

## WEIDMANN FIBER TECHNOLOGY

### NATIVE MICROFIBRILLATED CELLULOSE FOR WIDE RANGE OF APPLICATIONS: WMFC Q\_ADVANCED

The microscale fibrils contained in one drop of WMFC Q\_advanced provide a surface area equivalent to one tennis court.

Combined with the strength of our all-natural, sustainably grown cellulosic fibers, WMFC Q\_advanced is the ideal solution for applications in structural re-inforcement, rheological and functional modifications. Our gentle defibrillation process, using only the highest quality of sustainably grown plants, is able to extract the elementary fibril of the original fiber matrix. WMFC Q\_advanced is the ideal base material for surface protection, gas barriers, rheological modifiers in cosmetics, high capacity absorbents, membranes and various applications in health care.

#### RAW MATERIAL

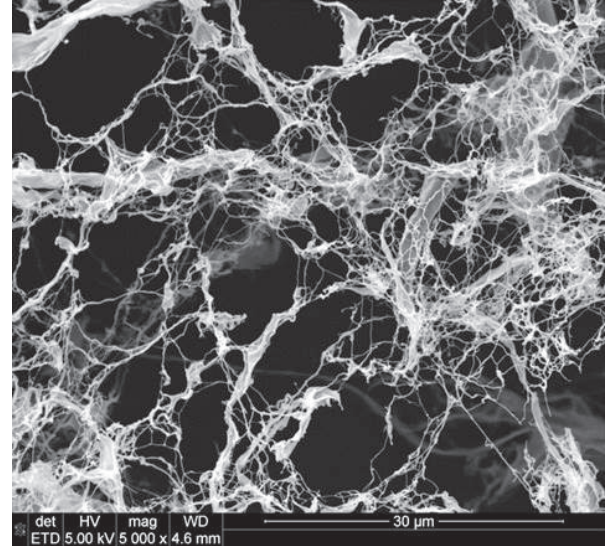
The carefully selected raw material for WMFC Q\_advanced is locally sourced, sustainably grown, bleached softwood pulp from EMAS and ISO 9001 certified suppliers. All pulps used are either ECF (elementary chlorine free) or TCF (total chlorine free) bleached. A blend of pulps sourced from different suppliers guarantees a long-term stability of quality and a secured supply chain.

#### RAW MATERIAL PROPERTIES

Parameter	Method	Unit	Property
Cellulose content	Internal	%	> 85
Hemicellulose content	Internal	%	> 5
Lignin content	Internal	%	< 1
DP	IEC 60450		800 - 1100
Ash	IEC 60641-2	%	0.1 - 0.5
pH	IEC 60641-2		5 - 8
Conductivity of aqueous extract	IEC 60641-2	mS/m	1.5 - 15

#### PROPERTIES OF WMFC Q\_ADVANCED

WMFC Q\_advanced is characterized by very high water retention properties, low non-organic contamination and a narrow particle size distribution in combination with fibrils showing both a high aspect ratio and high viscosity. The high water retention value of 15 grams of water per

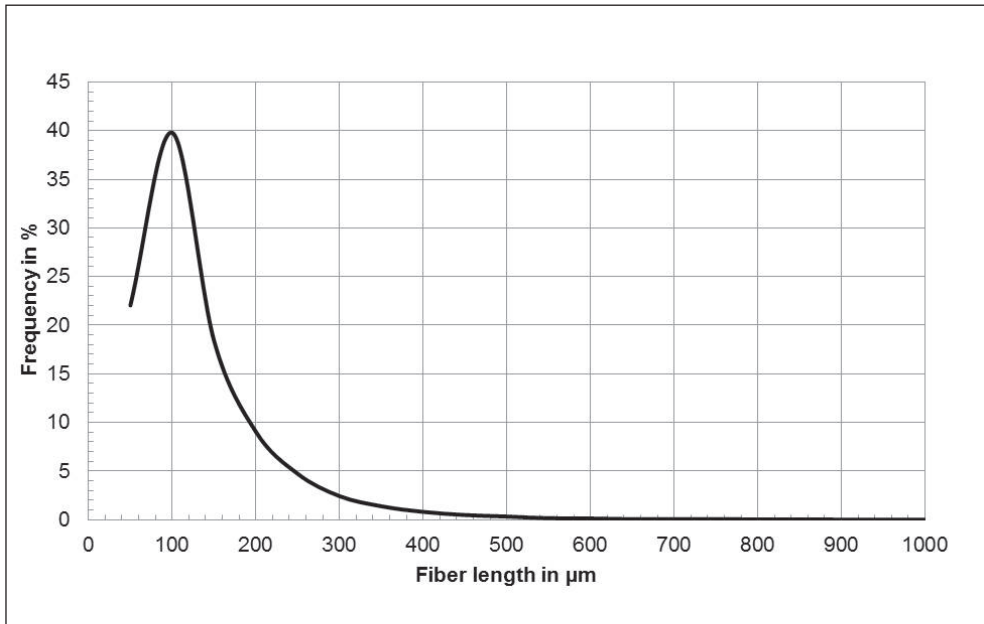


Scanning Electron Microscope (SEM) image of WMFC

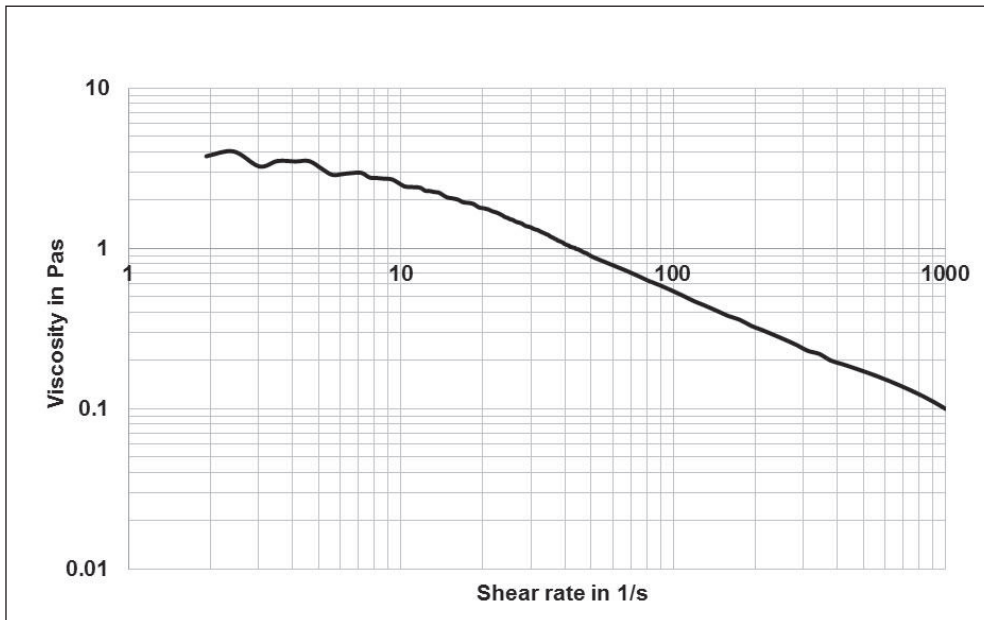
gram is one of the indicators of the very high surface area of WMFC Q\_advanced. Our product stands out due to its very narrow particle size distribution focused around 100 µm, hereby giving you direct access to the cellulose hydroxyl and carboxyl groups for further modification.

Our unique, chemical-free manufacturing process guarantees a high purity with very low non-organic contamination. Viscosity at different shear rates is constantly monitored during the production process ensuring our high standard of rheological properties.

Parameter	Method	Unit	Property
Water retention value	Internal	g H <sub>2</sub> O / g WMFC	> 15
Ash content	IEC 60641-2	%	0.2 - 0.8
pH (hot extraction method)	IEC 60641-2		6.0 - 8.0
DP	IEC 60450		800 - 1000
Conductivity of aqueous extract	IEC 60641-2	mS/m	2 - 20
Viscosity @ 100 1/s	Internal	Pas	0.25 - 0.55
Viscosity @ 500 1/s	Internal	Pas	0.10 - 0.20
Viscosity @ 1000 1/s	Internal	Pas	0.06 - 0.12
Particle ratio ≤ 200 µm	TAPPI-T271	%	≥ 80
Particle ratio ≥ 500 µm	TAPPI-T271	%	≤ 2



Average fiber length distribution of WMFC Q\_advanced



Viscosity of WMFC Q\_advanced

### ADDITIONAL INFORMATION

WEIDMANN Microfibrillated Cellulose Q\_advanced is offered in a range of solid content from 2 to 25 %. The durability of WMFC Q\_advanced at 10 °C is twelve (12) weeks, at 25 °C six (6) weeks. The durability can be extended by adding a biocide but may influence certain product properties. Please contact us for any special requirements.