

Technical introduction for the connector catalogue

General points

Product specified characteristics for the particular article can be found in the category "technical data"! Additional customer specified advice and solution proposals will be supported from the R&D department of company Fischer Elektronik GmbH & Co. KG.

Surface – electroplating processes

In general all contacts are coated with a nickel barrier layer (1.3-3 µm) before they get tinned or gold-plated. This will also apply for selective gold-plated contacts.

For the selective coated contacts the complete contact will be nickel-plated including the carrier strip first. After this the contact side will be gold-plated and the solder side tinned, usually in the "dipping method" or "brush method". Depending on the overall contact length the middle area is exclusively nickel-plated.

The layer thickness of the gold-plating is at least 0.2 µm Au, the layer thickness of the tinning is 4-6 µm! Other layer thicknesses are possible upon request.

The tinning is done with pure tin. The solderability is guaranteed for at least 1 year after shipment. At appropriate storage in closed packing this period can be increased significantly.

Dimensional tolerance

Generally the DIN ISO 2768m is applied to all products! Moreover following additions have to be noticed:

- the length tolerance of contact pins is +/-0.2 mm
- the space allowance is +/-0.03 mm, the overall space allowance over 36 pins +/-0.2 mm
- the shape tolerance of the insulating body is defined by +/-0.15 mm
- the separation of number of pins by means of cutting: +0.6 mm/-0.3 mm
- the separation of number of pins by means of sawing: +0.1 mm/-0.4 mm (no standard)
- coplanarity of SMD solder connections max. 0.15 mm with a bar length of 50 mm according to DIN EN 61760-1

Quality grading in conformity with DIN 41652

Depending on the layer thickness of the gold-plating the contacts can be classified in quality classes.

A distinction is made in three quality classes:

Quality class 1: at least 500 cycles of operation, layer thickness accordingly at least 1.2 µm Au

Quality class 2: at least 200 cycles of operation, layer thickness accordingly at least 0.75 µm Au

Quality class 3: at least 50 cycles of operation, layer thickness accordingly at least 0.2 µm Au

In case that tinned contacts are used „tin on tin“ we can guarantee max. 10 cycles of operation.

Precision socket contacts

These contacts are two-piece parts and consist on a sleeve (turned part) and a spring element (stamped part). The spring element (clip) is always gold-plated (depending on the article at least 0.2 µm Au or at least 0.75 µm Au). The sleeve is usually tinned, for some versions also optionally gold-plated (at least 0.2 µm Au).

Contact carrier material made of high-temperature resistant plastic

The plastics used for the male and female headers are mainly high-temperature resistant which means that they are suitable for the use in the reflow soldering technique.

This applies primarily for SMD components as well as for plug connectors which are constructed for wave soldering. In the catalogue those products are marked with a 260 °C logo in the header of the particular page.