

## VAMITTOOLS Street lamps – types: 2463-65



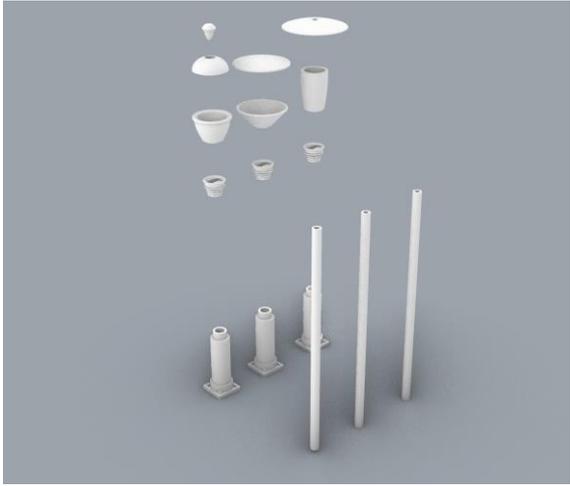
We offer three different types of lamps ('egg' or 'urn', 'mushroom' and 'conical'), differing only in the shape of the lamp body. Base, post and the LED socket are identical for all three lamps, corresponding to the Elzett-IX type welded steel tube post. The originals actually represented three generations:

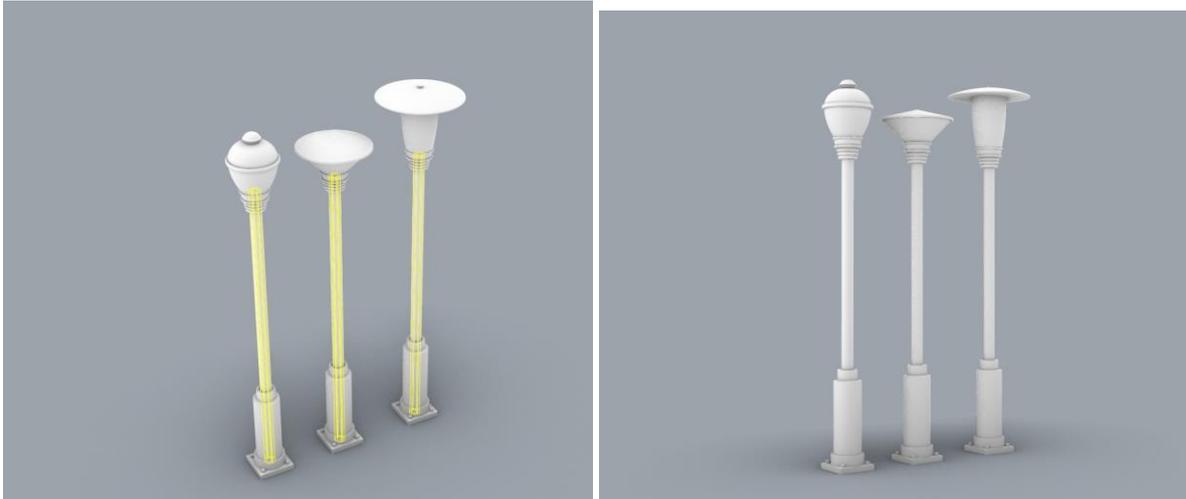
- 'EGG' was equipped with incandescent bulbs, and was produced from the 1950s onwards (some were later modified with mercury vapour bulbs),
- 'MUSHROOM' had manufactured from the 1960s, with fluorescent tubes.
- the 'CONICAL' had mercury vapour light sources, and was produced from the 1970s.

None of them can be found in public areas anymore, but in private areas (courtyards of public institutions, military housing estates, etc.) they are still occasionally found, especially the 'conical' version. Until the end of the 1990s, however, they were almost necessary fixtures of streets with little traffic, parks, promenades, housing estates, playgrounds, etc. all over Hungary, but similar (although not identical) types were used in many other countries. The height of the posts varied between about 3 and 5 metres, depending on local needs.

### **Assembly**

First, cut the supplied copper tube to the desired length (cca. 40mm)! Take into account that at least 1-2 mm must be drawn into the base. (It is worth removing the chips from the cut surface, even grinding the ends of the tube to a taper). After this glue the LED-socket on! Make sure that the entire length of the tube remains permeable, so that the glue does not clog it, as this is where the LED wires will be threaded in!





## Painting

The Elzett posts were mostly painted grey, less often dark green or silver. Of course, other colours were also used as a 'local speciality'. The 'hats' of the lamp bodies, as well as the flanges and tops of the 'egg lamps', are metallic. Recommended to mask the sockets and the hats using several coats of black paint under the final colour, to avoid LED lights to shine through! The outer casing of the fixtures was made of white plexiglass, in order to give a sufficiently diffused light. So it is recommended to paint the model luminaire white, not too thickly but as evenly as possible. (It is worth testing the dilution and thickness of the paint on a transparent sheet of styrene beforehand).

## Soldering, Wiring

Soldering requires practice and manual skill! It is very easy to ruin the tiny LED during soldering! Solder the wire to the LED as shown in the diagram!



Before the wires are threaded into the tube of the post, it is worth testing whether the soldering was successful and whether the LED was not burnt. It's also worth checking the polarity and marking the ends of the wires with some colour (the green arrow on the bottom of the LED indicates the negative pole). With reversed polarity, the LED will not light up, but will not suffer any damage. However, be sure to use the proper serial resistor during the test!

ALWAYS connect the LEDs to the supply voltage via proper serial resistor! Otherwise, they will immediately blow away! In theory, a maximum current of 20 mA can flow through the LED itself, but it is safer not to reach this value, and calculate with a maximum of 13-15 mA.

The required serial resistance can be calculated using the following formula:

$$R = (U - 1.8V) / I$$

where:

'R' is the serial resistance in Ohms

'U' is the supply voltage in Volts

'I' is the current flowing through the LED in Amps. In our case 0.013...0.015A (i.e. 13...15mA, see above!)

1.8V is the voltage drop on the LED. This can vary from type to type.

Accordingly, e.g. for 6V supply voltage 330 Ohm, while for 12V, 680 Ohm serial resistors are recommended (rounded to commercially available resistor values). Brightness of the lamps can be reduced by increasing the resistor value, but never use lower values! If more than one lamp is installed, individual resistors must be connected in serial with each one.

Vamitools, and BUHER Modell team.