



WOOD

WOOD: next generation materials and processes - from fundamentals to implementations

Programme: COMET – Competence Centers for Excellent Technologies

Programme line: K1-Centres

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1.4 High Value Applications for Cellulose Based Materials, 01.01.2015 to 31.12.2018, single-firm

Soft, softer, softest. New method to determine softness of tissue, textile, and nonwovens products.

Cellulose fibers find their applications in sensitive areas such as cosmetics, hygiene und medicine. Therefore the property softness is found among the fundamental quality parameters. So far, softness was determined by means of laborious panel test. Now, a more efficient method was successfully developed by the project team consisting of researchers from Lenzing AG and Kompetenzzentrum Holz GmbH.



New Method/Method development

Until now the softness was determined by educated test persons in so called panel tests. Products were allocated to softness classes. Other test procedures combined methods using a number of different parameters to evaluate softness. Both methods are very time consuming and costly and cannot be applied for regular production quality assessment. Therefore researchers of the Lenzing AG project team for inherent properties together with researchers from WOOD Kplus were in search for a more efficient method. A Tissue Softness Analyzer (TSA) by Emtec was tested for this purpose. This multifunctional device is able to assess a number of parameters such as softness of the fiber as well as smoothness/roughness and stiffness/elasticity of processed fibers. Powerful software automatically calculates classification numbers of these parameters. The project team tested a number of characteristic samples. Results showed an excellent correlation with other methods. This work lead to the acquisition of a Tissue Softness Analyzer by Lenzing AG and a standardized method to assess the softness of daily routine samples was developed, which is

now fully integrated into the laboratory routines. Further methods are under evaluation and development.



Fig. 1: Tissue softness analyzer (TSA) by Emtec



Impact and effects

This new method not only allows answering important questions of fiber costumers concerning the fiber softness, but also saves laboratory capacities previously used for time consuming and costly panel tests.

Contact and information

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