

# Technical data sheet

## St 1000®

<b>General properties</b>				
Material designation	St 1000®			
Material colour(s)	natural (7000), green (4004), black (6000)			
Raw material	PE-UHMW   Ultra-high-molecular polyethylene			
Molecular weight (Average molar mass)	> 4,4 Mio.			
<b>Mechanical properties</b>		<b>Unit</b>	<b>Test method</b>	<b>Value</b>
Density	g/cm <sup>3</sup>	DIN 53479		<b>0,96</b>
Tensile strength	N/mm <sup>2</sup>	DIN 53455		<b>27</b>
Shore D hardness, 15s - Value	Skala D	DIN 53505		<b>64 - 67</b>
Ball indentation hardness, 30s - Value	N/mm <sup>2</sup>	DIN ISO 2039 Teil 1		<b>38</b>
Ultimate tensile strength	N/mm <sup>2</sup>	DIN 53455		<b>40,5</b>
Elongation at break	%	DIN ISO / R 527		<b>400</b>
Modulus of elasticity	N/mm <sup>2</sup>	DIN 53457		<b>700</b>
Notched impact strength (Charpy)	kJ/m <sup>2</sup>	DIN 53457		<b>&gt; 80 - 140</b>
Abrasion	%	Sand Slurry method		<b>100</b>
Coefficient of friction	μ			<b>0,1 - 0,2</b>
<b>Thermal properties</b>		<b>Unit</b>	<b>Test method</b>	<b>Value</b>
Dimensional stability under heat	°C	DIN 53461		<b>47</b>
Vicat softening temperature	°C	DIN 53460		<b>79</b>
Crystalline melting range	°C	DTA		<b>130 - 135</b>
Thermal conductivity at 23°C	W / (K * m)			<b>0,42</b>
Specific heat at 23°C	kJ / (K * Kg)			<b>1,8</b>
Coefficient of linear expansion at 23°C	10 <sup>-5</sup> * (1/K)	DIN ISO 11359		<b>20</b>
Fire behaviour		UL 94		<b>HB</b>
Application temperature (min.)	°C			<b>- 200</b>
Application temperature (constant)	°C			<b>+ 80</b>
Moisture absorption	%			<b>&lt; 0,01</b>
<b>Electrical properties</b>		<b>Unit</b>	<b>Test method</b>	<b>Value</b>
Specific volume resistance	Ω * cm	IEC 60093		<b>10<sup>15</sup></b>
Surface resistance	Ω	IEC 60093		<b>10<sup>14</sup></b>
Dielectric strength	KV/mm	IEC 60243		<b>45</b>
<b>Conformity with food secure regulations</b>				
FDA	Conforms to FDA regulations			
EU	EU 1935/2004 - EU 10/2011 [FSP quality]			

Our employees are available to answer all of your questions.

You can find additional information on our material qualities on the internet at [www.wefapress.com/en/materials](http://www.wefapress.com/en/materials).

All stated information reflects our current knowledge. No agreement or guarantee regarding specific characteristics can be derived from the information contained in the datasheets. Each user is responsible for deciding on the suitability of a material for a specific purpose. The data supplied are subject to change.

The materials labelled as a "Food Secure Product" (FSP) comply with the provisions of Regulations (EU) No. 10/2011 and No. 1935/2004.