

INTISARI

Tujuan penelitian ini adalah untuk mengetahui pengaruh pencelupan pelat Aluminium dalam larutan NaOH 20% dengan variasi waktu, terhadap absorptivitas dan emisivitas suatu bahan. Bahan yang dipakai adalah pelat aluminium dengan tebal 2 mm.

Dalam pembuatan spesimen ada 2 variasi pencelupan yaitu : variasi A pencelupan pelat aluminium dalam larutan NaOH 20% dengan pengeringan secara alami sedangkan variasi B pencelupan pelat aluminium dalam larutan NaOH 20% dengan pengeringan dilap. Untuk setiap variasi pencelupan dibagi lagi pengerjaannya berdasarkan waktu pencelupan, yaitu : 5 detik, 10 detik dan 15 detik. Setelah dilakukan pencelupan, kemudian dilakukan pengujian radiasi untuk mengetahui besar absorptivitas surya dan emisivitas termal serta suhu yang diserap oleh aluminium yang telah mengalami pencelupan dalam larutan NaOH 20%.

Absorptivitas dan emisivitas pelat aluminium dengan metode *dipping in chemical baths* (permukaan dikasarkan dengan direndam dalam larutan kimia NaOH) dapat meningkatkan absorptivitas 5 - 10 kali lipat, emisivitas juga meningkat 2 - 3 kali lipat serta kenaikan suhu yang diserap benda uji 2 °C - 10 °C. Dalam pengujian ini waktu pencelupan tidak berpengaruh secara signifikan terhadap besar kecilnya nilai absorptivitas dan emisivitas serta suhu yang diserap benda uji.

Kata kunci : absorptivitas, emisivitas

ABSTRACT

The aim of this research is to know the influence of the time variation immersion of aluminium plate into NaOH 20% towards absorptivity and emmissivity of a material. The used material is an aluminium plate of 2 mm thick.

There are two variations of immersion, namely: variation A, that is the immersion of aluminium plate into NaOH 20% with natural drying up, and variation B, that is the immersion of aluminium plate into NaOH 20% with manual drying up (using napkin). For each variation, further it can be divided based on the time of immersion, namely 5-second immersion, 10-second immersion and 15-second immersion. After the immersion, then radiation testing is done to know the amount of solar absorptivity, thermal emmissivity and temperature absorbed by aluminium which has undergone immersion into NaOH 20%.

The absorptivity and emmissivity plate aluminium using dipping in chemical baths method it can be seen that it can increase absorptivity five to ten folds. Emmissivity also increases two to three folds, and temperature increases between 2 C to 10 C. In this testing, the time of immersion it does not influence significantly towards the value of absorptivity, emmissivity, and temperature which absorber by the material.

Key word : absorptivity, emmissivity.

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