

Handling silver-plated products

Tarnishing

The visible discoloration of a metallic surface is generally known as “tarnishing”. In the case of silver, this is down to the formation of a layer of silver sulfide (where silver combines with the sulfur in the air) that is characterized by a discoloration ranging from light yellow to a strong bluish brown. This effect has no impact on the electrical properties (contact resistance) and the functionality of silver-plated connectors of Stäubli Electrical Connectors, as the contact force of the MULTILAM is sufficient to penetrate the layer of sulfide during the connection process.

Tarnishing is a natural process and always happens to silver surfaces. It cannot be prevented, but it can be delayed to a certain extent. As tarnishing (coloring, speed) is largely determined by external influences (air quality, handling), it is sensible to observe a few basic rules when handling silver.

The following points should be observed when handling silver-plated products.

- **Avoid direct contact with the skin.** Gloves must be worn.
- **Food and drink must not come into contact** with silver-plated products.
- Silver-plated products must **not be stored in cardboard/wood**. These materials are used exclusively for the transport of silver-plated products. They must be removed from these materials for storage.
- Storage in **direct proximity to rubber components** is forbidden because of the gases they emit.
- **Avoid** exposure to a **relative humidity > 80%** and direct contact with **sunlight/radiation**. The storage temperature should be in the range of $20\text{ °C} \pm 10\text{ °C}$.
- For **storage**, we recommend a **clean PVC box with a lid** to reduce the effect of environmental factors.

Stäubli Electrical Connectors AG

George Freudiger

CTO

Gerd Heger

Global Quality Manager