



Application Note AN N208

Quality Control of Carboxy-Methyl-Cellulose

Determination of Moisture, NaCl and the Degree of Substitution in CMC.

The FT-NIR spectrometer MPA with integrating sphere is a fast, precise and non-destructive tool to effectively and cost efficiently helps you with your daily QA/QC tasks.

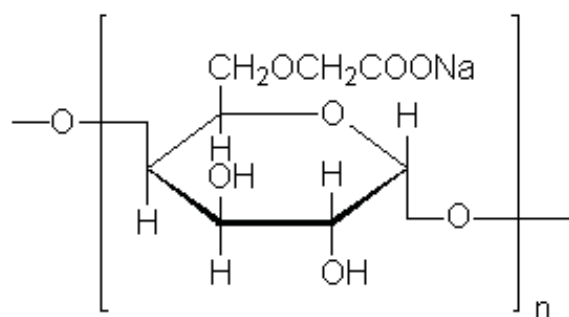
Depending on its grade, Carboxy-Methyl-Cellulose (CMC) is used in many applications in different industry sectors among which are the food industry, paper and pharmaceutical industry as well as manufacturers of paints and adhesives. Applications are the modification of rheology properties, the thickening and stabilization, as well as the water retention of various products.

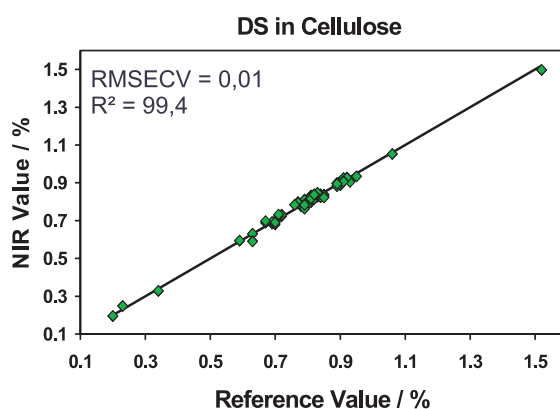
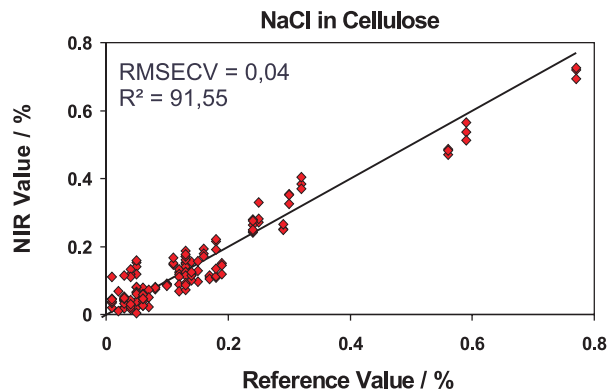
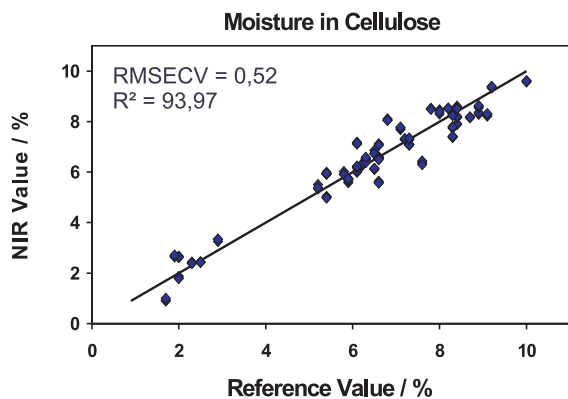
At different processing steps it is necessary to know the properties of the intermediate states of CMC. Furthermore the delivered material in the The NIR-spectroscopic determination of the moisture content and the degree of substitution (DS) of CMC is well feasible. Considering the fact that NaCl does not show a spectrum itself and the information in

the calibration only origins from the influence of NaCl on the other components, the NIR-spectroscopic determination works rather well.

Calibration Examples:

■ Moisture	1.7 -10% ± 0.5%
■ NaCl	0.1 - 0.8% ± 0.04%
■ Degree of Substitution	0.2 - 1.5% ± 0.01%





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