AIRTECH INTERNATIONAL INC.

5700 Skylab Road
Huntington Beach
CA 92647 USA

Phone : +1 714-899-8100
Fax : +1 714-899-8179

E-mail : airtech@airtechintl.com
Website : www.airtechonline.com

SUPPLEMENTAL DATA SHEET

DAHLTRAM® C-250CF

Medium temperature additive manufacturing

MECHANICAL PROPERTIES

Physicals	Typical Values	Test Method
Base Polymer	Modified PC	
Reinforcement	Carbon Fiber	
% Loading	20% by Weight	
Density as Printed	0.044 lb/in^3 (1.21 g/cc)	ASTM D792
Tensile Strength		
X Direction	16.3 ksi (112.4 MPa)	Modified ASTM D638
Z Direction	7.3 ksi (50.3 MPa)	Modified ASTM D638
Tensile Modulus		
X Direction	1.6 Msi (11 GPa)	Modified ASTM D638
Z Direction	0.52 Msi (3.0 GPa)	Modified ASTM D638
Elongation at Break		
X Direction	1.5%	Modified ASTM D638
Z Direction	1.8%	Modified ASTM D638
Flexural Strength		
X Direction	26.1 ksi (180 MPa)	Modified ASTM D790
Z Direction	13.6 ksi (93.8 MPa)	Modified ASTM D790
Flexural Modulus		
X Direction	1.6 Msi (10.8 GPa)	Modified ASTM D790
Z Direction	0.6 Msi (3.8 GPa)	Modified ASTM D790
Shear Strength		
XZ Direction	5.6 ksi (38.6 MPa)	Modified ASTM D7078
ZX Direction	5.7 ksi (39.0 MPa)	Modified ASTM D7078
Shear Modulus		
XZ Direction	0.16 Msi (1.10 GPa)	Modified ASTM D7078
ZX Direction	0.18 Msi (1.23 GPa)	Modified ASTM D7078
Comprehensive Strength		
X Direction	20.5 ksi (141.0 MPa)	ASTM D695
Z Direction	16.5 ksi (113.7 MPa)	ASTM D695
Poisson's Ratio		
ν_{13}	0.320	Modified ASTM D638
ν_{31}	0.115	Modified ASTM D638

Last updated : 2021-08-13

Catalog position : Print-Tech®

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THERMAL PROPERTIES

Physicals	Typical Values	Test Method
HDT, 1.82 Mpa, 3.22 mm	291°F (144°C)	ASTM D648
Tg (Onset)	309°F (154°C)	ASTM D5024
Tg (Tan Delta)	325°F (163°C)	ASTM D5024
Coefficient of Thermal Expansion		
X Direction	6.04 ppm/°F (10.88 ppm/°C)	ASTM E831
Z Direction	61.15 ppm/°F (110.07 ppm/°C)	ASTM E831
Specific Heat (275°F/135°C)	0.396 BTU/(lb·°F) (1.657 J/(g·°C))	ASTM E1269
Thermal Conductivity		
X Direction	0.62 BTU/(h·ft·°F) (1.07 W/(m·°K))	ASTM E1530
Z Direction	0.18 BTU/(h·ft·°F) (0.32 W/(m·°K))	ASTM E1530

- All mechanical and thermal properties are based on optimal processing conditions and layer times. Airtech makes no guarantees of as printed properties.

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