Technical data
Murlubric® black

production based on PA6 C

Technical properties	Standard	Unit	Values
ISO-terms	ISO 1043-1		PA6 C (oil)
Material colours			black
Similar RAL			9017
Density	ISO 1183-1	g/cm³	1.14
Water absorption			
- after 24/96 h storage in water at 23 °C	ISO 62	%	0.66/1.24
- saturation in standard atmosphere of 23 °C/50 % RH		%	2
- saturation at 23°C		%	6.3

Mechanical properties [1]	Standard	Unit	Values
Yield stress +/++	ISO 527-1/-2	MPa	72/45
Break stress +/++	ISO 527-1/-2	MPa	-
Breaking elongation +/++	ISO 527-1/-2	%	≥ 25/≥ 50
Coefficient of elasticity +/++	ISO 527-1/-2	MPa	2800/1700
Pressure test – compression strength at 1/2/5% nom. compression	ISO 604	MPa	22/43/79
Impact toughness (Charpy)	ISO 179-1/1eU	kJ/m²	50
Notch impact toughness (Charpy)	ISO 179-1/1eA	kJ/m²	≥ 4/≥ 15
Ball indentation hardness	ISO 2039-1	N/mm²	145
Coefficient of sliding friction (dry) [2]	Factory standard		0.18
Sliding abrasion [3]	Factory standard	µm/km	0.05

Thermal properties	Standard	Unit	Values
Melting temperature	ISO 11357-1/-3	°C	215
Glass transition temperature	ISO 11357-2	°C	> 40
Temperature of heat resistance	ISO 75-1/-2	°C	75
Heat conductivity at 23 °C	ISO 22007-4	W/(K × m)	0.23
Linear thermal coefficient of expansion			
- Average value between 23 and 60 °C	ISO 11359-1/-2	m/(K × m)	80×10^{-6}
- Average value between 23 and 100 °C	ISO 11359-1/-2	m/(K × m)	90×10^{-6}
Upper service temperature in air			
- short term [4]		°C	160
- constant for 5000 h [5]		°C	105
- constant for 20000 h [5]		°C	90
Lower service temperature [6]	N.N.	°C	-20
Burning behaviour as per UL94 (sample thickness 3/6 mm) [7]	DIN IEC 60695-11-10		HB/HB

Electrical properties [1]	Standard	Unit	Values
Electric strength [8] +/++	IEC 60243-1	kV/mm	22/14
Volume resistivity +/++	DIN EN 62631-3-1	Ohm × cm	$> 10^{14}$/$> 10^{12}$
Surface resistivity +/++	DIN EN 62631-3-2	Ohm	$> 10^{13}$/$> 10^{12}$
Comparative tracking index (CTI)	DIN EN 60112	V	600

Food compliance	Standard	Unit	Values
FDA			No
EU 10/2011			No

Legend

The aim of the material characteristic tables, which are to some extent based on data provided by our raw material suppliers and in general literature, is to help you to quickly compare/select a material. The values stated are short-term values that may be affected by processing, environmental, and application conditions. The customer is solely responsible for the selected material's suitability for the specific application.

RH (relative humidity)
+ Dry
++ Humid (saturation in standard atmosphere of 73.4°F/50% RH)
NB (no break)
N.N. (not named)
UL (Underwriters Laboratories)
HB (horizontal burning)

1) The mechanical and electrical characteristics are based on a test in a standard atmosphere at 73.4°F/50% RH.

2) Against steel (hardened and ground), p=0.05 MPa, v=0.6 m/s, T=68°F.

3) Against steel (hardened and ground), T=104°C near the running surface.

4) Temperature stress for several hours; no or low mechanical stress (short-term service temperature).

5) Temperature stress over the specified period; then reduction (approx. 50%) of tensile strength of initial value.

6) As the temperature decreases, the impact strength drops. The specified values are based on the most unfavorable impact load possible and are not absolute practical limits (lower service temperature).

7) No independent testing conducted. Information based on raw material manufacturers.

8) The electric strength can be up to 50% lower than for natural-colored materials (for black Murylon® B/A, Murytal® C/H, Murylat®).

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