

Study of mechanical grinding effects on niobium surface

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Mechanical grinding is commonly employed to eliminate surface defects such as scratches and pits from niobium cavity surfaces or sheets before cavity fabrication. Subsequently, chemically buffered polishing or electropolishing is often utilized to completely remove residues of the polishing media and any defects induced by mechanical grinding, ensuring a pristine surface. In this study, we conducted a systematic investigation to assess the influence of mechanical grinding using silicon carbide and aluminum oxide polishing media on niobium surfaces. Additionally, the study examines the effects of post-mechanical grinding chemical treatments on surface quality.

Footnotes

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