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Issue 231 Summer 2011 £3.80

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# What is a 'building in a bag'?

The building in a bag is a concrete cloth shelter. You simply inflate it and add water. Then, 24 hours later you'll have a permanent concrete home or medical centre for refugees.

The shelter is made up of a plastic inflatable inner bound to 'concrete cloth', cement-impregnated matting with a PVC waterproof backing. When it's dry the cloth

is flexible like canvas, but once water has been added, it begins to set into solid concrete over the course of 24 hours.

With the recent spate of natural disasters and humanitarian crises, the limitations of traditional tents in these situations have been highlighted. Conventional canvas can't provide adequate protection from harsh weather,

nor is it ideal for maintaining a sterile environment in which to treat the wounded.

Enter the Concrete Canvas Shelter. This flatpack accommodation provides lockable, fire- and waterproof protection that lasts for more than 10 years. What's more, the building is inflated in one piece rather than 'built' and so requires minimal equipment, labour and materials to set up.



## 1 DELIVERY

A building bag containing the folded up, compact shelter is delivered to the area where it's required. In this 'flatpack' form the shelter weighs just 500kg and can be easily transported by trucks, forklifts or light aircraft.



## 2 INFLATION

All the hard work of erecting the building is taken care of by an electric fan, which inflates the shelter's plastic inner. The structure expands to its full, self-supporting size and can then be fixed into the ground with steel pegs around the base.



## 3 HYDRATION

Water is sprayed over the concrete-impregnated cloth on the outside of the shelter. The fibres in the cloth help to draw water through the layer. The cement turns into a thick paste, which bonds together all the ingredients in the premixed concrete. Seawater can be used for this, so drinking water need not be wasted.



## 4 SETTING AND USE

The concrete cloth begins to harden two hours after water is applied. It takes on the dome shape of the inflated inner, forming a thin but strong concrete layer. After 24 hours, the shelter is fully set and ready for use. Holes can be drilled through the exterior so that mains electricity can be supplied to the building.