

# Case Study: MFC as a Coating - Wet-end Application

*Barrier performance of paper machine trial samples*

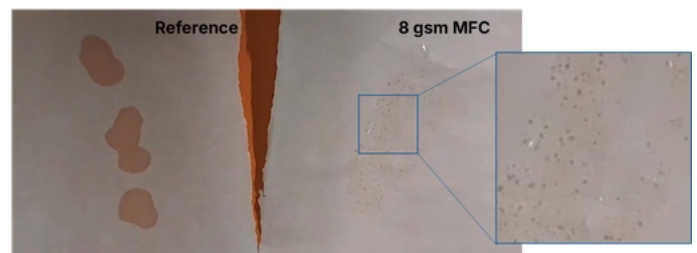
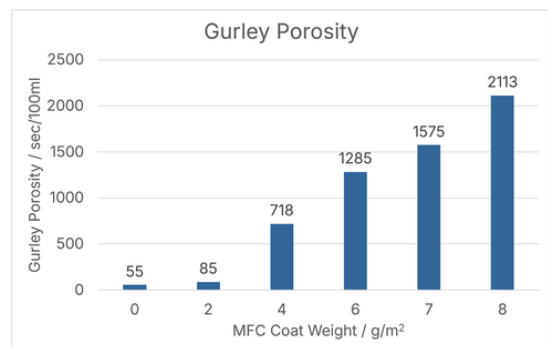
## Trial Background

- ✓ Apply varying levels of MFC to surface of 40 g/m<sup>2</sup> base paper at wet-end of paper machine to evaluate barrier properties.
- ✓ Machine speed: 420 m/min
- ✓ MFC produced using FiberLean G250 grinder.
- ✓ 8 gsm MFC coated paper offline coated with starch coating.



## Outcomes

- ✓ As demonstrated by porosity, significant closure of sheet through application of MFC.
- ✓ Pinholes were visible in oil draw down tests, so the surface was not yet "completely closed" to a point where full barrier properties could be achieved.
- ✓ Nonetheless, improved surface of MFC coated papers resulted in significant reduction in barrier coating requirements when tested in laboratory coating evaluations.
- ✓ Post trial addition of starch coating by customers resulted in PFAS free-mid level grease resistant paper for fast food wrap.



8 g/m<sup>2</sup> MFC – Droplet test with Oleic Acid.

## MFC production equipment recommendation: FiberLean G250

- Grinder footprint: 2.6 x 2.6 m
- Throughput: 96 - 447 dry kg MFC/h (3500 - 750 kWh/t energy input)
- Suitable for all chemical and most recycled pulps
- Food contact regulatory clearance





# FiberLean

Strength by Design



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