

# Advantic

## FIBER-REINFORCED POLYMER (FRP)

### DATA CENTER SOLUTIONS

### REDUCE COST AND INSTALLATION TIME ON DATA CENTER PROJECTS BY USING FRP INSTEAD OF STEEL

Advantic's structural solutions dramatically reduce installation lead time and cost. Acting as Engineer of Record or in support of the design and install teams, our solutions are used for access and infrastructure support structures for the large groups of networked computer servers that store, process, and distribute large amounts of mission-critical data.

FRP structural profiles are a dual material structural system comprised of high-performance thermoset resin encasing continuous fibers with mechanics similar to reinforced concrete. It's the technology that made possible the massive fuel efficiency improvements on the Boeing 787 Dreamliner, and it's the technology that makes possible massive wind turbine blades, high-end ship hulls, and large industrial pipe, tank, and duct networks.

#### Top Uses in a Data Center

- Guardrails
- Stairs
- Access Platforms
- Acoustical / Generator Walls
- Screening
- Bus / Duct Support
- Dunnage Structures
- Anything in the Secondary Steel Side of the Data Center

### KEY STRUCTURAL FEATURES

#### Strength

- Anisotropic
- High ultimate tensile strength
- Linear elastic load-displacement behavior

#### Stiffness

- 1/10 to 1/3 elastic modulus of steel
- Deflection controlled design
- Typically over-capacity strength

#### Weight

- 80% less than steel
- 30% less than aluminum

#### Temperature

- Knock downs above 150F
- No losses at -60F
- Similar CTE to steel

#### Fire

- Self-extinguishing
- ASTM E-84 Class 1 flame spread rating
- Fire smoke generation, smoke toxicity, and structural capacity solved by Advantic proprietary systems

#### Ultraviolet Radiation

- UV inhibitors in resin
- Synthetic veil eliminates fiber bloom

#### CONDUCTIVITY

- Low thermal and electrical conductivity

Contact Us For Your Next Data Center Project

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