

Technical Data Sheet

GEHR PA 6[®]



I. Physical Properties¹⁾

	Test method	Unit	Value
1. Specific gravity (ρ)	ISO 1183	g/cm ³	1,13
2. Water absorption	ISO 62	%	9,5
3. Humidity absorption			2,8
4a. Maximum permissible service temp	UL746B	°C	100
4b. Lower permissible service temp			-40

II. Mechanical Properties

	Test method	Unit	Value
1. Tensile strength at yield (σ_s)	ISO 527	MPa	83
2. Elongation at yield. (ϵ_s)		%	10
3. Tensile strength at break (σ_R)		MPa	54
4. Elongation at break (ϵ_R)		%	> 50
5. Impact strength (a_n)	ISO 179	kJ/m ²	n.b.
6. Notch impact strength (a_k)			7
7. Ball indentation (H_k)/Rockwell hardness	ISO 2039	MPa	155
8. Shore-D	ISO 868		80
9. Flexural strength ($\sigma_{B,3.5\%}$)	ISO 178	MPa	100
10. Modulus of elasticity (E_t)	ISO 527		3330

III. Thermal Properties

	Test method	Unit	Value
1. Vicat-softening point. VST/B/50	ISO 306	°C	-
VST/A/50			204
2. Heat deflection temperature. HDT/B	ISO 75		190
HDT/A			75
3. Coef. of linear thermal expansion (α)	ISO 11359	K ⁻¹ *10 ⁻⁴	1,1
4. Thermal conductivity at 20 °C (λ)	ISO 22007-4	W/(m*K)	0,32
5. Glass transition temperature. (T_g)	ISO 3146	°C	60
6. Melting temperature (T_m)			220

IV. Electrical Properties

	Test method	Unit	Value
1. Volume resistivity (ρ_D) ⁸⁾	IEC 60093	Ω *cm	$\geq 10^{13}$
2. Surface resistivity (R_o) ⁸⁾		Ω	$\geq 10^{13}$
3. Dielectric constant at 1MHz (ϵ_r)	IEC 60250	-	3,7
4. Dielectric loss factor at 1 MHz ($\tan\delta$)		-	0,03
5. Dielectric strength	IEC 60243-1	kV/mm	30
6. Tracking resistance	IEC 60112	V	CTI 600

V. Additional Data

	Test method	Unit	Value
1. Bondability	-	-	+
2. Physiological indifference ⁵⁾ according	EEC FDA	- -	+ +
3. Flammability	UL 94	-	HB
4. Limiting Oxygen Index (LOI)	ASTM D2863	%	23
4. UV stabilisation ⁶⁾	-	-	-

1) The figures stated here are approximate values based on experience currently gathered by experts. They are determined on the basis of raw materials, so that a divergence of values on the ultimate product cannot be precluded. Any legally binding guarantee of certain properties, or any suitability for a specific application cannot be inferred from the present data.

2) Pretreatment necessary. 3) 65 (round rods 160 - 200 mm \varnothing) 57 (round rods 220 - 300 mm \varnothing).

4) 59 (round rods 160 - 200 mm \varnothing) 51 (round rods 220 - 300 mm \varnothing). 5) Physiological indifferences are valid for nature coloured materials.

6) Valid for nature coloured materials. An additional UV protection can taken over by special pigments e.g. carbon black.

7) Test results without UL registration 8) Data are only valid for natural colours 9) 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