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[\[PDF \(1624K\)\]](#) [\[References\]](#)**Chemical mechanical polishing of titanium with colloidal silica containing hydrogen peroxide — mirror polishing and surface properties**[Seigo OKAWA](#)¹⁾ and [Kouichi WATANABE](#)¹⁾

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Abstract:

Chemical mechanical polishing (CMP) of cpTi (Ti) was carried out using two types of slurries, acidic and basic colloidal silica containing H₂O₂ up to 3 wt%, to obtain flat and mirror-polished surfaces without any contaminated and reacted layers. Polishing behavior and surface properties were investigated using AFM, EPMA, and XPS. Weight loss of Ti polished by CMP using the basic slurry was larger than that using the acidic one, and surface roughness was less than 2 nm RMS when basic slurry containing 3 wt% H₂O₂ was used. Moreover, three kinds of chemical species, OH⁻, O²⁻, and H₂O, were detected on the Ti surfaces polished by CMP using these slurries. Results of this study showed that CMP using colloidal silica containing H₂O₂ successfully created a mirror-polished surface without contaminated and reacted layers.

Key words:[Chemical mechanical polishing](#), [Titanium](#), [XPS](#)[\[PDF \(1624K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)

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