

CIT CC384 ER450 40%

MECHANICAL PROPERTIES OF PREPREG LAMINATES

Test carried out on a fabric *ER450 – T700S 12k Carbon Prepreg*

PROPERTIES

Dry Fabric:	Unit	Typical Values
Weaving Style	-	Twill 2/2
Fiber Type	-	T700S 12k
Fiber Density	g/cm ³	1.8
Warp	threads/cm	2.4
Weft	threads/cm	2.4
Areal Weight	g/m ²	380 (± 4%)

Uncured Prepreg:	Unit	Typical Values
Tack	-	medium
Flow	%	10 (± 5%)
Out life @ 23°C	days	45
Storage life @ -18°C	months	12
Nominal Area weight	g/m ²	633
Nominal Resin content	Wt %	40 (± 3)
Volatile content	Wt %	< 1
Nominal Width	mm	1250
Cured Ply Thickness *	mm	0.417

Details provided in this document have been obtained from carefully controlled samples; data are an overview of this product and should not be intended as technical specification.

Because the properties of this product can be significantly affected by the fabrication and testing techniques employed and since CIT does not control the conditions under which its products are tested and used, CIT cannot guarantee that the properties provided will be obtained with other processes and equipment.

CIT has the right to change any data or information when deemed appropriate.

<i>Cured Material Property</i>	<i>Unit</i>	<i>Actual Value</i>
Tensile Modulus 0°	GPa	60.4
Tensile Strength 0°	MPa	1014
Elongation at break 0°	%	1.64
Poisson's ratio	-	0.07
Tensile Modulus 90°	GPa	60.7
Tensile Strength 90°	MPa	1007
Elongation at break 90°	%	1.71
Poisson's ratio	-	0.06
Compression Modulus 0°	GPa	56.7
Compression Strength 0°	MPa	642
Compression Modulus 90°	GPa	53.1
Compression Strength 90°	MPa	671
Flexural Modulus 0°	GPa	55.6
Flexural Strength 0°	MPa	1145
Flexural Modulus 90°	GPa	57.8
Flexural Strength 90°	MPa	1105
In-Plane Shear Modulus	GPa	4.22
In-Plane Shear Strength	MPa	94.5
In-Plane Shear Strength @ 5%	MPa	73.4
Inter-laminar Shear Strength 0°	MPa	67.6

(*) The tests were carried out @ 23°C and 60% R.H. on specimens cured in std conditions (dwell @135° for 120 minutes in autoclave. External pressure applied: 6 bar).

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