The Effect of Resin Mixture with Titaniumdioxda Nanoparticles on Light Intensity and Absorbing Sunlight. Azamataufiq Budi Prasojo, ST, MT, (*Advisor I*) Aditya Wahyu Pratama ST, MT, (*Advisor II*)

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ABSTRACT

The addition of titanium dioxide to the resin produces a solid material that varies in brightness from clear to opaque depending on the mass of the titanium dioxide. This study aims to determine the effect of the resin mixture with titanium dioxide on the transmittance of sunlight and incandescent light, as well as how much the difference in temperature on the surface of the solid resin material with titanium dioxide. In this study, the results show that the greatest value of sunlight transmission occurs in materials with content TiO_2 0 gram is 91.16 lux, the smallest transmission in the material with content TiO_2 0.06 grams with a value of 41.18 lux. For incandescent light transmission TiO_2 0 gram has the greatest transmission value, which is 89.65 lux, while the smallest transmission value is found in materials with content TiO_2 0.06 grams with a value of 66.56 lux. The light transmission in each material decreases with the amount of contentTiO2on the material. Temperature difference. on materials with content TiO_2 0.04 gram of 3.2 ° C and material with content TiO_2 0.03 gram is the smallest difference, namely 0.5 ° C. The difference between the temperature of the incandescent lamp source on the surface occurs in the material with the content TiO_2 0.06 grams of 14.2 ° C and material with content TiO_2 0.05 gram is the smallest difference, namely 11.7 ° C.

Keywords*: transmittance, temperature, titaniumdioside, lux*