

Performa Anti Abrasi Pelapis Polyurethane Berbasis Gliserol dengan Tambahan Asam Oleat dan Asam Adipat = Anti Abrasion Performance of Glycerol based Polyurethane Coating with Acetic Acid and Adipic Acid

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Abstrak

[**ABSTRAK**]

Saat ini, penggunaan gliserol masih sangat sedikit sekali. Padahal, potensinya besar karena dapat dengan mudah didapatkan sebagai sisa dari pembuatan biodiesel. Salah satu cara untuk memanfaatkan gliserol ini adalah dengan menggunakan gliserol sebagai bahan dasar pembuatan pelapis poliuretan sebagai lapisan anti abrasi pada logam. Poliuretan dikenal sebagai salah satu jenis polimer yang memiliki ketahanan abrasi yang tinggi. Pada penelitian ini, akan dilakukan uji terhadap performa anti abrasi dari pelapis poliuretan dengan bahan baku gliserol, asam lemak dan phthalic anhydride. Asam lemak digunakan dalam penelitian ini adalah asam oleat dan asam stearat. Pelapis poliuretan dilapiskan pada plat alumunium sebagai plat sampel. Uji abrasi dilakukan dengan alat abrasi sederhana dengan menggunakan pasir sebagai media abrasi. Dari penelitian ini, performa ketahanan abrasi dari sampel dilihat dari nilai wear rate (gram/cm².menit) yang akan merepresentasikan banyaknya sampel atau pelapis yang hilang per satuan luas sampel yang digunakan.

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ABSTRACT

Nowadays, glycerol usage is still low. However, glycerol potential is big and also easy to get as the byproduct of biodiesel production process. In order to increase the usage of glycerol, glycerol can be used as material to make polyurethane coating as metal anti abrasion coating. Polyurethane is well known as one of polymer which has great abrasion resistance. In this research, there will be a test to determine abrasion resistant of polyurethane coating made by glycerol, fatty acid and phthalic anhydride. Oleic acid and stearic acid are fatty acid that will be used in this research. The polyurethane coating will be coated in alumunium plate as sample plate. Abrasion test will be conducted using abrasion device which use sand as abrasive material. From this research, the anti abrasion performance of polyurethane coating will be measured by calculating wear rate (gram/cm².minute) that will represent amount of sample or coating mass loss per area of used surface sample., Nowadays, glycerol usage is still low. However, glycerol potential is big and also easy to get as the byproduct of biodiesel production process. In order to increase the usage of glycerol, glycerol can be used as material to make polyurethane coating as metal anti abrasion coating. Polyurethane is well known as one of polymer which has great abrasion resistance. In this research, there will be a test to determine abrasion resistant of polyurethane coating made by glycerol, fatty acid and phthalic anhydride. Oleic acid and stearic acid are fatty acid that will be used in this research. The polyurethane coating will be coated in alumunium plate as sample plate. Abrasion test will be conducted using abrasion device which use sand as abrasive material. From this research, the anti abrasion performance of polyurethane coating will be measured by calculating wear rate (gram/cm².minute) that will represent amount of sample or coating mass loss per area of used surface sample.]