Crimping technology for female and male push on connectors

There are three groups of connectors:
– standard (the most popular) connector terminals, female and male push on connectors (N, NR, W, WR type acc. to Ergom)
– specialized connectors, adapted to non-typical terminals of devices, female-and-male connectors and angle female connectors (NZ, NZJ, WZJ, NW, NK type acc. to Ergom)
– ring terminals, designed for connecting wires to screw joints (MO type acc. to Ergom), with the same manner of crimping on the wire as in the case of connectors

Material:
W, WR, N, NR, NZ, NZJ, NW, NK, MO: CuZn 30F 43 brass acc. to DIN 17670 or M70 brass acc. to PN-67/H-87025

Surface: tin-plated, 3 µm or not tin-plated: NC code.

Rated sizes:
N, NR, W, WR: cross-section 0,1 to 6 [mm²], width 2,8; 4,8; 6,3 [mm], thickness 0,5; 0,8 [mm]
NZ, NZJ, WZJ: cross-section 0,5 to 2,5 [mm²], width 2,8; 4,8; 6,3 [mm], thickness 0,5; 0,8 [mm]
NW, NK: cross-section 0,5÷2,5 [mm²], width 4,8; 6,3 [mm], thickness 0,5; 0,8 [mm]
MO: cross-section 0,5 to 6 [mm²], joint screw M3 to M6.

Application:
MO connectors are used for housekeeping devices, automobiles, etc. They are usually delivered in strip because of automatic mounting process. In standard connectors (N, NR, W, WR) the female connectors serve for connecting wire to the terminal of device and by means of the male connector two parts of the wire can be joined (the second part must be ended with a female connector). This joint is made owing to the material elasticity of a female connector. Because of heating-up of the contact the above-mentioned connectors are used for wires with a cross-section up to max. 6 mm². In specialized connector terminals (NW, NWR, NK, NKR) the female-and-male connector has an identical application as the standard female connector but two wires can be joined o a single connector.

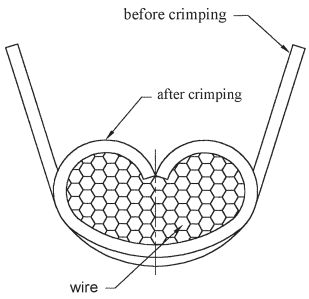

Fig. 1

Crimping technology:
The connector terminals are crimped both on a wire and on its insulation, by means of tools with compressing dies by so called "rolling up" (see fig. 1).
Irrespective of the width of crimped terminal (2,8; 4,8; 6,3 [mm]) the crimping shape is the same. There is a difference of the "wing" size of terminals with the same cross-section and width, according to different standards and product manufacturers due to their requirements (see fig. 2 and fig. 3). The wings in the terminal can be formed in the shape of "0" letter with its ends additionally bent inside, or they can be also half-opened outside similarly to V letter.


Fig. 2
Female connectors terminal with "0" wings.


Fig. 3
Male connectors terminal with "V" wings.

Owing to the usage of bends on "wing" ends ("0" shape) the force needed for proper terminal crimping is decreased as well as better repeatability (precision) of joints has been achieved.