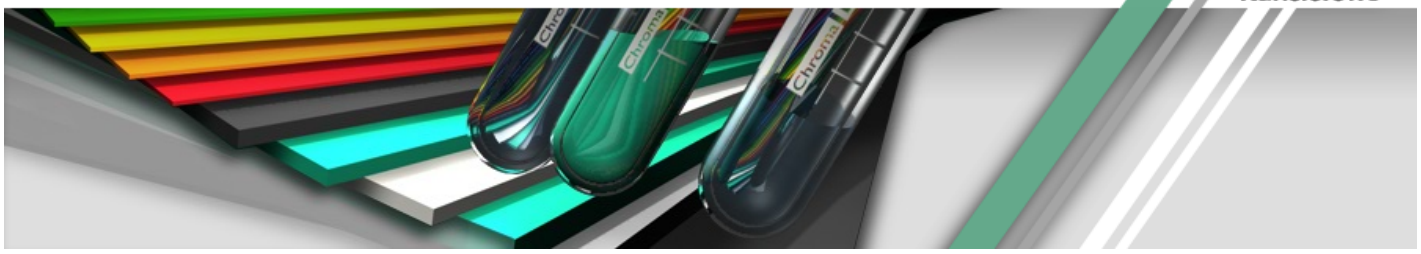
Characteristics

ORIGINAL MATERIAL "S"® GREEN/WHITE



	Standard	Unit	Values
Material colour	-	-	green/white
Code	ISO 1043-1	-	PE-UHM
Average molecular weight 7)	-	g/mol	5 x106
Density	ISO 1183	kg/dm^3	≥0,93
Water absorption – saturation in standard atmosphere 23°C/50%	ISO 62	%	<0,01
– saturation in water		%	<0,01
Mechanical properties 4)			
Yield/break stress	ISO 527	MPa	≥17/-
Breaking elongation	ISO 527	%	≥300
Coefficient of elasticity (pulling test)	ISO 527	MPa	700
Pressure test – compression strength at 1/2/5% nominal	ISO 604	MPa	4,5/8/14
Impact strength (Charpy)	ISO 179	kJ/m^2	k.B.
Notch impact toughness (Charpy)	ISO 179	kJ/m^2	≥170
Indentation hardness	ISO-2039-1	MPa	38
Shore hardness D	DIN 53505	°	66
Coefficient of sliding friction (dry)	-	-	0,1-0,2
Sand Slurry test	ISO 15527	%	100
Thermal properties			
Melting temperature	ISO 3146	°C	130-135
Glass transition temperature	-	°C	-120
Heat conductivity at 23°C	ISO 52612	W/(K x m)	0,4
Linear thermal coefficient of expansion α:	ISO 11359		
– Average value between 23 and 60°C		m/(m x K)	20 x10^{-5}
Upper service temperature in air:			
– Short-term service temperature 1)	-	°C	90
– Constant: for 5000h 2)	-	°C	80
Lower service temperature 3)	-	°C	-200
Burning behaviour as per UL 94 – sample thickness 3/6mm	-	-	HB
Electrical properties 4)			
Electric strength 5)	IEC 60243	kV/mm	≥45
Specific contact resistance	IEC 60093	Ohm x cm	>10^{14}
Surface resistance	IEC 60093	Ohm	>10^{13}
Relative permittivity: – At 100 Hz	IEC 60250	-	2,1
– At 1 MHz	IEC 60250	-	3
Dielectric loss factor tan δ: – At 100 Hz	IEC 60250	-	0,00039
– At 1 MHz	IEC 60250	-	-
Physiological properties 6)			
Approved for use in the food industry (EU and FDA)	-	-	+

LEGEND

+ Dry
++ Air-moist (saturation in standard atmosphere of 23°C/ 50% RH)
RH Relative humidity
NB No break

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

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

3) 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)

4) T he mechanical and electrical characteristics are based on a test temperature of 23°C

5) The electric strength can be up to 50% lower than for natural coloured materials (for black Murylon® B, Murylon® A, Murytal® C/H, and Murylat®)

6) In the case of materials marked with "+", raw materials that meet the requirements of Directive 2002/72/EC, the German Federal Institute for Risk Assessment, and the FDA directives are used (approved for use in the food industry)

7) Sheet group classification as per DIN 16972

Chemical resistance of our materials: For a detailed selection chart, see our Internet pages at
www.murtfeldt.com

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.