



HDT Global Proven Solutions for Extreme Environments

Overview

- HDT Global delivers proven solutions for extreme environments.
- Founded in 1937, we're a leading provider of highly engineered solutions for military, civilian, commercial and industrial customers.
- Our Core Competencies are Tactical Infrastructure Systems, Robotics, Engineering and Chemical Biological Protection.
- Six manufacturing facilities with approximately One Million square feet of manufacturing space
- US manufacturer with major sites in Alabama, Kentucky, Ohio, Virginia, and Washington
- Shared values of safety, quality, integrity, innovation, and service to our customers
- Headquartered in Solon, Ohio
- ~1,100 highly-skilled employees



Bottom Line Upfront

- HDT Global is the leading manufacturer of military TOC Systems that are government certified to meet unit level requirements.
- HDT is Army Program of Record provider of fully tested and certified shelters and trailers systems; lifecycle sustainment provided by Army Depot and DLA systems.
- HDT products are fully provisioned and supported in the Army logistics system; Equipment and parts purchased through NSN system, not impact cards or MIPR.
- HDT Base-X framed shelters and Airbeam shelters are the only government authorized alternate to a DRASH framed shelter system.
- HDT is part of a Public Private Partnership with CECOM and Tobyhanna Army Depot. We have been vetted by the United States Army and approved.

Army Program of Record Command Post Systems

- Standardized Integrated Command Post System (SICPS) Trailer Mounted Support System
- HDT, CECOM, and Tobyhanna Army Depot have a Public Private Partnership agreement for service and support of HDT Equipment.
- This is the only Army Approved trailer and shelter system that has been government tested. This is the governments tested solution.***
- Provides turnkey solution for power and shelters
- Fully provisioned and supported in the Army logistics system. Systems complies with I&S standards and meet configuration management form, fit and function requirements
- CECOM representatives located worldwide authorized to work on equipment. Depot maintenance supported by Tobyhanna
- Approving agencies include:
 - CECOM
 - CPI2
 - PMFSS Force Sustainment



DEPARTMENT OF THE ARMY
Project Manager, Mission Command
6560 Surveillance Loop
Aberdeen Proving Ground, Maryland 21005-1848



REPLY TO
ATTENTION OF:

SFAE-CCC-MC

4 June 2019

MEMORANDUM FOR U.S. Army Communications Electronics Command (CECOM)
C3T Directorate, Director (Mr. Joe Cattelona), 6590 Reconnaissance St. Aberdeen
Proving Ground, MD 21005.

SUBJECT: Standardized Integrated Command Post Systems (SICPS) Trailer Mounted
Support System (TMSS) Tent/Shelter Interchangeability & Substitutability (I&S)
Recommendation

1. References:

- Offering of Substitutes DLA Policy, dtd 30 September 1997
- AMC R 700-30 Elimination of Duplicate Management I&S
- AMMCI 20-101 Elimination of Duplicate I&S
- MIL-STD-461E Requirements for Control of Electromagnetic Interference Characteristics Subsystems and Equipment
- MIS-PRF-54581C Command Post Platform (CPP) Development and Integration Program
- MIS-PRF-961E Tent, Extendable, Modular, Personnel (TEMPER)
- MIL-STD-1472F Human Engineering
- MIL-STD-882 Performing Hazard Analyses
- MIL-STD-40015-2B Military Publications
- TM 11-6115-742-13-1, -13-2, and -23P; Utility Power Plant [TMSS-Med Analog/Digital]
- TM 11-6115-743-13-1, -13-2, and -23P; Utility Power Plant [TMSS-Med Analog]
- TM 11-6115-748-13-1, -13-2, and -23P; Utility Power Plant [TMSS-Med Analog]
- TM 11-6115-774-13-1, -13-2, and -23P; Utility Power Plant [TMSS-Med Digital]
- TM 11-6115-775-13-1, -13-2, and -23P; Utility Power Plant [TMSS-Lrg Digital]
- Network Integration Evaluation (NIE) 14.2 Annex B. Command Post Operational Energy System (CPOES), dtd 20 June 2014
- Final Report for the Developmental Test (DT) of the HDT 32 Series AirBeam Shelter, ATEC Project No. 2013-DT-ATC-RDECO-F4871, Report No. ATC-11337, dtd April 2015
- MFR: New Air Supported (AS) Command Post (CP) Configurations added to the Army Standard Tent, Extendable, Modular, Personnel (TEMPER) Family of Shelters", dtd 18 November 2016

Tactical Infrastructure

- Designed for the most demanding applications in the military
- HDT is the leading global provider of highly-engineered, mission-capable infrastructure solutions – including shelter systems power, environmental control, C2, and accessories.
- In fact, no other supplier can offer the comprehensive line of expeditionary products that HDT can.
- All fully provisioned and fully supported
- In addition to HDT's line of military of-the-shelf (MOTS) solutions, our world-class engineering and support teams can custom-design turnkey solutions as well as provide the best pre-and post-sale support services in the market.

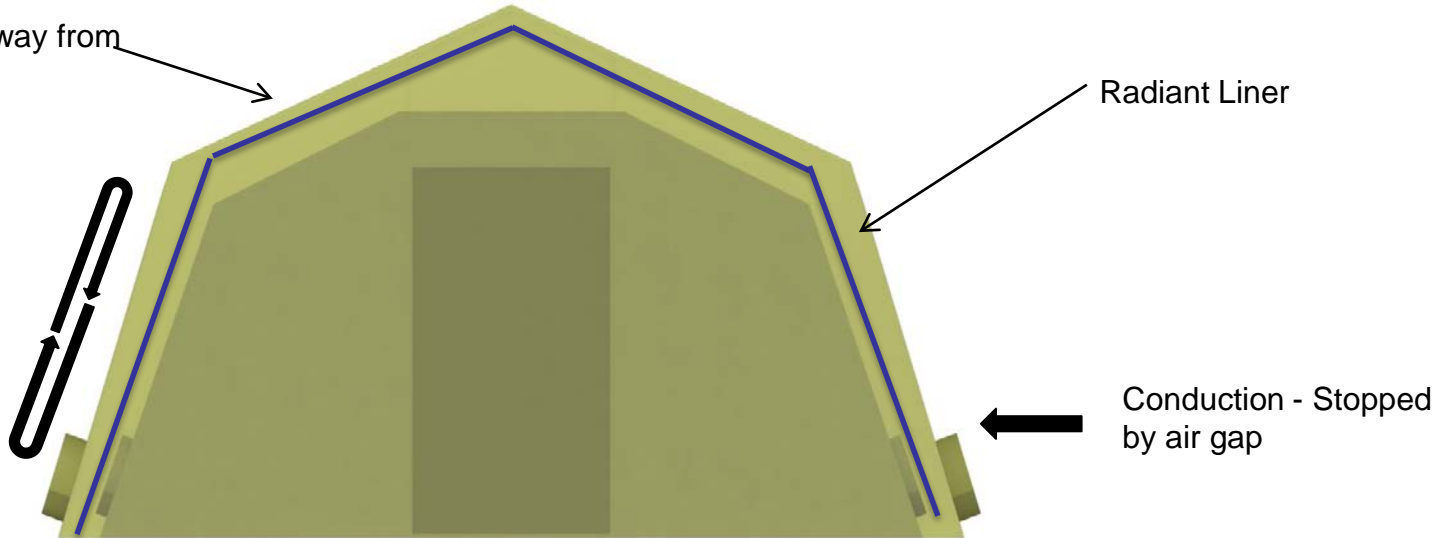


HDT Manufactures all Products One Touch Point for all Service and Support

HDT Energy Efficient Shelters

Radiation -

Radiant heat is reflected away from shelter



Convection -

Reduced by air gap

Radiant Liner

Conduction - Stopped
by air gap

- HDT's Radiant Liners reflect heat from the shelter. If the shelter is being cooled, it reflects heat from the outside environment back outside. If the shelter is being heated, it reflects that heat back inside the shelter. HDT's Radiant Liner also adds a layer of dead air, slightly increasing the conductive and convective insulation thus providing energy savings through less fuel consumption.

HDT Family of Shelters

- Market leader in Tactical Shelter Systems with the most advanced designs available to enable rapid deployment and strike capability
- Advanced line of expeditionary shelter systems comprised of five unique, field proven and tested brands
 - Berg Hard® Wall Shelters – Acquired September 2019
 - AirBeam® Inflatable Shelters
 - Base-X® Articulating Frame Shelters
 - DRASH® Articulating Shelters
 - ArctiX® Shelter
- Current DoD Programs of Record: SICPS-CPP (TOC), THAAD, AMEDDS, PM-FSS, CPI2, HCCC, ASOC, DCGS, IBCS, Force Provider Camps, and PMUAS
- Ability to engineer customized, highly advanced solutions
 - Command, control and communications
 - Medical, chemical / biological and decontamination
 - Industrial and base camp
 - UAV and vehicle maintenance applications



Deployable Command & Control used by Regional Combatant Commanders



Brigade Command and Control Complex

Command Post Systems

- HDT is not only the current system but is in several CPI2 experiments for the Command Post of the future.
- HDT's current Command Post Systems offers integrated, scalable, command post modules that enable expeditionary maneuver across a broad mission set.
- Ability to engineer customized, highly advanced solutions utilizing numerous products which are designed to increase speed in setup time thus reducing vulnerabilities.
- Currently providing Command and Control solutions for:
 - PEO3CT
 - Combatant Commanders DJC2 Program
 - Marine Corps COC Program
 - Navy's JMAST Program
 - Numerous other Programs of Record



PEO3CT Concept of Command Post



Light Weight Modular Command Post



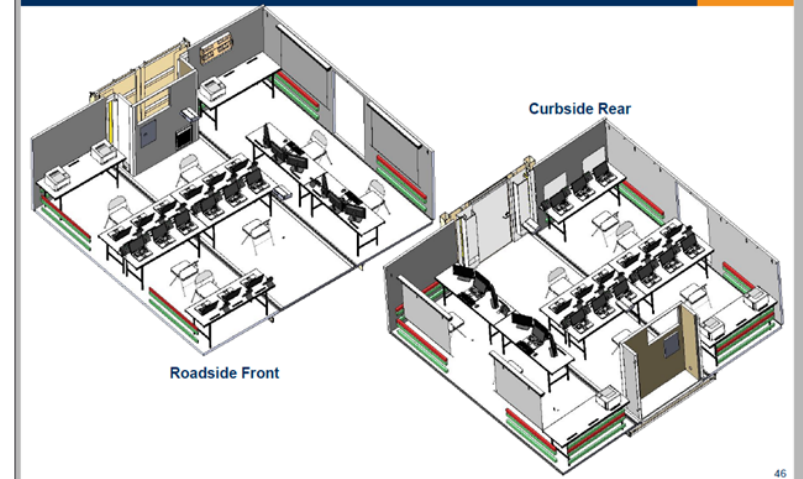
CPI2 Command Post
Experiment Airbeam & Berg



Battalion Command Post

Berg Hard-Walled Expeditionary Shelters

- Rapidly Deployable
- Transitions from closed to fully open in approximately ten minutes with two persons using Gas Spring and winch assisted ceiling and floor panels
- Deployed shelter can withstand 80 mph wind load
- Entire shelter weighs under 10,000 lbs. with custom integration and pack-out
- Deployable Shelter Platforms in 20-foot ISO based, 10-foot ISO based, Tricon ISO based, and 463L Based
- Currently being utilized in CPI2 Experiments
- Self-supporting Wings
- Wings deploy without tools, corner supports or jack stands once base is level
- Each wing floor supports up to 4,000 lbs when deployed (without supports)
- <http://www.bergco.com/shelters.html>



Berg Shelter

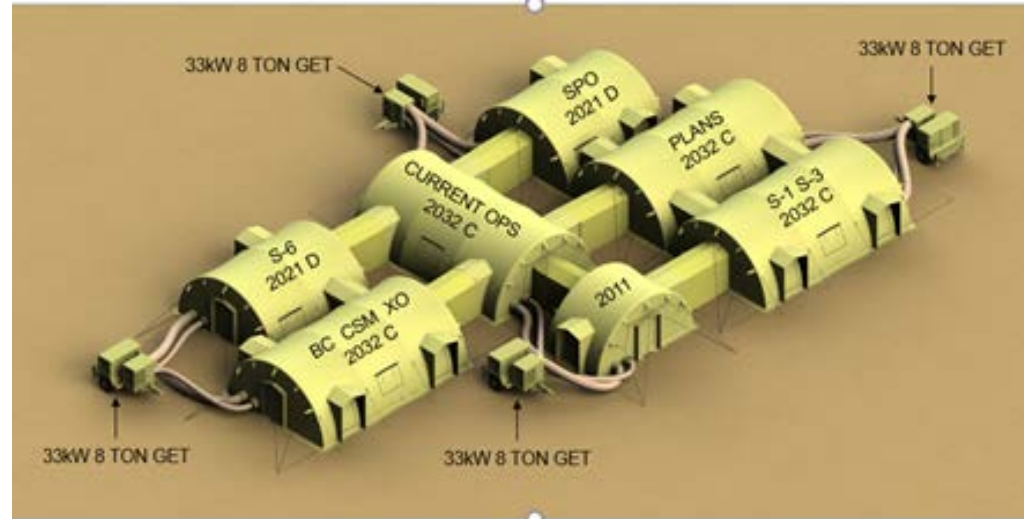
Question: What are the benefits of the Berg E2S2 Shelter?

- Transitions from closed to fully open in approximately ten minutes with two persons using Gas Spring and winch assisted ceiling and floor panels
- Deployed shelter can withstand 80 mph wind load
- Entire shelter weighs under 10,000 lbs. with custom integration and pack-out
- Deployable Shelter Platforms in 20-foot ISO based, 10-foot ISO based, Tricon ISO based, and 463L Based
- CSC certified 9 high stackable when stowed
- Self-supporting Wings
- Wings deploy without tools, corner supports or jack stands once base is level
- Each wing floor supports up to 4,000 lbs when deployed (without supports)
- Currently being tested for CPI2 Configuration



AirBeam Shelters Data

- The new Temper Air Supported (AS) Command Post is a high-pressure system with pre-installed AirBeam assemblies comprised of Epmar Coated Fibers giving the shelter unique strength and durability.
- The Large 3236 Shelter has the following attributes
 - 1,420 square feet of usable space
 - One complete shelter not comprised of multiple sections
 - Decreased deployment time 30 minutes to inflate
 - Energy efficient liner
- The 2021 Shelter has the following attributes
 - 430 square feet of usable space
 - Decreased deployment time 11 minutes to inflate
 - Energy Efficient Liner
- Have been in use in Army since 2003



Air Beam Shelter Questions

Question: What are the benefits of the Airbeam Shelter?

- The HDT Airbeam allows for quick setup and tear down
- Shelter has no metal parts to break. Significant savings in repair cost
- Fully supported in DLA and GCSS Army
- Have been operational for the past 20 years in the Army
- Can be erected with a crew of 4 -10 people based on size of shelter takes 15 minutes total
- Largest shelter (1400 Square feet) can be erected in 25 minutes
- Minimal training required no remembering setup sequences that other shelters have
- Plug in compressor and move to next task
- 3226 A Shelter is one continuous 1,400 Sqft shelter. Competitors need 3 shelters to get same square footage. Increasing setup time 3X



Air Beam Shelter

Question: I need a compressor to inflate the Airbeam shelter what happens if the compressor breaks?

- HDT built redundancy into the Airbeam Line using multiple sources to inflate the shelter thus reducing vulnerabilities.
 - Shelter can be inflated using the compressor on a MTRV or JLTV.
 - We have portable compressors that run on JP-8 or diesel.
 - We have electrical powered compressors which can be powered by the trailer that is transporting them.
 - TMSS Drash Program Trailers have a 18KW or 33KW Generator which the shelter and compressor can be transported on.



Base-X Shelter

Question: What makes the Base-X Frame Shelter better than a competitors shelter?

- HDT's Base-X Frame Shelter is the quickest most durable expeditionary shelter on the market today.
 - Shelter has a dual layered system with a radiant liner and air gap for increased energy efficiency.
 - HDT's patented V-shape leg and locking hub provide the strongest frame capable of with standing the toughest weather conditions.
 - Unique, patented folding frame design allows for superior strength.
 - Can be under canopy in 4-6 minutes with trained crew.
 - Largest Shelter takes 15 Minutes to erect (935 Square Feet)
 - Choice of multiple Programs of Record across the Armed Forces
 - Two packages for reduced weight and cube.



Base-X Trailer Questions

Question: What are the differences between HDT's Trailers as opposed to the competition?

- All HDT Trailer variants have received government testing certification from Aberdeen Test Center. Certifications and Safety Test include
 - ATC Lift and Tie-Down Test
 - ATC Road and Rail impact Test
 - ATC Mobile Eternal Air Transport Test
 - ATC C-130J cargo aircraft Test
- HDT Trailers operate in extreme cold and hot weather with over 20,000 in service since 2006.
- HDT Trailers Burn JP-8 and diesel.
- Maintenance supported by Tobyhanna & HDT mechanics
- Full ILS support parts can be order through DLA system
- Load Sharing and load shedding capable
- Can run generators in parallel
- 24 hour hotline for Trouble calls
- Proven history of dependability and performance.
- 18 month warranty



BASE-X GET



DRASH HP / TMSS series



Base-X C2 Questions

Question: What products does HDT Offer and do they meet certification?

- Mobile Command and Control (C2) systems
- Provide highly reliable, light weight and agile C2 systems for harsh environments
 - Display Systems (LED Displays, Projection Displays, Command Tables)
 - Video Distribution Systems (JITC Approved Solutions for both analog and digital)
 - Audio Systems (PA & Microphone)
 - Tactical Furniture (Tables, Chairs, Cable Management)
 - Uninterrupted Power Supplies (UPS)
 - Cable Management
- Systems designed support Company, Brigade & Battalion levels or custom designed to support any size element
- Engineered to easily integrate into a variety of systems and will fall in on any existing legacy equipment
- Maximum versatility while meeting stringent performance and durability requirements



Environmental Control Units

- Full range of Environmental Control Units (ECUs) designed specifically for operation in severe environments (rough handling, sand, dust, rain, snow and extreme heat)
- Market leader with broadest portfolio of solutions
- Ability to provide turn-key systems using HDT Global's other product lines offers a competitive advantage (e.g. – full shelter solutions with integrated ECUs)
- Combines the company's military environmental experience with proven commercial air conditioning technology
- Applications include:
 - Severe environments
 - Flight line systems
 - Industrial applications
 - Portable systems



Heaters



- Versatile heating solutions for global forces working in cold weather environments
 - Non-powered heating systems
 - Self-powered heating systems
 - Powered heating systems
- Provides heat to all HDT shelters and large complexes
- HDT develops and produces of eight out of ten DoD-qualified heating units
- HDT supplies to key OEMs
- HDT is the sole-source provider of heating equipment for:
 - U.S. Army Force Provider (MTH 150)
 - U.S. Marine Corps (SHC-60)
 - M1 Abrams (A-20)
 - Bradley Fighting Vehicle (A-20)

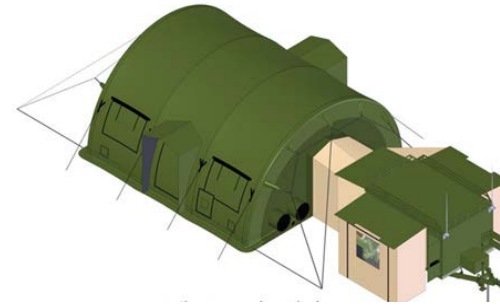


JLTV Wolf Command Post Systems

HDT's Hunter WOLF (Wheeled Offload Logistics Follower) is a rugged 6x6 load-carrier for dismounted infantry. Closely matching the mobility of infantry, the Hunter WOLF can traverse narrow trails, steep slopes and dense jungles. Using only internal fuel, the vehicle has a range of over 300 km (200 miles) with a 120-hour endurance. The vehicle's diesel / electric hybrid powertrain provides silent operation capability.

KEY FEATURES

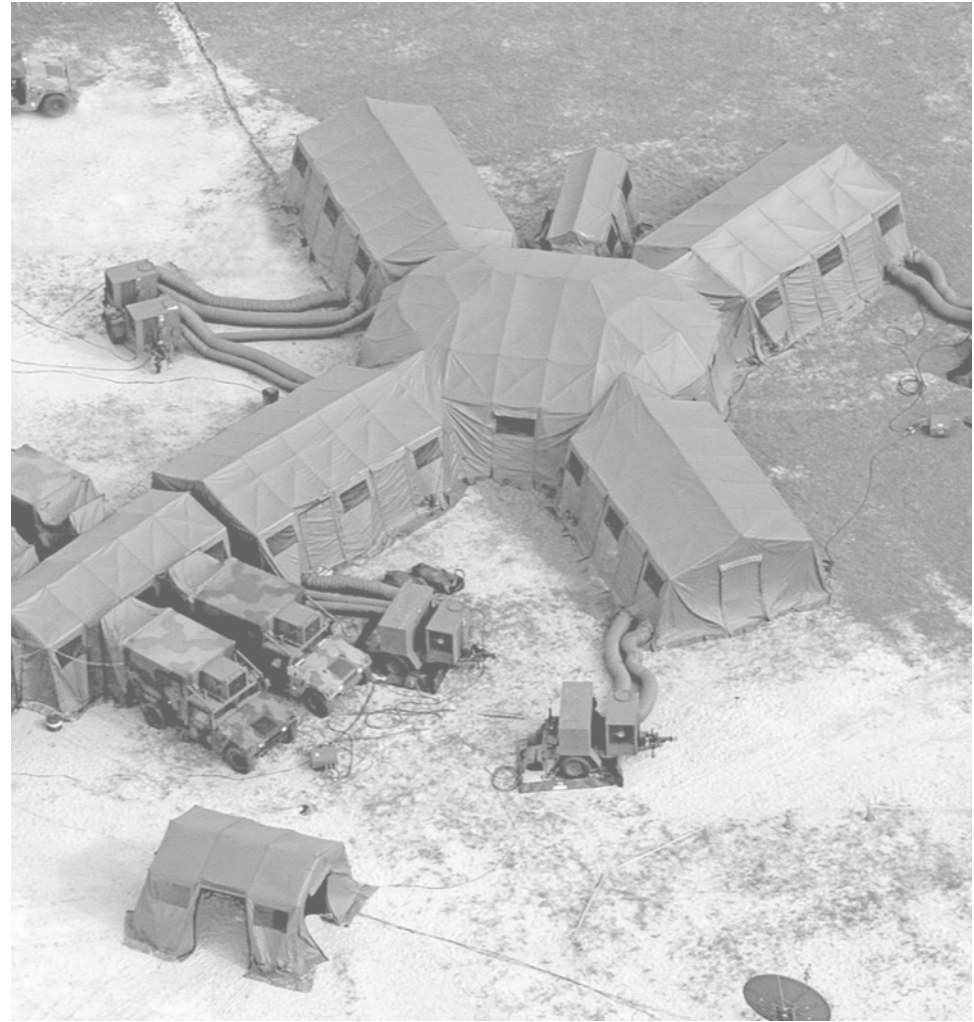
- Can be towed behind the JLTV
- Rugged design, developed by HDT specifically for demanding conditions
- Carries over 1,000 kg (2,200 pounds) off-road more than 300 km (200 miles) using internal JP-8 or diesel (over 1,000 km (600 miles) with long range fuel tanks). Can Carry small Airbeam Tent
- 120 hours of operations without resupply (320 hours with long-range fuel tanks)
- Exports Fifteen kilowatts of power
- Series electric hybrid powertrain provides silent operation capability
- Can fill Airbeam Tent with compressor on the JLTV



Wolf Concept of Command Post

Life Cycle Logistics and Support

- HDT Global offers a full-spectrum of support to meet all mission requirements.
- Subject matter experts and field service technicians provide unparalleled support.
 - Initial setup and training support
 - Operations and maintenance manuals
 - Troubleshooting assistance
 - Field service support
 - 1-800 hotline manned 24 hours a day
 - Field Service Technicians located at major installations
- HDT has unparalleled technical reach-back capability and product knowledge.



Myths

Myth: Metal Shelters do not break and thus have no maintenance costs.

- All Frame shelters have vulnerabilities to include:
 - Lack of training
 - Lack of maintenance
 - Loss of bags with equipment in them
- Myth: Shelters are tested to 100mph
 - The standard is 55 mph sustained with gusts to 65
 - There are no official government test results for any manufacturer claiming 100 mph
 - Read damage for winds at below link picture up above was at 45 mph
 - <https://www.nhc.noaa.gov/aboutsshws.php>



NATIONAL HURRICANE CENTER and
CENTRAL PACIFIC HURRICANE CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

ANALYSES & FORECASTS • DATA & TOOLS • EDUCATIONAL RESOURCES • ARCHIVES • ABOUT • SEARCH •

Saffir-Simpson Hurricane Wind Scale

Climatology | Names | Wind Scale | Extremes | Models | Breakpoints

The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based on a hurricane's sustained wind speed. This scale estimates potential property damage. Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage. Category 1 and 2 storms are still dangerous, however, and require preventative measures. In the western North Pacific, the term "super typhoon" is used for tropical cyclones with sustained winds exceeding 150 mph.

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph 64-82 kt 119-153 km/h	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph 83-95 kt 154-177 km/h	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	111-129 mph 96-112 kt 178-208 km/h	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph 113-136 kt 209-251 km/h	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 mph or higher 137 kt or higher 252 km/h or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

- HDT has multiple solutions to meet unit needs.
- The Army has not hired any Logistical Consultants to work on next generation shelter anyone claiming this is not telling the truth.
- Ask to see documentation from anyone claiming to be working for the Army
- Verification for HDT Public Private Partnership can be obtained by contacting:
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C3T Directorate
TMSS/Mission Command Team Lead & ILS Manager AMSEL-LCC-RS APG, MD 21001
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