

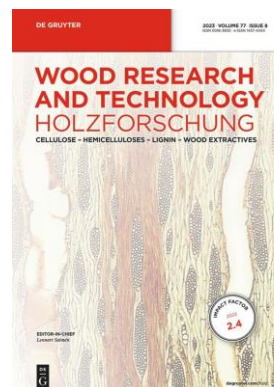
Improved bleached eucalyptus kraft pulp-based tissue papers incorporating wet-strength resins

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Abstract

Common tissue paper manufacturing trends aim at partial or total replacement of softwood pulp with hardwood pulp for its production, such as bleached eucalyptus kraft pulp (BEKP), in order to optimize the process and the final product properties such as softness. However, the use of a single type of hardwood fiber results in lower strengths of both wet and dry webs. To maintain necessary strength and desired properties, the incorporation of several additives is often required. In this context, low molecular weight polyethylene glycol (PEG) and different wet strength resins, such as polyamideamine-epichlorohydrin (PAE) and glyoxalated polyacrylamide (GPAM) resins, were combined to achieve an innovated product with improved properties. In particular, wet and dry tensile strength was significantly improved when combining PEG and wet strength resins, especially observed in tissue papers prepared with PAE resin, high-charge cationic agent and bulk applied aqueous PEG solution. Noteworthy that water absorption capacity and softness of tissue paper were not critically affected by PEG incorporation, regardless of application method used (in bulk or by spray).