

Technical Data Sheet

GEHR PPS-40GF®



I. Physical Properties¹⁾

	Test method	Unit	Value
1. Specific gravity (ρ)	ISO 1183	g/cm ³	1,65
2. Water absorption ⁹⁾	ISO 62	%	0,02
3. Humidity absorption ⁹⁾			0,01
4a. Maximum permissible service temp. ⁹⁾	UL746B	°C	230
4b. Lower permissible service temp. ⁹⁾			-

II. Mechanical Properties

	Test method	Unit	Value
1. Tensile strength at yield (σ_S)	ISO 527	MPa	83
2. Elongation at yield (ϵ_S)		%	-
3. Tensile strength at break (σ_R)		MPa	185
4. Elongation at break (ϵ_R)		%	4
5. Impact strength (a_n) ⁹⁾	ISO 179	kJ/m ²	26
6. Notch impact strength (a_k) ⁹⁾			-
7. Ball indentation (H_k)/Rockwell hardness ⁹⁾	ISO 2039	MPa	343 / M 100
8. Shore-D	ISO 868		90
9. Flexural strength ($\sigma_{B, 3,5\%}$) ⁹⁾	ISO 178	MPa	145
10. Modulus of elasticity (E_t)	ISO 527		7630

III. Thermal Properties⁹⁾

	Test method	Unit	Value
1. Vicat-softening point VST/B/50	ISO 306	°C	-
			VST/A/50
2. Heat deflection temperature HDT/B	ISO 75		-
			HDT/A
3. Coef. of linear thermal expansion (α)	ISO 11359	K ⁻¹ *10 ⁻⁴	0,3
4. Thermal conductivity at 20 °C (λ)	ISO 22007-4	W/(m*K)	0,25
5. Glass transition temperature (T_g)	ISO 3146	°C	90
6. Melting temperature (T_m)			280

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) ⁹⁾	IEC 60250	-	4
4. Dielectric loss factor at 1 MHz ($\tan\delta$) ⁹⁾		-	0,004
5. Dielectric strength ⁹⁾	IEC 60243-1	kV/mm	28
6. Tracking resistance ⁹⁾	IEC 60112	V	CTI 125

V. Additional Data

	Test method	Unit	Value
1. Bondability	-	-	+
2. Physiological indifference ⁵⁾ according	EEC	-	-
	FDA	-	+
3. Flammability ⁹⁾	UL 94	-	V-0
4. Limiting Oxygen Index (LOI) ⁹⁾	ASTM D2863	%	-
5. UV stabilisation ⁶⁾	-	-	0

1) The physical data contained in this table are typical values and reflect the current state of our knowledge. The data are arithmetic average values which are tested by test specimens made out of rods (\varnothing 40-60 mm). These has to be understood as guidelines, and shall not be used for specification purposes for finished parts. Missing data are completed by data of the raw materials.

5) Physiological indifferences are valid for nature coloured materials on the raw material side

6) valid for nature coloured materials. An

additional UV protection can be 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