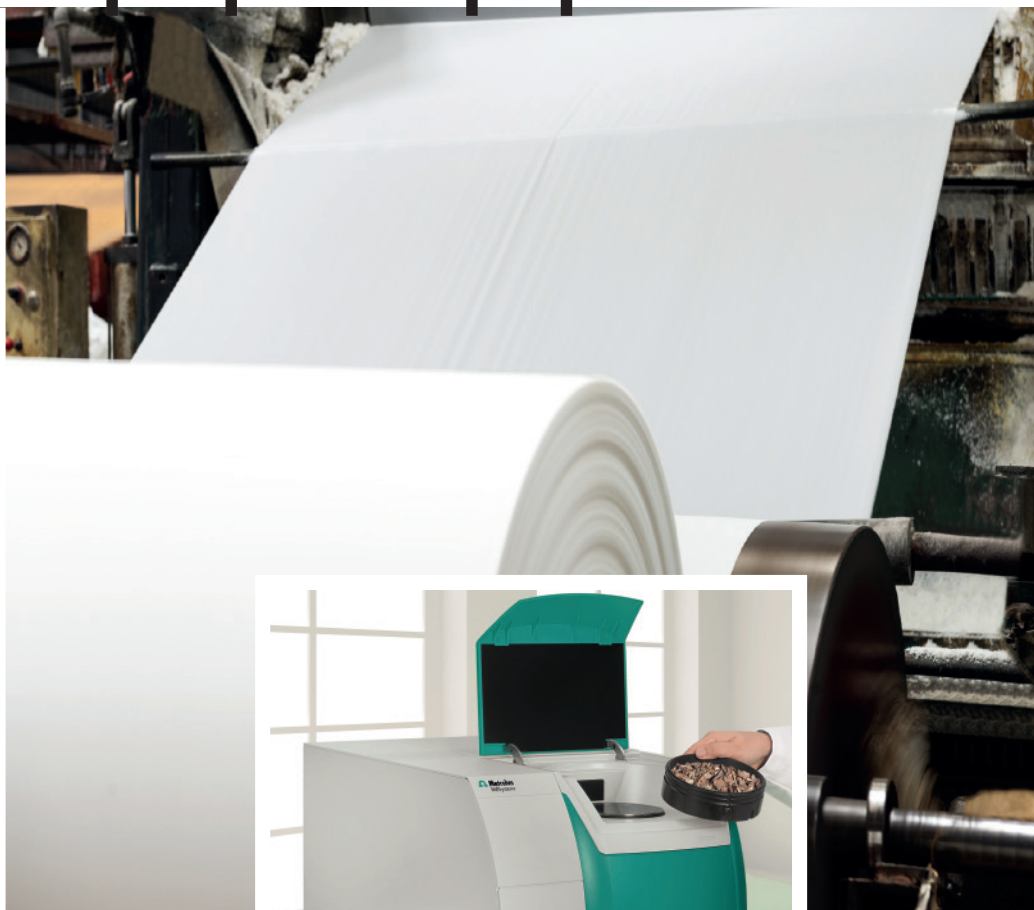


Fast and cost-effective quality control for pulp and paper



Simultaneous multi-parameter analysis by
near infrared spectroscopy (NIRS)

NIRS for faster and better quality control

02

Providing consistent product quality is essential for pulp and paper producers to delight their customers. At the same time, in order to stay competitive, cost reduction and improved efficiency is key. From wood property assessment to quality control of intermediates to the final product, Metrohm NIR solutions provide you easier and faster quality control.

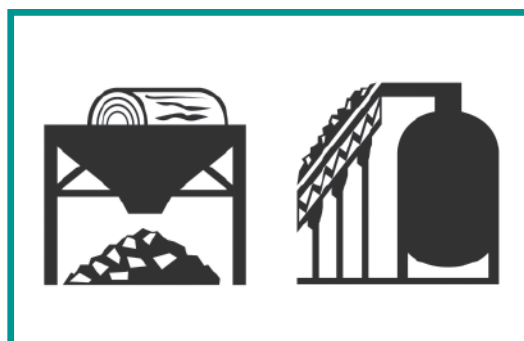
In wood processing and pulp and paper manufacturing knowledge of wood characteristics and monitoring of production steps are essential to ensure optimal raw material utilisation and to guarantee product quality. For process monitoring and quality control throughout the manufacturing cycle, there is a need for a cost-effective and reliable measuring system that instantly provides results for important analytical parameters.

Metrohm offers NIR solutions for fast and reliable routine quality control of wood, pulp, liquor, and paper products. NIRS requires no chemicals for analysis and can be directly applied in the quality control process. Reliable results of important chemical and physical properties are provided in a matter of seconds

Metrohm NIR solutions for the pulp and paper industry means ...

- **Time savings**
Multiple physical and chemical parameters are simultaneously determined in a few seconds
- **Cost savings**
No chemicals and reagents required, hence also no costs for waste disposal
- **Straightforward operation**
Minimum or no sample preparation, analyzer can be operated by anyone
- **No environmental impact**
Solvent free analysis

Raw material



Examples of NIR application

- Bulk density
- Moisture
- Wood properties in genetic improvement program

Offline (in the laboratory), atline

Metrohm provides a complete portfolio of NIRS analyzers for offline, atline, online, or inline use. They are operated by the proven, intuitive Vision Air software enabling even untrained users with little expertise to perform the analy-

sis successfully with a few mouse clicks. The results of multiple parameters are obtained by one single measurement and displayed simultaneously.

Multi-parameter analysis of pulp sheet from a single measurement as displayed by Vision Air Software

					Time	Sample number	Operating Procedure	Kappa No.	Tensile	Density
					28/10/2016 11:09	PS-07	Pulp Sheet	82.60	43	0.264

Pulping & bleaching



Examples of NIR application

- Lignin content
- Kappa number
- Cellulose content
- Resin content Pulp
- Freeness breaking
- Strength Buckling
- Strength Tensile
- Strength
- Applied density
- Liquor
- Tall oil

Paper making



Examples of NIR application

- Moisture content
- Paper grammage and thickness
- Silicone Levels
- Hardwood/softwood ratio

Atline, online, inline

Offline (in the laboratory), atline, inline

www.metrohm.com

