile favoured for automotive industry cables, tin-plated wires are still the preferred solution in safety-critical areas such as airbags.

Tin plating is carried out in two different ways. On the one hand, the wire can be run through liquid tin, which is deposited on the cold surface. We do not offer this type of tin plating because the deposition parameters are difficult to monitor, leading to irregular coatings that fail to meet the requirements of today's customers.

On the other hand, tin plating can be performed using conventional electroplating technology. This entails dissolving tin anodically in electrolytes (usually acid) and depositing it cathodically on the material. A further advantage of this method is the high level of purity of the tin plating. The requirements with regard to layer quality have in many cases increased significantly in recent years, reflecting the need to conform with RoHS and WEEE regulations.

Sitz der Gesellschaft:

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Steuer-Nr. 303/5805/0038

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