

product design

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HTI goes to Kenya to demonstrate its clean water HydroPack



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Experts from Hydration Technology Innovations, materials group Eastman Chemical and US design firm Modern Edge have spent 10 days with Kenyan villagers getting user feedback on HTI's HydroPack, which provides clean water to disaster victims. In January 2010, HTI deployed more than 24,000 HydroPacks on the ground in Haiti immediately after the devastating earthquakes in the country. Last month, HTI, working with the Kenyan Water for Health Organization and local government officials, distributed more than 20,000 HydroPacks in the village of Mudimbia, in

Kenya's flood-prone Budalangi region where floods along the Nzoia River displaced 40,000 people in 2007.

The exercise acted as a disaster relief demonstration but will also allow HTI and its partners to identify further design and technology refinements.

Like [other systems](#) developed recently, HydroPack makes use of water from muddy or contaminated sources and filters this to produce clean drinking water. But HydroPack also contains electrolytes and nutrients in powder form which are diluted as water filters across its membrane.

The pack is a thin 4 inch by 6 inch pouch which is transformed, in eight to 12 hours, into a clean and healthy 12-ounce drink.

Eastman worked with HTI to develop a grade of its cellulose acetate for the membrane that enables the process of forward osmosis. The material is based on cellulose obtained from sustainably managed forests and cotton linters, says Eastman.

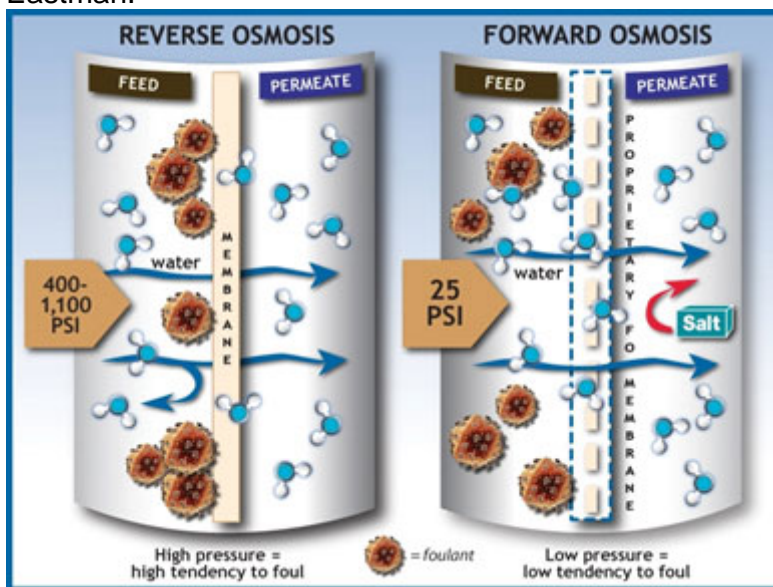


Image: HTI

Forward osmosis is a natural process where liquids either side of a permeable membrane seek equilibrium. HTI has built a lot of its products around refinement of forward osmosis membranes because it says they have advantages over reverse osmosis.

Forward osmosis works at low pressure and so requires little or no power input. HTI also says there are "fouling limitations inherent in pressure driven membrane separations".

More on [HTI's forward osmosis process](#)

Eastman's work on the project at [Eastman Innovation Lab Modern Edge](#)