

The titan alloy surface laser ablation treatment

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The fiber laser IPG YLM-QCW-100 type with a pulse duration from 0.1 to 50 ms and the pulse energy up to 15 J with a repetition rate of 20 kHz at the 1070 nm wavelength with a movable platform was used to treat the surface of three titanium alloy samples of dental implants for continuation of our works [1–4]. Laser surface treatment of all three titanium alloy samples were performed at the laser radiation power density of 869 MW/cm². As a result, areas of the sample surface appeared with a pronounced presence of titanium oxide on the surface (the appearance of a golden color) and an increased structurally of the laser-treated surface was observed.

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