Pengaruh temperatur sinter terhadap karakteristik komposit batubara / coal tar pitch = The effect of sintering temperature on the characteristic of coal - coal tar pitch composite as a powder metallurgy product

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Abstrak

Perkembangan teknologi telah mendorong adanya kebutuhan material dengan sifat unggul. Untuk itulah dilakukan rekayasa material komposit batubara - coal tar pitch dengan proses metalurgi serbuk. Komposit batubara - coal tar pitch menggunakan batubara sebagai matrik dan coal tar pitch sebagai penguat. Pada penelitian ini dilakukan variasi temperatur sinter 200°C, 300°C, 400°C dan 500°C untuk mengetahui karakteristik material komposit batubara - coal tar pitch. Hasil menunjukkan bahwa peningkatan temperatur sinter akan meningkatkan densitas, kekerasan, kuat tekan serta menurunkan porositas pada kompositbatubara - coal tar pitch.

<hr>The growth of technology has stimulate the needs of materials with superior properties. Therefore, people redesign coal - coal tar pitch composite with powder metallurgy process. This coal - coal tar pitch composite use coal for matrix and coal tar pitch for reinforce. In this research, the variations of 200°C, 300°C, 400°C and 500°C sintering temperature were done to find out the characteristic of coal ' coal tar pitch composite. The result showed that the raising of the sintering temperature increases the density, hardness, and compressive strenght and decreases the porosity of the coal ' coal tar pitch composite.