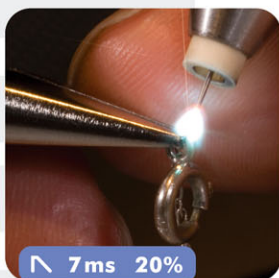


10.1 Welding Silver

1 Because of its physical makeup silver is difficult weld, no matter what sort of welding equipment you use.



Its high heat conductivity makes working with this metal particularly problematic. This is why the welding spots tend to be smaller and not as deep.



fig.10.1

2 When working with small or thin parts this effect is less pronounced, this is because the volume of metal is missing. A high metal volume would conduct the heat and direct it away from the working area too quickly. This is why the PUK produces very good results with loops or thin silver pieces.

(fig.10.1)

3 If you then try to avoid the problem of high heat conductivity by using a higher power setting the metal will locally overheat. Because of its low melting point, holes in the work piece are the result.

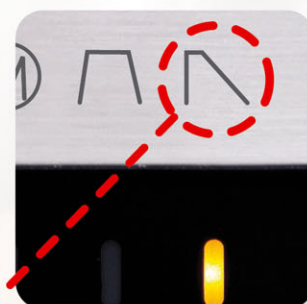


fig.10.2

In this case the metal liquefies but is sprayed away so quickly that an inferior and instable weld or joint results.



4 With the specially modulated "Silver impulse" that the PUK3 pro and PUK3 pro plus possesses, energy can be applied to the metal in a controlled way. This way the negative physical qualities of silver alloys are largely compensated.

This mode allows you to produce clean and stable welds even when working with silver.

(fig.10.2 & 10.3)

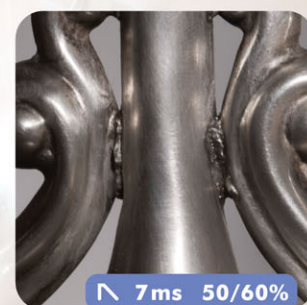
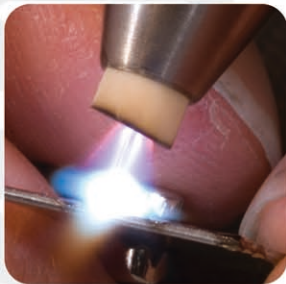


fig.10.3

10.2 Adding material when working with silver



9 You can use the same process to smooth the metal. This time use a little less power and put the electrode vertically next to the "mound of silver".

Thus the added silver and the base material are both melted and a strong, smooth mass is produced. (fig.10.7)



fig.10.7

Tips:

- 1 Generally silver is easier to weld when its warm, because with increasing temperature its high heat conductivity is less of an influencing factor. Whenever possible place several welding spots in quick succession, in order to heat the area that is to be welded.

This technique is especially useful for **PUK2 users**, as this machine doesn't have a special "silver mode". Possibly you'll have to hold the work piece with pliers, tweezers or similar tools. Very sensitive stones should be cooled with a damp cloth.

(fig.10.8)



fig.10.8

- 2 As a general recommendation we would advise using welding wire (no thicker than 0,3mm) of the same alloy / metal as the work piece . An even better bet are the welding wires from Lampert for optimum performance.

(fig.10.9)

- 3 The last but very important hint is to weld silver with low gas pressure whenever possible. Reduce therefore the pressure to a maximum of 2-3L/min when welding silver.

PUK 2 users should use "impulse 1" and an average power setting for the best results. Take though into consideration that the PUK 2 is more suited to thinner silver work pieces or tacking.



fig.10.9