Solid particle erosion resistance researches of protective coatings formed on titanium alloy samples, made using additive technologies

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Experimental stand for studying the solid particle erosion process of materials and protective coatings (ASTM G76 standard)

Working chamber of the experimental stand

High-speed photo camera

The scheme of the air-abrasive flow interaction with the sample surface

Stabilizing tube

Attack angle $\alpha$

Trajectories of the solid particles

Test sample
The results of the titanium Ti-6Al-4V samples with various types of protective coatings solid particle erosion resistance experimental studies

Test samples produced by additive technologies

View of the cross sections of Cr-CrC (1) и DLC (2) coatings on Ti-6Al-4V substrates

Solid particle erosion curves and histograms of relative abrasive resistance

1 – Ti-6Al-4V б/п; 2 – Ti-6Al-4V + DLC; 3 – Ti-6Al-4V + Cr-CrC