

Technical Data Sheet

TYCOR[®] fiber-reinforced core products are designed for demanding structural applications. Designed for closed molding, TYCOR cores employ through-thickness fiberglass webs in low-density foam and surface skin reinforcements. The fiberglass webs offer high compression and shear strength while the surface skin reinforcements offer excellent core-to-skin bond for improved toughness and durability.

| TYCOR [®] Product | Density | Compressive Strength | Shear Strength | | Shear Modulus | |
|----------------------------|---------------------------|----------------------|--------------------|--------------------|--------------------|--------------------|
| | | | Length (along web) | Width (across web) | Length (along web) | Width (across web) |
| G6* | 5.5 lb/ft ³ ** | 410 psi | 261 psi | 26 psi | 19,000 psi | 800 psi |
| | 88 kg/m ³ ** | 2.8 MPa | 1.8 MPa | 0.18 MPa | 130 MPa | 5.5 MPa |
| G18* | 6.5 lb/ft ³ ** | 1095 psi | 448 psi | 34 psi | 37,000 psi | 900 psi |
| | 104 kg/m ³ ** | 7.6 MPa | 3.1 MPa | 0.23 MPa | 255 MPa | 6.2 MPa |

*TYCOR[®] core properties are based on a one-inch (1") thick core material molded with vinyl ester resin in vacuum infusion process.

**Density reflects resin infused density.

Standard TYCOR uni-directional, fiber reinforced core products offer excellent structural performance while maximizing weight and cost savings in many sandwich structural applications where bi-directional core properties are not needed. WebCore offers custom TYCOR products for demanding applications.

Please contact WebCore Technologies, Inc. for sales and customer support.

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Disclaimer: This document and the data contained herein are subject to revision without notice. Future changes to the product line may result in changes to the properties. Properties can be affected by resin selection, molding techniques, and process variables. The material properties provided in the sheet represent comparative and projected product performance, and do not therefore constitute design allowables. Any application of TYCOR[®] core should be subjected to acceptance tests, by the user, appropriate for the application. The data is furnished without liability to WebCore or its agents and does not constitute a warranty or representation in respect to the material or its use. Unique fiber architecture can require alternative test methods or coupon size to obtain accurate results.



Standard Product Dimensions

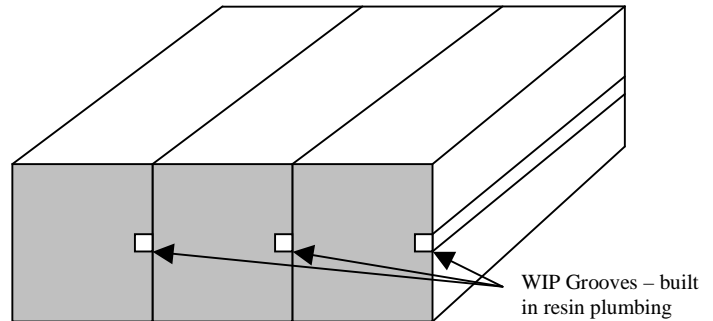
| TYCOR [®] Product | Thickness Range | Lengths | Width |
|----------------------------|-----------------|-----------------|---------|
| G6 | 3/8" – 4" | 96", up to 144" | 47" – 0 |
| G18 | 5/8" – 2" | 96", up to 144" | 47" – 0 |

***Dimensions established during mfg – slight dimensional changes may occur due to temp & humidity variation.

WebCore Infusion Process – WIP Grooves

Infusion process utilizing internal grooves to move resin throughout the sandwich laminate.

- Faster setup and tear down
- Less plumbing required
- Lower consumables
- Less resin consumed
- Dynamic robust infusion
- Lower number of pleats needed
- Greater flexibility in raw materials
- Higher viscosity resin and less permeable fiberglass mats & knits can be used
- Lower infused part cost.



***Must specify WIP Grooves when ordering

Benefits & Advantages

- Excellent impact damage tolerance
- Superior shear strength and stiffness
- High tensile pullout strength
- Machinable and formable
- High thermal and acoustical insulation
- Cost competitive
- Low moisture absorption: <math><0.077\text{lb}/\text{ft}^3</math> (ASTM D 2842)
- Buoyancy: 56.9 lb/ft³ for G6 and 55.9 lb/ft³ for G18
- R-value per inch for G6: 3.9 ft²hr°F/BTU
- R-value per inch for G18: 3.4 ft²hr°F/BTU

Applications

- **Marine:** swim platforms, cockpit floors, hard tops, fishing towers, bulkheads, decks, hulls, small parts
- **Transportation:** railcars, bus, truck walls, floors and roofs
- **Industrial:** tanks, containers, wind turbine blades, nacelles
- **Infrastructure:** bridge decks, manhole covers, utility box covers
- **Aerospace/Defense:** aircraft doors, transportable shelters, ground matting

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