



Modular • Structural Security™ • Solutions

**SYNOPSIS:** The MCF Series iFortress™ has been independently tested and rated as an assembly in accordance to the International Building Code (IBC) Exterior Building Standards, ASTM International Life Safety Standards, and Department of Defense (DoD) Survivability and Lethality Directorate Standards. Every assembly is an airtight, watertight, hermetically sealed, highly insulated, energy efficient environment that mitigates a wide range of human and environmental threats. The MCF Series iFortress™, regardless of size, location and/or requirement, can be installed in virtually all settings without compromise or performance degradation; inside, outside, elevated floors within buildings, rooftops, underground engineered facilities, parking areas, etc.

### MCF Series iFortress™ Standards

The Structural Security™ standards to which the MCF Series iFortress™ has been engineered, tested, and rated, and each shall meet the following criteria:

1. The finished structure will be a fully rated, self-contained, airtight, water and hermetically sealed, energy efficient, re-usable, "Green" facility/assembly that tested as an assembly complies with:
  - a. Structural - IBC Exterior Building Code Standards/DoD Survivability & Lethality Standards
    - i. Roof Load – minimum 40 Lb/Ft<sup>2</sup>
    - ii. Wind Load – minimum 2 hours 75 mph sustained force
    - iii. Bending Stresses – minimum 13,000 lbs psi
    - iv. Seismic – Site Class D
    - v. Blast Load – Minimum 8 psi – Maximum 11.5 102 ms overpressure
    - vi. Sound Transfer Classification – minimum STC 30
  - b. Fire/Thermal
    - i. Walls, Ceiling, Doors, Penetrations – Fully Rated Assembly against ASTM E119 - minimum 90 minutes
    - ii. Door NFPA 252 90 minute rating
    - iii. R value – Assembly – minimum r 22
  - c. Hydro-dynamics/Permeability
    - i. Airtight – NFPA 2001: Time (Size Dependent)
      - a) Annually recertified
    - ii. Encapsulation – ASTM E 1795-97 \*
    - iii. Mildew Resistant – ASTM D3273/3274 \*
    - iv. Permeability – ASTM D 1653 \*
    - v. Weathering – ASTM G53/B 117 – Federal TT-C-555B \*
    - vi. Humidity – ASTM D 4585 \*
    - vii. ASTM E119 – Hose Stream Test
  - d. Environmental
    - i. "Green" – manufactured with recycled and recyclable materials, can be disassembled and relocated, re-used
    - ii. Insulated – energy efficient
    - iii. LEED component contributor – innovation point, Green, reduce operating cost, non-invasive field assembly (i.e. dust free assembly)

- e. Blast
  - i. Blast load min 8psi/max 11.5 psi
  - ii. Tolerances/Criteria: No visible structural damage and all components will maintain 100% functionality after the explosion and to the blast overpressure.
- f. Interior Surfaces (Walls/Ceiling)
  - i. High reflectance white – minimum 85% reflectance quality
    - a) Reduction in light emanating sources/equipment/power consumption
- g. Warranty
  - i. Conditional Lifetime
    - a) Subject to annual recertified by Factory Authorized Agent