

**PCCL-K1
K1-Center in Polymer
Engineering and Science**

Program: COMET – Competence
Centers for Excellent Technologies

Förderlinie: COMET-Zentrum

Projekttyp: : VII-1.01 Development
of functional additives from natural
resources for the construction
industry, 2021 - 2024, multi-firm



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MODIFICATION OF METHYLCELLULOSE IN THE CONSTRUCTION INDUSTRY.

PRODUCTION OF METHYL CELLULOSE BLENDS DIRECTLY BY THE MANUFACTURER OF THE END PRODUCTS ENABLES INDIVIDUALLY ADJUSTABLE TECHNICAL PERFORMANCE AND GENERATES GREATER SUPPLY CHAIN FLEXIBILITY.

Methylcellulose mixtures are used in a wide variety of applications in the construction sector. From the filler for attaching the thermal insulation to tile adhesive and plaster. Methyl cellulose has excellent water retention properties and gives the end product better processability and stability, a smooth consistency, longer open times and prevents cracking after drying. These additives therefore have an enormous influence on the end product quality. However, manufacturers currently have to rely on largely unknown methyl cellulose mixtures on the market. This means that when product changes are made, the recipe base must always be adapted to the methyl cellulose mixtures. In the worst case, this can lead to

a loss in the overall quality of the end products. Furthermore, the end product manufacturers only have limited supply chain flexibility, which leads to monopoly positions for individual suppliers.

Solution approach

By producing these methylcellulose mixtures directly at the end product manufacturer, individually adjustable technical performance can be guaranteed and leads to improved product quality and supply chain flexibility.

SUCCESS STORY

The COMET project “Development of functional additives from natural resources for the construction industry” has therefore set itself the goal of developing methylcellulose mixtures. For this purpose, different raw materials were used to screen these proprietary mixtures. Most of these raw materials are based on natural resources (including cellulose and starch). As part of the project, mixtures were developed in close collaboration with the project partners and adapted so that they meet the quality parameters of the end products. In the adhesive sector, mixtures have already been convincing in scale-up and are already being used on test construction sites. In the plastering area, some mixtures have already been tested in spray tests with the project partners on site.

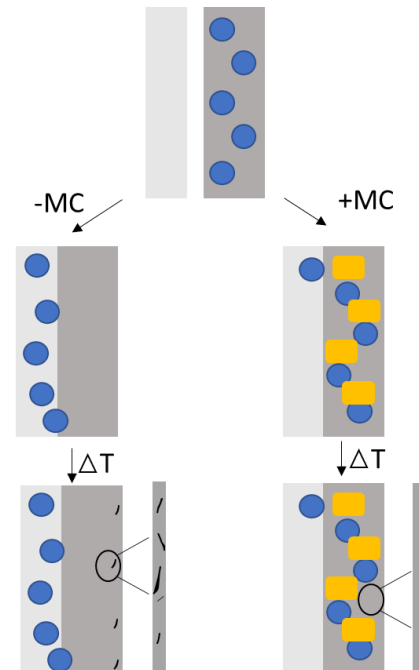


Fig1.: Avoidance of cracks forming after drying of a lime-cement plaster through the water retention capacity of methylcellulose mixtures (MC).

Projektkoordination (Story)

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