



**ToughStuff**  
[www.toughstuffonline.com](http://www.toughstuffonline.com)  
 Mauritius  
 Madagascar  
[Info@toughstuffonline.com](mailto:Info@toughstuffonline.com)

## ToughStuff Products

*ToughStuff is a social enterprise which provides very affordable solar-powered products to low income consumers in the developing world, creating social, financial and environmental benefits.*



### Product Design

ToughStuff's products were created following several years of detailed social and technical research, before rigorous field testing in Africa to ensure they suit the needs of our target market. The products also benefited from industrial design carried out in partnership with a multinational FTSE 100 company. The result is a unique set of affordable solar powered products that provide household level lighting and energy for low-income people that live off-grid.

### Solar Panel

Our main product is a highly robust, water resistant mini-solar panel (1w, 5.6v, 174 mA current). This panel comes with a 2 meter cable and provides power to all other ToughStuff appliances.

- Robust, light-weight, flexible solar panel that is almost impossible to break (no glass)
- Efficient amorphous technology with a useful life of over 10 years
- Operates also in lower light levels (early morning, late afternoon)
- Robust: water-resistant (unaffected by rain) and resilient up to 80°C
- Convenient eyelets for easy tying to a roof and preventing theft



### LED Lamp



A rechargeable LED lamp specifically designed to replace the candles and kerosene lights used in Africa's huts and shanty towns. It has four high-power led lights (8mm, super bright), a 4-intensity setting toggle, and includes a swiveling hanger. The imbedded battery (1300 mAh) provides between 6-30 hours of modern lighting after a full day's sunlight.

- Bright enough to read by on the highest setting
  - Strong plastic frame is very durable; will resist multiple falls
  - Lowest setting runs for 30 hours
  - Flashing charging indicator shows when the battery is full (now use the panel to charge another product!)
  - Illuminates conveniently from above, unlike moving flames from a candle at table-level that create awkward shadows
- The lamp can be hung with the attached swiveling hanger from the ceiling or a nail in the wall, or used by hand as a torch



## Mobile Phone Connectors

Matching phone connector plugs make it possible to charge up most mobile phone models commonly found in Africa. Powered directly by the ToughStuff Solar Panel or Battery Pack.



- 4 types to fit the most common cell phones used in Africa
- Wires are fray-resistant in the case of damage
- Can charge phones at night time when used in combination with the battery pack



## Radio Connectors

Innovative connectors which replace the need for batteries when playing a radio. These connectors fit in every battery-operated radio that runs on 1 to 4 D-cells, eliminating the need for environmentally damaging dry-cell batteries.

- Safely and conveniently run your radio on ToughStuff solar power
- Patent-pending design makes setting up very simple: suitable for radios with 1-4 D-cells (1.5 – 6 volts) thanks to integrated electronics
- Metal contacts are rust-resistant to last longer

## Power Pack Battery Back Up

A high-temperature, long-life rechargeable battery power pack (1300 mAh), is charged by the solar panel. It powers the radio connectors and phone connectors at night and also serves as a backup for all ToughStuff products. The rechargeable battery specification performance is for tropical high temperatures environments (40 °C, not the 25°C standard) found in Africa.

- Stores solar power for use at night
- Supplies power to radios, cell phones or the LED lamp
- Special batteries deliver a high capacity also under hot climatic conditions



## Built for Africa

Our products have all been extensively tested and trialed with consumers in Africa. Those relationships and the resulting feedback have had an important impact in the design of ToughStuff's products.

Features	Reason
<b>Extra high cable strength</b>	Safe, also when children swing products by the cord
<b>Solar panel is flexible</b>	Glass breaks easily and is heavy
<b>Extensive drop-testing QA standards</b>	All the products withstand intense daily use & heavy wear and tear in tough environments
<b>Fray-resistant cables</b>	Mother's worry about children's hands
<b>Heat, insect, dust, water &amp; UV-resistant materials</b>	Products need to withstand extreme conditions
<b>Various means of securing products</b>	Hooks or eyelets for conveniently hanging products or preventing theft
<b>Strong packaging</b>	Avoids damage during transport in crowded vehicles

ToughStuff products adhere to the relevant international standards such as RoHS, CE and have been tested and certified by independent institutions. Our products use well-tested parts sourced from reputable supplier/manufacturers that adhere to stringent quality control, environmental and ethical standards.