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4) Optical properties of anodized aluminium alloys were determined by optical diffuse reflectance spectroscopy of such films. Samples with different concentrations of dopants were excited with a white-light source combined with an integrating sphere for fast determination of diffuse reflectance. The UV-VIS reflectance of Ti-doped anodized aluminium films was measured over the wavelength range of 200 nm to 900 nm. Titanium doped-anodized aluminium films with 5-15 wt% Ti were characterized. Changes in the diffuse light scattering of doped anodized aluminium films, and thus optical appearance, with doping are discussed. Using the Kubelka-Munk model on the diffuse reflectance spectra of such films, the bandgap E_g of the oxide alloys can be determined.