



SafeHut – The Next Generation of Portable Shelters

D.S. Creative Housing, LLC (Orlando, Florida) has recently developed the SafeHut, an entirely new type of portable shelter that offers radical improvements over existing models in terms of transportation, assembly and operational usage. Packed flat for transport and storage, it can be assembled in less than 10 minutes by 2 to 3 people to create a building that measures 6 meters long by 2.1 meters wide by 2.4 meters high (20 x 7 x 8ft.). When used as emergency accommodation it comes complete with a small kitchen area, a bathroom with toilet and shower and a set of bunk beds. The versatility of the SafeHut's design means that it can be re-configured and re-used for countless other applications including temporary or portable medical facilities, site offices and accommodation for military and rescue services personnel. When a larger building is required SafeHuts can be readily linked together using a proprietary joining system.

Offering the ultimate in rugged reliability, the SafeHut has been engineered to withstand 250 km/h (155 mph) winds, a 366 kg/m² (75lb/ft²) snow load to the roof, a 366 kg/m² (75lb/ft²) live load to the floor and 1.15G lateral acceleration seismic load. At the same time, with an all up weight of 907 kg. (2,000lbs.) it is light enough to be airlifted to the remotest and most climatically severe parts of the world by helicopter.

The designers have been able to attain this exceptional performance levels by producing the SafeHut in sandwich composites based on *Divinycell P* recyclable cores using an industrialized manufacturing process that combines the benefits of resin transfer molding (RTM) and vacuum infusion. By taking this processing approach the company has been able to achieve high fiber fractions and a high quality surface finish to both the interior and exterior of the shelter. The combination of *Divinycell P* and a special resin system gives the shelter excellent fire performance.

The use of sandwich composites also provides the SafeHut with high insulation values, ultra low maintenance throughout its expected 30 year service life plus smooth, corrosion-free surfaces that can be easily cleaned and sterilized.

Diab and Composites Consulting Group have been involved in the development of the SafeHut from the outset, supplying not only the structural core materials but also working with the company's design and engineering teams to refine the laminates and to optimize the manufacturing process.

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