



Mechanical properties of ultra-fine grain titanium

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It is required that a material for dental implants is bio compatible, it must not be toxic and it may not cause allergic reactions [1]. It must have high ultimate strength R_m and yield value $R_{p0.2}$ at low density and low modulus of elasticity E [2]. Metallic materials used for dental implants comprise alloys of stainless steels, cobalt alloys, titanium (coarse-grained) and titanium alloys [3]. Semi-products in the form of coarse-grained Ti or Ti alloys are used as bio-material for medical and dental implants since the second half of the sixties of the last century [4].

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