

MATERIAL DATA SHEET

HICOMPELT® CL-C45(4)01/52

HICOMPELT® CC is a carbon fiber reinforced polyamide 12 (PA 12) made in a T-RTM process. The low viscosity melt is injected under pressure into a mould where it polymerizes. This so called in-situ process is new and offers a great possibility to achieve high fiber volume contents. The following data were measured in tests of test samples.

ATTRIBUTE	TEST METHOD	VALUE	UNIT
Density	DIN EN ISO 1183	1.4	kg/dm ³
Yield stress in 0° direction	DIN EN ISO 527-4	800 - 900	Mpa
Yield stress in 90° direction	DIN EN ISO 527-4	800 - 900	Mpa
Flexural strength in 0° direction	DIN EN ISO 14125	600 - 700	Mpa
Flexural strength in 90° direction	DIN EN ISO 14125	300 - 400	Mpa
Traction E-Modulus in 0° direction	DIN EN ISO 527-4	60000	Mpa
Traction E-Modulus in 90° direction	DIN EN ISO 527-4	60000	Mpa
Modulus of elasticity in flexure in 0° direction	DIN EN ISO 14125	85000	Mpa
Modulus of elasticity in flexure in 90° direction	DIN EN ISO 14125	15000	Mpa
ILSS in 0°/ 90° direction	DIN EN ISO 14130	(N)	Mpa
Fiber volume content	DIN EN ISO 1183-1	52.5	%
Porosity (> 75 µm)	3D CT- inspection	< 0.25	%
Residual monomer content	AA-031-PA	< 1	%

ATTRIBUTES OF THE MATRIX

Burning rate	EN 45545-2 T04	≥ 10.9	CHF
Smoke emission	EN 45545-2 T10.03	131	D _s max.
Ozone resistance (2 ppm)	ISO 1431-C	0	crack size
Water absorption	DIN EN ISO 62	< 1.4	%
Vicat-B-50	DIN EN ISO 306	170 - 180	°C

Textile constitution of the testing plate: 0/90/90/0. The specimen were machined.
(N)= the breakdown behaviour is not following the norm standards

HICOMPELT® CL has a very good impact resistance. Compared to polyamide 6 (PA 6) the matrix has a very low water absorption, a good hydrolysis constancy and good chemical resistance.

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