

## Kormax UHMWPE Eco

## Kormax Material Document

Kormax UHMWPE Eco [short for Ultra-high Molecular Weight Polyethylene] has excellent chemical resistance, good fatigue, and excellent wear resistance. This material uses a portion of regrind from the premium grade in the production phase and thus minimizes what ends up in landfill. The specific gravity of polyethylene is less than 1; hence it floats in water and is easy to identify. Kormax UHMWPE Eco has great impact resistance, and can be used in temperatures as low as -80 °C. Most grades are non-toxic, however, UHMWPE Eco is not recommended for applications in direct contact with food but rather used for conveyors and other food processing machinery. Additionally, it is easily machinable.

	<b>Max Continuous Operating Temperature</b>	<b>80°C</b>		<b>Density</b>	<b>0.93</b>
	<b>Tensile Strength</b>	<b>4.1 MPa</b>		<b>Moisture Absorption</b>	<b>0.0%</b>
	<b>Suitability for Food Contact</b>	<b>No</b>		<b>Machinability</b>	<b>Moderate</b>
	<b>Coefficient of Friction to Steel</b>	<b>Excellent</b>			

### Physical Properties

	Test Method	Unit	Value
Specific gravity ( $\rho$ )	ISO 1183	g/cm <sup>3</sup>	0.93
Water absorption <sup>9</sup>	ISO 62	%	<0.01
Maximum permissible service temp. <sup>9</sup>	UL746B	°C	80
Lower permissible service temp. <sup>9</sup>	UL746B	°C	-100

### Mechanical Properties

	Test Method	Unit	Value
Yield stress	ISO 527	N/mm <sup>2</sup>	≥17
Elongation at yield	ISO 527	%	≥ 8
Modulus of elasticity	ISO 527	MPa	≥700
Impact strength (Charpy)	ISO 179	kJ/m <sup>2</sup>	Without breakage

### Thermal Properties<sup>9</sup>

	Test Method	Unit	Value
Melting range DSC, 10k/min	ISO 3146	°C	130-135
Thermal conductivity	ISO 52612	W/(m*K)	~ 0,41

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<sup>1</sup> The physical data contained in this table are typical values and reflect the current state of our knowledge. The data are arithmetic average values which are tested by test specimens made out of rods (ø 40-60 mm). These has to be understood as guidelines, and shall not be used for specification purposes for finished parts. Missing data are completed by data of the raw materials.

<sup>5</sup> Physiological indifferences are valid for nature coloured materials on the raw material side. There are also approvals for our semi-finished products available or in preparation. Please check this separately with us. <sup>6</sup> Valid for nature coloured materials. An additional UV protection can be taken over by special pigments e.g. carbon black. <sup>7</sup> Test results without UL registration <sup>8</sup> Data are only valid for natural colours <sup>9</sup> Data taken from raw material \*Self-assessment without test certificate \* Own classification without official test report n.b. = No break + = yes o = Limited - = no / no data available

Notes for the user: The values given in this data sheet are based on a sheet with a 40mm thickness. Depending on the thickness the technical values may vary during processing.

The technical data given in this sheet correspond to our current state of knowledge and should not be construed as an agreement or guarantee regarding certain properties of our products. The decision on the suitability of a particular material for a specific application is up to the user. We reserve the right to modify the given data. Errors of the given data are reserved. The document was produced by machine and is valid without signature.