	Density (kg/m3)	Youngs Modulus (Gpa)	Tensile Strength (MPa)	Shape Factor	Fatigue Strength (Mpa)	Fracture Toughness (Mpa/m)	Thermal Conductivity (W/m°C)	Thermal Expansion (microns/°C)	Embodied Energy (MJ/ kg)	CO2 (Kg/Kg)	Recyclable
Carbon Fiber	1590	59,8	451	11	116	6,04	1,45	4,33	328	21,8	No
Aluminum	2710	68,3	365	19,8	90	32,9	172	23,3	198	13,1	yes

Carbon fiber has a lower density. (important to achieve a lightweight component).

Carbon fiber requires less force to achieve a unit of deformation. (important to bend the triangles at the vertex -joints-).

Carbon fiber has more resistance to break under tension. (the material would resist more force (tension) when the component is compressed).

Aluminum can be optimized without loosing much of its capacity to buckle. (this parameter is important for the buckling of the material. Carbon fiber is a brittle material in shear, however the forces will just be applied parallel to the surace).

Carbon fiber resists more cycles of work (movements) before breaking. This has to do with the fatigue ratio of the material. (carbon fiber would last for longer after the geometry was opened and closed)

Aluminium is more resistant to impacts. (Aluminum would be more resistant to impacts and cracks would not propagate as easyly as in the carbon fiber. However, CF is unlikely to present rupture due to its high tensile and compression strength).

Carbon fiber transmits less heat per unit of distance. (we have to think about this because the platforms will be potentially exposed to direct sun -we dont want the material to overheat-).

Carbon fiber expands less per unit of temperature. (since our platforms will work under compression we have to consider the thermal expansion once the panels are fully closed).

Aluminium needs less energy to be produced. (more sustainable).

Aluminium produces less CO2 per Kg of production. (more sustainable).

Aluminium can be partially recycled and completely downcycled. Carbon fiber can only be partially downcycled. (Al is more sustainable).