

GENERAL DESCRIPTION

CF/PA6 is a 60% carbon fiber by weight polyamide 6 (Nylon 6) uni-directional, continuous fiber reinforced thermoplastic (CFR-TP) material. This material exhibits high strength-to-weight ratio, excellent toughness and impact resistance and is a great choice where strength and toughness are critical. PA6 is often used as an alternative to metal where design flexibility as well as temperature and chemical resistance are critical.

PHYSICAL PROPERTIES

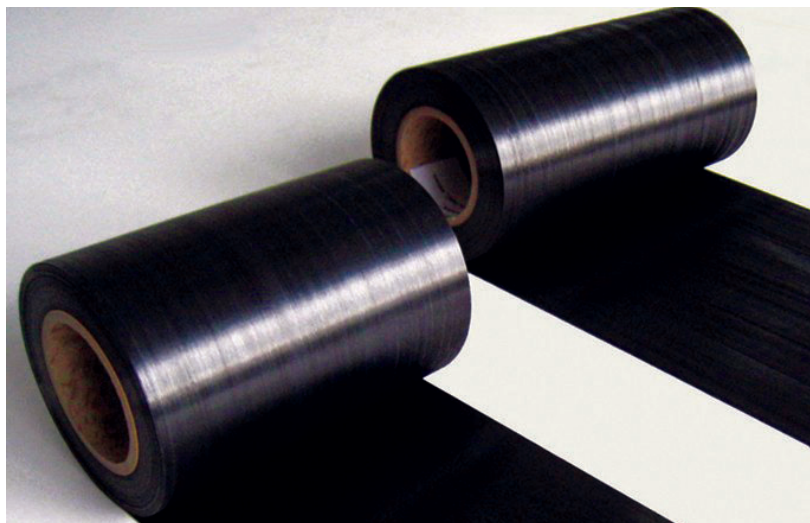
PHYSICAL PROPERTIES	VALUE	UNIT	TEST STANDARD
Fiber Material	Carbon Fiber		
Matrix Material	Polyamide 6 (PA6) (Nylon 6)		
Density	1.45	g/cm ³	ISO 1183
Fiber Content	60	% by wt.	—
Fiber Volume	48.5	% by vol.	—

MECHANICAL PROPERTIES

MECHANICAL PROPERTIES	VALUE	UNIT	TEST STANDARD
Tensile Strength, 0°	277,022	psi	ASTM D 3039M
Tensile Modulus, 0°	14.5	msi	ASTM D 3039M
Flexural Strength, 0°	150,840	psi	ASTM D 790/tape
Flexural Modulus, 0°	14.23	msi	ASTM D 790/tape

THERMAL PROPERTIES

THERMAL PROPERTIES	VALUE	UNIT	TEST STANDARD
Melting Temperature	223	°C	ISO 11357-1,-3
UL94 Rating	V-0	—	UL94



OTHER NOTES

- Excellent chemical resistance
- Excellent wear resistance
- Can be overmolded with other PA6 resins to provide added detail and finishes

COMMON APPLICATIONS

- Automotive structural components
- High performance sporting goods
- Action sports
- Military equipment
- Personal protective equipment

DISCLAIMER

All data provided is based upon representative samples of the materials listed, and do not reflect the method and environment in which they are processed into a designed part. Therefore, the listed values cannot be guaranteed by ORIBI to correlate into formed component.