Influence of Moisture Content of Feedstock Materials on Briquettes Properties

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Current contribution contains of results of experimental measurements performed within the determination of initial raw feedstock materials moisture content and its influence on final properties of subsequently produced briquettes. A birch wood chips samples with five different moisture contents, specifically 5.0%, 7.6%, 16.7%, 19.0% and 27.7%, were used for experimental investigations. Investigated briquette samples were produced by hydraulic high–pressure briquetting press Briklis, type BrikStar 30–12 with cylindrical pressing chamber of 50 mm. All investigated briquette samples were produced under the same conditions with constant adjustment of all parameters of used briquetting press. A basic physical–mechanical properties of investigated briquette samples were used as a criteria of investigations evaluation. All measured values were subjected to the statistical analysis. Final evaluation of measured values indicated that best results were achieved by briquette samples produced from feedstock material with moisture content equal to 7.6%. Evaluation of current investigation also proved that if moisture content was higher or lower, the quality of produced briquette samples decreased.

Keywords: birch wood chips, ash amount, gross calorific value, total moisture content, density, rupture force

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