

Supplementary Materials

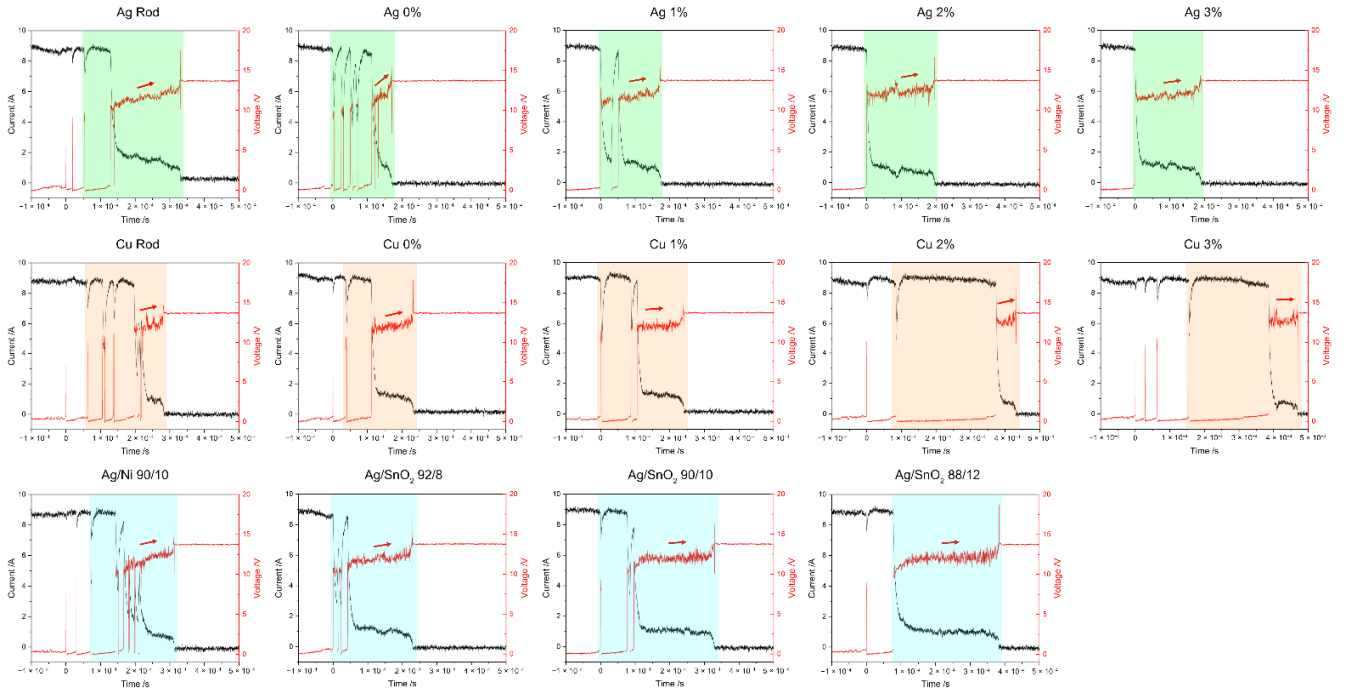


Figure S1. Current and voltage curves for reference and reinforced samples during 100 W hot switching tests. The shaded region highlights the time considered for the arc's characteristics. The arrows highlight the tendency of the voltage curve during the arc's duration. These plots show the most representative curves based on the average arc duration and energy.

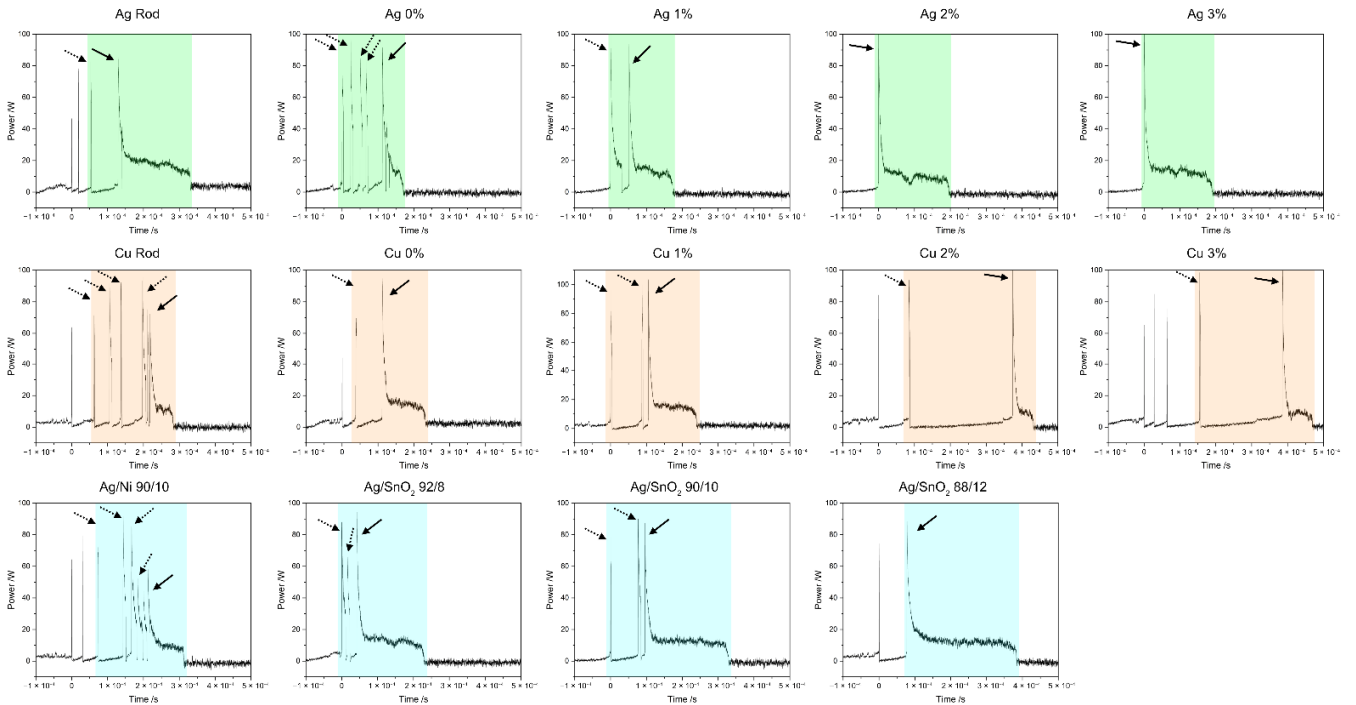


Figure S2. Power curves for reference and reinforced samples during 100 W hot switching tests. The shaded region highlights the time considered for the arc's characteristics. The arrows point out the power spikes that were considered within the arc duration calculations. Dashed arrows point out the unstable arcs, whereas solid arrows highlight the main arc. These plots show the most representative curves based on the average arc duration and energy.

Table S1. Arc characteristics of reference and reinforced samples for electro-erosion tests carried out at 100 W.

Sample	Arc duration /ms	Arc energy /mJ
Ag Rod	0.23 ± 0.04	3.39 ± 0.60
Ag 0%	0.15 ± 0.04	2.32 ± 0.06
Ag 1%	0.19 ± 0.05	2.46 ± 0.82
Ag 2%	0.20 ± 0.05	2.37 ± 1.32
Ag 3%	0.23 ± 0.14	3.50 ± 2.10
Cu Rod	0.24 ± 0.02	2.73 ± 0.11
Cu 0%	0.24 ± 0.03	3.50 ± 0.73
Cu 1%	0.27 ± 0.02	3.28 ± 0.22
Cu 2%	0.22 ± 0.12	1.50 ± 0.47
Cu 3%	0.24 ± 0.15	1.94 ± 1.05
Ag/Ni 90/10	0.25 ± 0.05	3.07 ± 0.22
Ag/SnO ₂ 92/8	0.26 ± 0.02	3.33 ± 0.04
Ag/SnO ₂ 90/10	0.32 ± 0.02	4.22 ± 0.24
Ag/SnO ₂ 88/12	0.28 ± 0.04	3.96 ± 0.61

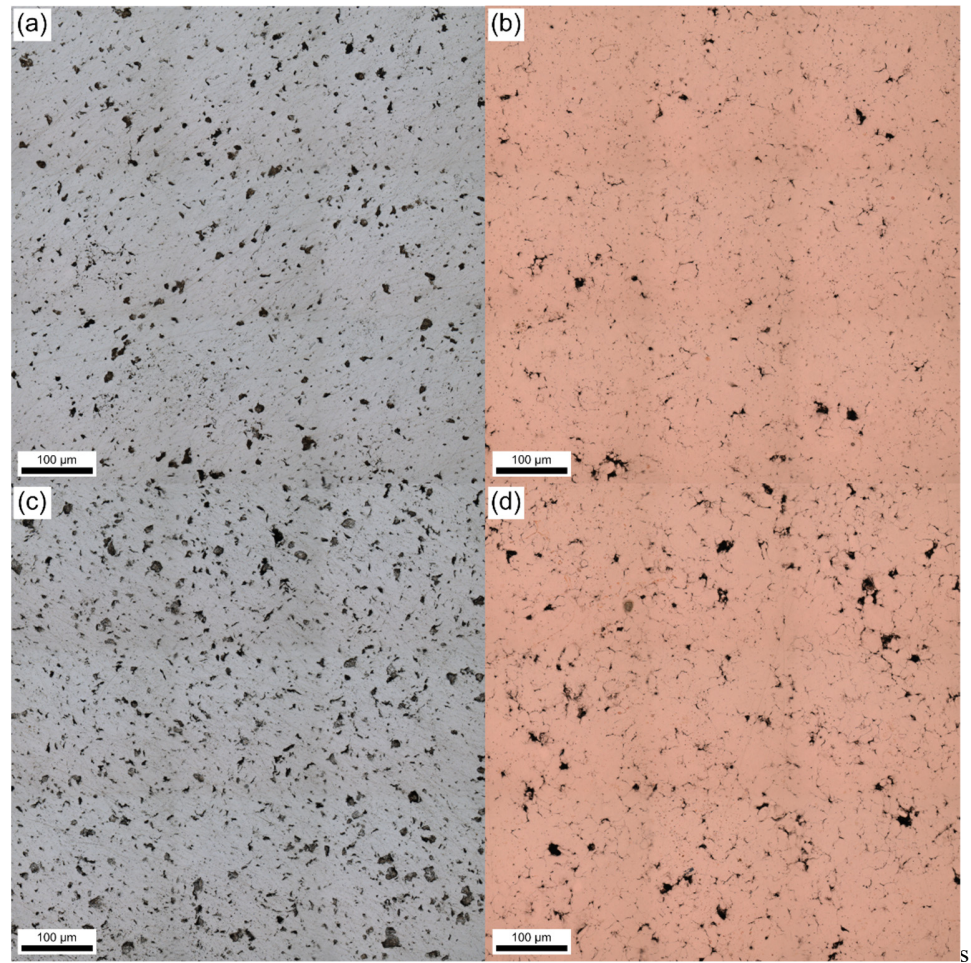


Figure S3. 3 × 3 stitching at 50× optical micrographs of (a) Ag 1%, (b) Cu 1%, (c) Ag 2%, and (d) Cu 2% obtained via CLSM.