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		The EcoShelter	Protects against:
Climates:	<a href="#">Humid Middle Latitude Climates</a> <a href="#">Dry Climates</a> <a href="#">Moist Tropical Climates</a> <a href="#">Rainforest Climates</a>	Hurricanes/Typhoons Tornadoes Sandstorms Landslides	
	Occupants:		
Living area:	300 ft <sup>2</sup> 28 m <sup>2</sup>		
<p>June through September brings the hurricane season and with it rain storms and extremely high winds. The typical mud hut offers very little protection or stability in hot types of climate. Also, the excessive moisture in the huts causes an increased supply of bugs, snakes, disease and sickness. However, <b>Monolithic EcoShell</b>, designed, patented and manufactured by the <b>Monolithic Dome Institute</b> from Italy, Texas, offers hurricane protection and keeps residents dry during the wet seasons.</p> <p>A traditional mud hut costs approximately \$1200 to construct and only offers about 15 square meters. On the other hand, a 6m diameter <b>EcoShell</b> offers over 28 square meters and costs the same. It's not just the increased space that is beneficial, it is protection.</p> <p>The thin shell dome is, at the same time, one of the simplest and one of the most complex of all structures. It is simple in theory, but usually difficult to form and construct. But it can be built using a relatively new technique called <b>Airforming</b>. This technique uses an <b>Airform</b>, made of high-strength, high-tech fabric (a semi-rigid balloon), that's inflated to create the structure's shape.</p> <p>Construction of an <b>EcoShell I</b> begins with a small group of workers pouring a circular floor, to which the Airform is attached. The Airform is inflated with a small, high-pressure fan, such as fans used for heavy duty vacuum cleaners. After the Airform is inflated, rebar and then concrete are applied over its exterior. The concrete can be mixed in a bucket and hand applied, or it can be mixed with commercial mixers and sprayed in place with shotcrete equipment. This latter method obviously takes less manpower and produces better results. But the former method is also satisfactory and can be completed by inexperienced laborers. Once the concrete sets, the Airform is removed. <b>With proper care, that Airform can be used for up to 100 more.</b></p> <p>All things considered, the EcoShelter is one of construction's strongest buildings. It is virtually impervious to fire, tornadoes and earthquakes. It is especially practical in countries lacking wood and steel. Most countries have concrete and rebar on hand. In general, using the same amount of cement, aggregate and rebar, three EcoShells can be built in place of one conventional, concrete structure.</p> <p>Apart from mere sheltering, the EcoShelter provides family housing at an affordable price. In most areas, a unit can be built with native labor and materials for \$1500 to \$5000, including all costs. Many working people who keep a country's economy going can afford EcoShell homes. Fire is often a danger, but fire protection usually is limited. Other hazards include earthquakes, hurricanes, rot and decay.</p> <p>An EcoShelter Home - a 20' diameter dome with a floor area of 314' square, is small. But, exactly that size is considered adequate for low-cost housing. On the world market, the concrete and rebar required for such a dome costs about \$1,000. Windows, doors, finish out inside, labour, overhead, equipment, profit, infrastructure, add considerably to the cost.</p> <p>Cement, sand, gravel and rebar are the universal building materials of our world today. Most areas of the globe know how to work with concrete very well. The only remaining knowledge to have is how to form it. The Airform for a twenty-eight square meter home costs about three thousand dollars including the inflator fan. At least one hundred homes can be built using one Airform. This means the forming cost of the structure is not more than thirty dollars per building. The cost of rebar and concrete is generally less than six hundred dollars for the floor, walls and roof system (i.e. the EcoShell dome).</p> <p>The EcoShell dome is technically a thin shell concrete building. Thin shell is the operative word. This building can be built very nicely with two inches of concrete and a modest amount of rebar. The compound curve of the dome makes it stronger than virtually any other structure. To cover the same twenty eight square meters with a rectangular building will take a minimum of twice as much material. Forming costs and labour costs will be substantially more.</p> <p>The EcoShell is so simple. It just takes the Airform to make it happen. People can be trained in a matter of hours to build EcoShells. They can be built 100% by hand. The concrete can be mixed and applied by hand. No special tools are required.</p> <p>An EcoShelter is as disaster proof as a building can get. It will withstand tornadoes, earthquakes, hurricanes, and fire. It cannot be burned. It will last for centuries.</p> <p>For additional information, contact <b>Monolithic at (972) 465-7423</b> or <a href="mailto:mail@monolithic.com">mail@monolithic.com</a></p>			

