

## FT-NIR SPECTROSCOPY FOR QUALITY AND PROCESS CONTROL IN DEPTH FILTER SHEETS PRODUCTION

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Documented quality control plays a vital role in the production of technical "Depth filter" sheets used in industries such as Beverage and pharmaceutical. Depth filter sheets which can be up to several millimeters thick are stacked in plate and frame filter systems. They are the core of stainless steel filter systems which can be up to several meters high.

FT-NIR Spectroscopy has many potential applications in the whole production line of filter sheets. Raw materials such as different types of cellulose pads, white powdery fillers (e.g. Kieselgur, Perlite) or liquid chemicals such as wet-strength agents are, with the help of NIR, easy to identify. NIR can also determine physical parameters such as particle size, essential for the filtration behavior.

FT-NIR can be used for the quality parameters of the final product.

Moisture and permeability can be determined, and with the help of the speed of this NIR method it is possible to correct possible faults quickly in the production process. Waste production can be minimized which is good for both the product profitability and the environment.

Further tests have shown that it is also possible to use NIR on-line in the production area, to check the concentrations and the homogeneity of the paper suspension consisting of cellulose fibres, fillers and additives.