ADVANCED COMPOSITES - A HIGH STRENGTH, HIGH STIFFNESS MATERIAL WITH EXCEPTIONAL MECHANICAL PROPERTIES

PHYSICAL PROPERTIES

	Composites	Metals	Wood
Heat Resistance	X	X	
High-Impact Strength	X	X	
Design Flexibility	X	X	X
Part Consolidation	X		
Dimensional Stability	X	X	
Nonconductive	X		X
Nonmagnetic	X		X
Radar Transparent	X		
Low Thermal Conductivity	X		
Durability	X		

Source: http://acmanet.org

PACIFIC COAST COMPOSITES

Unlike metals, composites can be engineered and designed for strength in a specific direction.

TENSILE STRENGTH

Composites have the highest tensile strength in structures today*

Concrete	2-5
Rubber	15
Polypropylene	25-40
Balsa	73
Copper	220
Stainless steel	505
Titanium alloy (Beta C)	1250
Spider silk	1400
Glass fiber	3400
Kevlar®	3620
Carbon fiber (AS4)	4300
Carbon nanotube	62000

Source:
http://en.wikipedia.org/wiki/Specific_strength
All measures in MPa (mega pascals)

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