



NESSEL E3 Data Sheet

Overview

The Nessel E3 is a compact, resilient modular housing unit designed to meet the most demanding needs of emergency housing and disaster recovery. Engineered for rapid deployment, extreme weather resilience, and energy efficiency, it combines robust structural integrity with advanced smart technology. The E3 is ideal for disaster relief, transitional housing, and emergency accommodations.

Specifications

General Dimensions

- Length: 18.4 ft
- Width: 11.2 ft
- Height: 11.2 ft
- Interior Area: 204.5 sq. ft.
- Weight: 5 tons
- Sleeping Capacity: Up to 2 occupants

Power Requirements

- Standard Power Demand: 9 kW
- With Heated Floor Option: 12 kW
- Electrical Supply: 240V connection with optional solar integration
- Advanced Electrical Panel:
 - Surge-protected and overload-resistant
 - Dedicated breakers for:
 - Heating and cooling systems
 - Lighting and power outlets
 - Kitchen appliances
 - Smart home systems (e.g., Alexa, card reader)



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Structural Resilience

- Wind Resistance: Rated for Category 5 hurricanes (sustained winds of 156+ mph)
- Earthquake Resistance: Tested and approved for seismic activity up to 10.0 magnitude earthquakes
- Fire Resistance:
 - Clad in 3mm recycled aircraft-grade fluorocarbon aluminum, providing superior weather resistance, thermal efficiency, and durability
 - Reinforced galvanized steel frame, exceeding 300% of manufactured requirements for long-term durability
 - Heavy-duty fire-rated door with four deadbolts and four-barrel hinges
 - Entire structure is rustproof, ensuring long-term resilience in diverse climates

Insulation and Extreme Weather Resilience

- Insulation:
 - Polyurethane foam and XPS boards, ensuring high energy efficiency
 - Temperature resilience: Maintains comfort in conditions from -40°F to 160°F
 - Optional upgrades for increased fire resistance available
- Interior Panels:
 - Flameproof wood panels rated for a minimum of one-hour fire resistance
- Weatherproofing:
 - Rustproof galvanized steel prevents moisture ingress
 - UV-resistant materials protect against sun damage and extreme heat

Climate Control

- Mini-Split System:
 - Efficient heating and cooling for year-round comfort
 - Heat pump housed in a galvanized steel enclosure for enhanced durability
 - Advanced air filtration ensures superior air quality, particularly in post-disaster environments



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Interior Features

- Fully optimized living space designed for comfort and efficiency
- Pre-installed Furniture Options: Configurable for immediate use
- Smart Home Integration:
 - Alexa-enabled for voice control of lighting, heating, cooling, and curtains
- Card Reader Energy System:
 - Activates power upon entry and deactivates upon exit, conserving energy and enhancing safety

Utility Integration

- Rapid Utility Hookups:
 - Pre-installed water, sewage, and electrical connections for quick deployment
- Off-Grid Ready:
 - Internal protected cavity supports:
 - Solar panel integration
 - Battery storage systems for renewable energy solutions
- Sanitation:
 - Optional UL-approved incinerator toilet, providing a safe, septic-free solution for areas without traditional waste disposal systems

Deployment

- Setup Time: Fully operational within 2–3 hours using crane-assisted placement
- Foundation Options:
 - Ground placement for emergencies
 - Compatible with concrete slabs, piers, and helix anchors for permanent installations
- Mobility:
 - Temporary axle system with steel axles and tires for relocation in dense deployment zones



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Certifications

- ICC NTA Certification: In progress; inspections for factory and units pending
- A-Rated Fire Safety Certification: Meets international fire safety standards
- California Code Compliance:
 - Fully compliant with Government Code Section 8698.4 and SB 1395