



Production of amorphous metallic surfaces by means of a pulsed glow discharge electron beam

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A pulsed glow discharge electron beam has been used for the production of metallic amorphous surfaces in MgZn alloys. Electron beam pulses of 20 μ s pulse width produced by a 40 A, 22.5 kV glow discharge were found to provide sufficient energy for melting the metallic surfaces; that due to the rapid cooling to the substrate yielded amorphous phases. The system allows control of the energy density, penetration, and pulse width of the heating pulse.

Keywords: Glasses, metallic; Laser irradiation; Phase transformation

Materials: Mg₇₀Zn₃₀

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