Technical Information

Original Material "S"® black antistatic

Production based on PE-UHMW SG 1.2

	Standard	Unit	Characteristics
Code	ISO 1043-1		PE-UHMW
Sheet group	ISO 15527		1.2
Material colour			Black
Average molecular weight		g/mol	$5 \cdot 10^6$
Density	ISO 1183	kg/dm³	≤ 0,93
Mechanical properties [1]			
Yield/break stress	ISO 527	MPa	20,6
Breaking elongation	ISO 527	%	320
Notch impact toughness (Charpy)	ISO 179	kJ/m²	≥ 120
Shore hardness D	DIN 53505	°	61 – 63
Indentation hardness		MPa	38
Sand-Slurry-Test		%	110
Coefficient of sliding friction (dry)			0,1 – 0,2
Thermal properties			
Heat conductivity at 23° C	ISO 52612	W/(K · m)	0,4
Linear thermal coefficient of expansion α:	ISO 11359		
- Average value between 23 and 60° C		m/(m · K)	$20 \cdot 10^{-5}$
Upper service temperature in air:			
- Short-term service temperature [2]		°C	90
- Constant: for 5000 h [3]		°C	80
Lower service temperature [4]		°C	-150
Burning behaviour as per UL94			HB
Electrical properties			
Electric strength	IEC 60243	kV/mm	
Specific contact resistance	IEC 60093	Ω · cm	$\leq 10^6$
Surface resistance	IEC 60093	Ω	$\leq 10^9$
Approved for use in the food industry			
FDA			Yes
EU 1935/2004 (only [FS] material)			Yes
Under the material name **Original Material "S"® black antistatic [FS]** also available as Food Safe Material ref. EU 1935/2004			

LEGEND

according the following material characteristic tables

The material characteristic tables, which are based on data from our suppliers of raw materials, are intended to help you to quickly compare/select a material. The values stated are short-term values that can be affected by processing, environmental, and application conditions. The customer is solely responsible for the suitability of the selected material for the specific application.

HB Horizontal Burning

UL Underwriters Laboratories

also available as Food Safe Material ref. EU 1935/2004

1) The mechanical and electrical characteristics are based on a test temperature of 23°C

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

3) Temperature stress for 5000h; then reduction (approx 50 %) of tensile strength of initial value (constant: for 5000h)

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

Chemical resistance of our materials:

For a detailed selection chart, see our Internet pages at **www.murtfeldt.com**.

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