

## Track etching in amorphous metallic $\text{Fe}_{81}\text{B}_{13.5}\text{Si}_{3.5}\text{C}_2$

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A review of the presently available results for track etching in metallic glasses is given. Latent tracks in amorphous  $\text{Fe}_{81}\text{B}_{13.5}\text{Si}_{3.5}\text{C}_2$  can be selectively etched to surface pores with a wide cone opening angle. Etched tracks have been observed only if the alloy is in the amorphous and not in the crystalline state. Annealing tests after ion irradiation show that track fading occurs for temperatures above 200°C. An etching threshold is observed at a critical energy loss of 3.4 keV/Å, which is far above the threshold for creating damage (1.3 keV/Å) as observed by resistivity measurements. The etching behaviour near the threshold shows a transition regime from non-homogeneous to homogeneous etching. This observation is related to etched tracks in insulators. The occurrence of the etching threshold is used to determine the influence of the distribution of the radial dose of ions having various velocities. The experimental results are compared with thermal spike calculations.