

### Roofing Kit Type I

#### Summary

This type will provide material and design (one room - 16'x14') for a high quality traditional flat roof, consisting of steel girders and T-iron beams, brick tiles and polythene sheet. The selected beneficiaries will construct walls of the room themselves and will receive the roofing materials upon reaching roof level. The brick tiles will be placed upon the girders, a polythene sheet will be laid on top and covered with a 4" thick layer of mud for insulation. The mud will be provided by the beneficiary. It is also proposed to include one steel door and steel window in the shelter material.

#### Cultural Acceptance / Geographic Applicability

Culturally accepted everywhere / not ideal for areas with heavy snowfalls

#### Advantages

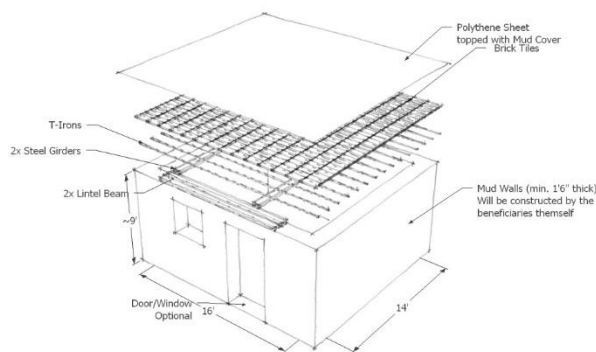
- in line with traditional/local building methods
- no skilled labour required
- good insulation in winter and summer
- high quality and reusable materials

#### Disadvantages

- high cost for 'only roofing'
- lot of hard work for beneficiaries (mud walls)
- difficult to monitor actual implementation rate

#### Cost of Materials / Proposed Cash for Work Assistance for vulnerable families

#### Schematic Drawing



#### Example Photo



#### Detailed Bill of Quantities

S.No	Items	Unit	Rate	Qty.	Total	USD
<b>Material for 1 Room ( 16' x 14' ) – Type I</b>						
1	Steel girders (size: 3" x 6" x 16') - (Specs 3kg/ft, i/c red oxide paint)	Nos		2		
2	T-Iron (size: 2" x 1" x 18'), i/c red oxide paint	Nos		15		
3	Brick Tiles (size: 12" x 6" x 1.5")	Nos		480		
4	Girders for lintels (size: 3" x 6" x 12'), i/c red oxide paint	Nos		2		
5	Doors (3.5' x 7') as per design & specifications - 24 SWG	Nos		1		
6	Windows (3.5' x 5') as per design & specifications - 24 SWG	Nos		1		
7	Polythene Sheet (18' x 16') - heavy duty	Sft		288		
8	Transportation cost	Lump sum		1		
9	Area Factor			5%		
<b>Sub-Total:</b>						