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# METHODS FOR TESTING QUALITY OF VARIOUS PAPER COMPONENTS BY THERMAL ANALYSIS

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Knowing a suitable paper quality of packaging structures is an element process in the packaging industry involving the paper manufacturers, mainly on producing corrugated paperboards. The base-papers, produced from wood components are the most significant constituent of Corrugated Cardboards; contain mainly organic substances (e.g. cellulose, hemicellulose and lignin etc.) which are appropriate for thermo-analytical studies. The quality of the base-papers mainly defined by the primer cellulose, recycled paper and other incrust materials content. At the same time, it is difficult for users to precisely separate base papers that exhibit differences in mechanical and quality properties, as their ulterior identification is virtually impossible. The testing methods such as CCT, RCT, FCT, COBB, bursting etc. are supported by statistical technique, but do not provide perfectly accurate results. The reason is the deviation of testing results. In this paper, we publish the primary results of the thermoanalytical research for determination of different components of wood and paper types. Applying a Differential Scanning Calorimetries (DSC) method, it is possible to study endotherm and exotherm spectrums of paper's raw materials. During a heating process each component react in different ways, both of their physical and chemical characteristic. Due to their various organic substances content, these values are different referring for similar results of the finished products, which determines their mechanical and quality properties during their use. The results show that this method on the one hand can be helpful to testing the paper during packaging producing process on the other hand after using as a packaging. Using a DSC apparatus helps showing the differences between the various organic substances, which allow to measure obvious and exact results for each base-paper. This test method can help classify base paper types in a simple and transparent manner and be of use in tracing quality problems of papers.

**Key words:** Corrugated Cardboard, Base-paper, Cellulose, Thermo-analytical technique, Heatflow, DSC

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