# Imprints of heatsinks and housings – your and our repro time is valuable !

**Production processes:**

**digital UV printing**
Digital UV printing delivers high resolution printing with sharp contours throughprecise color application with up to 1200 dpi whereby the colors used cover the complete CMYK spectrum as well as white and silver tones. By means of a full-surface white underlay as a primer intensive colours are generated even on dark surfaces. With this printing method it is possible to print color gradients, pictures or photos. UV LEDs being activated immediately after the printing process harden the ink and ensure optimum durability of the ink on rough and smooth surfaces. Plastic materials, lacquered components and anodized or transparent passivated aluminum surfaces can be printed.

**Silk screen printing**
In a silk screen process the printing colour is printed on the material to be printed with help of a squeegee through a finely woven tissue. On the so-called silk a light-sensitive coating is applied which hardens by UV irradiation. Certain places which should remain translucent are covered by a film before the UV irradiation. The resulting screen is inserted in the silk printing machine and the requested colour is spread over the silk by a flood squeegee. In the next working step the silk frame is lowered over the workpiece to be printed and the colour is pressed on the material to be printed through the open spaces in the silk, the printing motive. The following hardening is processed at room temperature or by means of UV lamps.

**Pad printing**
The pad printing is an indirect gravure process for printing on different objects in almost any form and material. With a flood squeegee the requested colour is pulled over a cliché and then removed from the cliché with help of a doctor blade so that only a colour film remains in the recesses. The so-called pad absorbs the colour in the following working steps and presses it on the printing material in a rolling movement. The following hardening of the 2k-colours is processed at room temperature or by means of UV lamps. The pad printing allows the printing on different surface structures as well as on convex / concave curved parts due to the deformability of the pad.

**Sub-elox printing**
The sub-eloxal printing is a special printing process which is only used on aluminium surfaces. The special nature of this printing process is the colour that is printed in an anodised and open-pore aluminium surface. In a first production step the produced article is degreased and pickled in an anodising plant. Hereby the natural oxide layer of the aluminium is removed and a porous surface is produced. After the anodising process the requested motive is applied on the resulted surface by means of digital printing. Beforehand the aluminium workpiece is warmed up to 50°C whereby a fast drying of the applied colour is achieved. After permanent drying of the surface the final product is compressed in a hot water bath. Due to the hot water sealing the open pores are closed and a hard oxide layer is created under which the previously applied colour is enclosed.

The order for the printing has to contain the font, font size and the exact position of the scripture together with a dimensioning by considering countersinks, etc. A requested company logo always has to be sent as a vector file. If those specifications are neglected the printing order possibly has to be rejected or it leads to a lot of additional work which is associated with additional costs.

**The fulfilment of the following criteria enables a smooth order processing:**

| | |
|---|---|
| **Adobe Illustrator (.ai/.eps)** | without continuous-tone image; used fonts converted into paths or supplied |
| **Adobe Acrobat (.pdf)** | all fonts enclosed; continuous-tone images colour-separated |
| **InDesign (.indd)** | spot colour or scale colours with right resolution (300 dpi colour, black and white 600 dpi); no RGB |

**This results in additional time requirement and therefore additional costs:**

**Precise testing of the data on usability by our repro department. Screen formats (.jpg, .gif, .png) and paper patterns, stickers or anything similar are usually not suitable for creating templates in most cases.**

**Templates which definitively cannot be used:**

Imperfect copies such as paper-fax / Microsoft Office files (.doc, .xls, .ppt) can only be used for inspection or for transmitting texts.

**Please always add dimensional drawings (.pdf; .dxf) to the parts to be printed.**

Please note as a general rule: retouching work extending beyond the standard time will be invoiced additionally at cost price.

# Explanations – references – printings


... index area:
shows topics/categories

"current"


... index area:
shows topics/categories

"following"

G 15

... page number

G = gold-plated
Z = tin-plated
S = selective gold-plated

... option for surface finishing


... plastic of the insulator is suitable for reflow-soldering up to 260 °C

... components are suitable for soldering technique (THT)

... components are suitable for SMD technique


... components are suitable for THR-SMD technique

... components are suitable for press-fit mounting

2,54

... components are suitable for the corresponding grid

## Imprinting of cardholders - Your and our time is expensive

An order for imprinting must state the font, the font size and the exact position of the imprint with dimensions, taking in account of countersunk holes etc.. When placing the first order, the company logo must be supplied as a vector file. If these conditions are not complied with, the order for imprinting may have to be rejected, or additional costs will have to be charged.

**Compliance with the following criteria ensures smooth handling:**

| | |
|---|---|
| **Adobe Illustrator (.ai; .eps)** | without half-tone images, fonts transformed into paths or supplied |
| **Adobe Acrobat (.pdf)** | all fonts enclosed; half-tone images colour-separated (full-tone or scale colours) and |
| **InDesign (.indd)** | with correct resolution (300 dpi colour, black / white 600 dpi), no RGB |

**All this takes additional time and consequently incurs extra costs.**
**The usability must be checked by our printing shop:**
In most cases screen formats (.jpg, .gif, .png) and paper copies, stickers and similar are not suitable for preparing printer's copies!

**Copies that definitely cannot be used:**
Imperfect copies such as fax copies / Microsoft Office files (.doc, .xls, .ppt) can only be used for information or for transmitting texts.

**Please always add dimensional drawings (.dxf) to the parts to be imprinted!**
*Please note as a general rule: Retouching work extending beyond the standard time will be invoiced additionally at cost price.*

# 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 contacs
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.