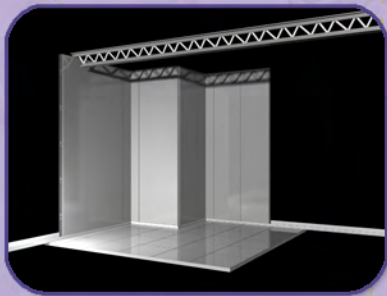


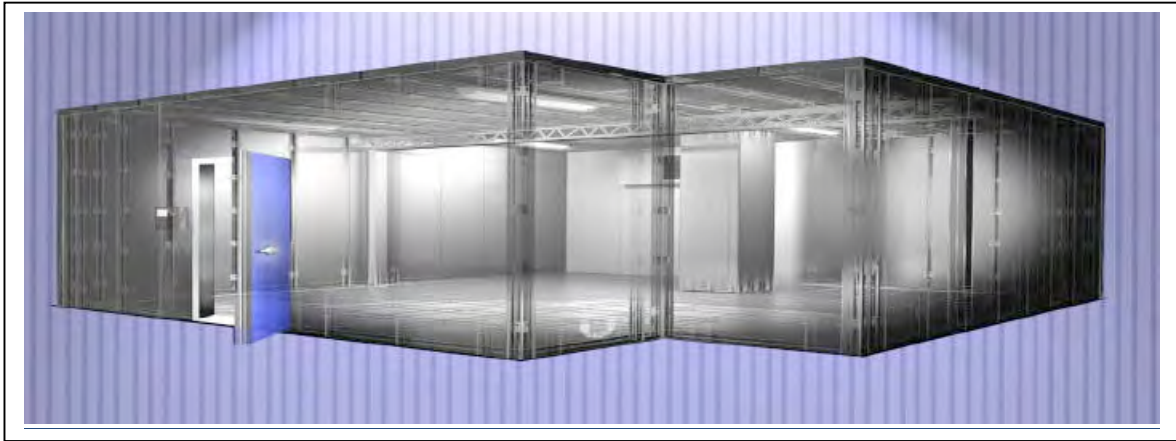
iFORTRESS

Modular • Structural Security™ • Solutions



Future Tech's MCF Series iFortress™ Data Center solution is adaptive, flexible, modular and scalable.

Knowing is the Difference.



Cross-sectional view of a fully assembled, flexible MCF Series iFortress™

Future Tech's MCF Series iFortress™ solution is a pre-engineered data center facility that is assembled in the field, scales to any size, installs quickly and expands easily. When completed, it creates a highly insulated, air tight, hermetically sealed, energy efficient enclosure providing significant operational energy savings. The structural performance of the enclosure mitigates the risk of both manmade and natural disasters such as water, fire, smoke, heat, dust, wind, break in and it has a seismic rating. Our structure meets all of the international building codes for an exterior structure allowing indoor or outdoor use. For indoor use, the unit is independent of the building architecture. A data center can be assembled on a slab in a parking lot with no other shell, inside a mountain, inside a warehouse or anywhere within a building. It provides the seamless integration with mechanical, electrical, and plumbing (MEP) practices/protocols. The pre-engineered approach when combined with our structural performance, allows the data center to be as flexible and adaptive as the business it needs to support. The cost is on par with conventional construction and it offers the lowest TCO.

The benefits of our pre-engineered solution are:

Time and Scheduling Efficiencies

- Reduced construction schedules. Assembles quickly and expands easily
- Accelerated path to saving/revenue by delivering the data center to the business sooner
- Pass NFPA Pressurization, first time, every time for the life of the facility

Spatial Efficiencies

- Avoid overbuilt capacity by a scaled build over time. Right sizing by matching spatial footprint with technological current requirements without limiting the ability to meet future growth
- Adaptive design. Can fit in any space, be built to any size and easily expand as required.

Fiscal Efficiencies

- Scaled build over time. Reduced budget by rightsizing
- Avoidance of capital improvement to the building shell and space – the MCF Series iFortress™ meets IBC standards for an exterior building.
- Better use of capital by deferring costs until required, potential tax benefits and lease options.

Energy and Operational Efficiencies

- Cumulative energy savings - the MCF Series iFortress™ enclosure is airtight, hermetically sealed with R/22 walls, ceiling and doors. In addition, rightsizing has less space to cool.
- Reduced maintenance – No dust, no humidity, no pollutants. A controlled environment
- 100% net efficiency gain on zero pressurization costs
- Potential for reduced real estate costs and operating costs by using less desirable space. The MCF Series iFortress™ meets IBC standards for an exterior building.

Site Selection and Real Estate Efficiencies

- Unlimited options. The MCF Series iFortress™ meets all of the international building codes allowing a data center to be on a slab outdoors, in warehouses or anywhere within a building including the roof.

Security/Risk Mitigation Efficiencies

- Comprehensive risk mitigation -. Protects against fire, heat, hurricanes, floods, EMI/RFI, smoke/dust/noxious gas, roof collapse, water (leaks) and break –in
- Disaster prevention versus disaster recovery
- Insurance savings from an increased deductible

iFortress™: Independent Testing on a full assembly including DOD Testing.

Licensed engineers, the New Jersey Institute of Technology, Intertek ETL, AKRON, ASTM, The United States Marine Corps, United States Army Developmental Test Command at Aberdeen Proving Grounds were all part of this testing. 100% of the DOD testing for the Pentagon was conducted on an exterior assembly that was subjected to extreme conditions far and above the normal environmental elements. These extreme conditions included loading, racking, hurricane force sustained winds, explosions, force entry, and the 4 megawatt crib fire. After all of which, the unit still stood with no negligible structural defects other than the panels that were directly subjected to the fire assault. In the Lab testing a unit was placed in an oven and baked at 1800 degrees for 90 minutes and then water hosed immediately after being taken out of the oven. The structural integrity of the MCF Series iFortress™ after all tests was intact.

Fire testing of a complete unit by the American Society of Testing Materials (ASTM) iFortress achieved an E-119 Class 125 enclosures rating for 90 minutes at 1,800 degrees.

The unit also has a Department of State RF, Sound Transmission Classification (STC) Group I to IV Sensitive Compartmental Information Facility (SCIF) classification. The iFortress meets the ICD 705/ ICS 705.1 STC and structural standards required of a SCIF.

MCF Series iFortress™ Components Overview

iGuard Armor Panels™ with Poly-Fortrexx MT Core™

iGuard Armor Panels™ are constructed of multiple layers of steel and incorporate a multitude of structural, hydrodynamic, fire retardant, and thermal resistant core components to facilitate overall performance. The individual, two-foot wide iGuard Armor Panels are locked together with a series of strategically positioned cam locks along the edge of each panel to create a complete, six-sided enclosure using floor, wall, and ceiling panels. When the panels lock together it creates a fire resistant, thermal resistant, self-contained, airtight, watertight, hermetically sealed enclosure.

Poly-Fortrexx MT Core™ far exceeds ordinary building practices, which under the ASTM E119 standard allow a 250 degree rise in temperature. The panels can withstand temperatures of over 1,800 degrees for 90 minutes with a thermal transfer not to exceed 45 degrees from one side of the panel (hot face) to the other (cold face).

The iPassage™ Door System controls human and equipment exchange. The iPassage™ door system is designed with double steel wall construction, performance-specific core to resist thermal intrusion, multi-gasket seals, access neutral locking device, crash bar hardware, easy and light swing action hinge design, and time response sensor with associated switch and buzzer/strobe apparatus.

iPortal™ Transfer Portals enable cable, wire, and plumbing to be run into and out of the enclosure. The purpose of the **iPortals™** are to allow activity between the contents of the enclosure and the support systems needed to operate a functioning unit without compromising the structural integrity or breach the security of the Modular iFortress™.

iVent™ Mechanical Dampers manage fresh air and mechanical air exchange.

iMount™ Internal Wall Mount System - The unique iFortress iMount™ wall system mates with standard 5/8" #11 threaded rod, washers and nuts and Uni-strut. These receivers are located every 24" on the center of each iGuard Amor Panel™, allowing for the mounting of virtually any equipment, fascia panels, electrical boxes, or fire suppression systems, main distributions frames lighting and cable trays, etc. The integrity of the Modular iFortress™ is not compromised. All peripheral equipment mounts easily with the iMount™ system.

Assembly Overview



Fire/Thermal, and Environmental security via a modular, deployable system:

- iGuard™ Armor Panel assembly **A** – using recycled steel, for walls and ceiling provides modularity and ease of expansion in the field (no disruption to ongoing operations).
- Gasket material is inert, non-conductive/combustible, intumescent, air/water tight seal, rated -350⁰F to +1,800⁰F.
- iMount™ Interlocking Technology **B** – ensures all panels are properly sealed via visual indicator.
- Joist System **C** – employs open web design which facilitates cabling, ducting installation.
- iPassage™ door systems **D** – feature double steel wall construction with performance specific core (rated or non-rated), continuous security piano-hinge design, crash bar, and interface-able with identity management systems.
- Rapid Deployment – using standard tools, assembly time is measured in hours or days (2,500 sqft facility, completed in 6 days/170 man hours).
- iPortal™ Purpose specific systems **E** – to manage penetrations (electric, heat/AC, cabling (depicted), etc.) while maintaining rated performance
 - Air tight, water tight, fire/thermal protection
- Standardizing Site Variables – location variables are eliminated from the deployment process.
- Interior and exterior (all weather) applications are suitable for iFortress systems.
- Repeatable Processes – ensure consistent quality of all iFortress systems.
- LEED compliant – eco-friendly (scalable, reusable, recyclable), reduces operating power consumption by 25% - 35%

Unsurpassed Standards of the MCF Series iFortress™

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 2006 Exterior Building Code
 - i. Roof Load – minimum 40 Lb/Ft²
 - ii. Wind Load – minimum 2 hour 75 mph sustained force
 - iii. Bending Stresses – minimum 13,000 lbs psi
 - iv. Seismic – Site Class D
 - v. 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. Warranty
 - i. Conditional Lifetime
 - a. Subject to annual recertified by Factory Authorized Agent
2. Interior Walls/Ceiling:
 - a. Finish
 - i. High reflectance white – minimum 85% reflectance quality
 - a. Reduction in light emanating sources/equipment/power consumption