handtmann
Ideas for the future.

LAURAMID® MATERIAL DATA

General properties	Test procedure	Units/data	Lauramid® A / Lauramid® FS with metal composite	Lauramid® B / Lauramid® FS without metal composite
Density	DIN EN ISO 1183	kg/dm³	1.025	1.025
Relative solution viscosity	DIN 53737	rel.	inseparable	inseparable
Water absorption (%) with standard climate	DIN EN ISO 62		0.9	0.9
Water absorption (%) with water storage	DIN EN ISO 62	23 °C/saturated	1.4	1.4
Extract content (ethanol)	Company standard	%	max. 1	max. 1
Melting point	DIN EN 3146	°C	183	190
Mechanical properties				
Ball impression hardness	DIN EN ISO 2039-1	H358	117	122
Shore hardness D	DIN EN ISO 868		76	76
Compressive strength	DIN EN ISO 604	Mpa	54 - 58	54 - 58
Modulus of elasticity (pressure)	DIN EN ISO 604	Mpa	1,400 - 1,800	1,600 - 2,000
Yield stress	DIN EN ISO 527	Mpa	51 - 58	65 - 62
Breaking strength	DIN EN ISO 527	Mpa	30 - 40	37 - 50
Modulus of elasticity (tensile)	DIN EN ISO 527	Mpa	1,800 - 2,000	2,000 - 2,400
Elongation for yield stress	DIN EN ISO 527	%	9 - 13	7 - 11
Elongation for breakage	DIN EN ISO 527	%	>200	15 - 22
Modulus of elasticity (flexion)	DIN EN ISO 178	Mpa	1,550 - 1,900	1,850 - 2,200
Flexural stress with conventional flexion	DIN EN ISO 178	Mpa	57 - 64	64 - 70
Notch resistance (Charpy) +23 °C -30 °C	DIN EN ISO 179	KJ/m²	 15 - 28 8 - 18	 5 - 12 4 - 9
Coefficient of sliding friction		Lauramid®/metal	0.3	0.3
Electrical properties				
Surface resistance	DIN IEC 93	Ω	$6.6 \cdot 10^{15}$	$6.6 \cdot 10^{15}$
Spec. contact resistance	DIN IEC 93	Ω cm	$3 \cdot 10^{14}$	$3 \cdot 10^{14}$
Dielectric constant	DIN IEC 250		3.5	3.5
Dissipation factor	DIN IEC 250		$3.8 \cdot 10^{-4}$	$3.8 \cdot 10^{-4}$
Tracking Resistance KB Tracking Resistance KC	DIN EN 60112	CTI A	550 600	550 600
Dielectric strength	IEC 243-1	kV / mm	24.4	24.4
Thermal properties				
Lin. expansion coefficient -50 – (-30) °C +30 – (+80) °C	 DIN 53752 DIN 53752	 10^{-4}/°C 10^{-4}/°C	 0.8 - 1.0 1.0 - 1.8	 0.8 - 1.0 1.0 - 1.8
Application temperature max. short-term		°C	to 150	to 150
Continuous service temperature (< 10^4 h)	IEC 60216-1 in oil IEC 60216-1 in water IEC 60216-1 in air	°C	140 90 120	140 90 120
Vicat	DIN EN ISO 306/B	°C	172 - 180	185 - 191
Thermal resistance	DIN EN ISO 75/A DIN EN ISO 75/B	°C °C	80 - 115 186	176 - 190 194
Specific heat	DIN EN ISO 11357	kj/kgK	2.4	2.4
Coefficient of thermal conductivity	DIN EN 52612	W/mk	0.27	0.27
Brittleness in cold		°C	-50	-50
Flammability	UL 94		≥10 mm V0 ≥6 mm HB	≥10 mm V0 ≥6 mm HB

Lauramid® A = Lauramid® with metal composite (LMV)
Lauramid® B = Lauramid® without metal composite
Lauramid® FS = Food-safe Lauramid® with and without metal composite