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The influence of a capillary plasma torch on metals

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Experiments were carried out on the effect of a capillary plasma torch jet on steel, copper samples and solder wires. The energy inputted in the discharge varied from 0.3 to 1.5 kJ. At the same time, when the capillary plasma torch jet interacted with metals, compact long-lived luminous formations CLF were formed. When exposed to solder, CLF with an unusually large external diameter of up to 1.5 cm, an internal diameter of up to 0.5 cm and a lifetime of up to 7 s were obtained. It consists of a core and shell and have an energy density comparable to the energy density of combustible materials.

Keywords: capillary plasma generator, jet, impact on samples, steel, copper, solder, formation of compact long-lived luminous objects.

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