

# Better Shelter

Flat-pack refugee shelter assembled rapidly in crisis zones using Borealis Daploy™ high melt strength (HMS) polypropylene (PP)



Photo courtesy of Better Shelter

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Photo courtesy of Better Shelter

## Daploy™ HMS PP provides the following benefits for foam manufacturers and converters:

- Less materials needed due to ultra-lightweight foam solution
- Great foamability
- Zero production waste
- Thermoformable
- One-step extrusion process
- Consistent raw material & reliable supply for over six years
- Extensive technical support and solution co-development

## Background

Better Shelter is a social enterprise and humanitarian innovation project based in Sweden, providing safer and dignified temporary homes, which can be built in a few hours, for displaced people fleeing dangerous situations to protect their families.

## Challenge

When facing a humanitarian crisis, local solutions are generally preferred. They tend to be more cost-effective, a better stimulant for local economies, and a more natural fit for local culture and customs. However, in some scenarios, global solutions are necessary.

When there is no time or capacity to source local materials, the right materials are not available locally, or permanent solutions aren't allowed due to the political situation, international enterprises have a role to play. It's for these scenarios that the Better Shelter project needed to develop safe housing for refugee families, suitable for up to five people, and that can be built in four hours with no tools required.

## Awards and nominations

## Beazeley Design of the Year

2017, The design Museum of London

## Solution

Better Shelter has shipped out over 60,000 new post-emergency and transitional shelters. Modular, low-cost, thermoformable and made from strong ultra-lightweight composite, these smooth-surfaced shelters can withstand highly challenging hot and cold weather conditions. They also provide thermal and acoustic insulation to provide refugees with safe living conditions.

Now deployed in refugee camps, transit sites, and emergency response programs in more than 60 countries worldwide, the shelters are a cost-effective and durable solution designed to meet the needs for basic living, privacy, security, familiarity, identity and dignity.

A shelter's modular design means it is easily adaptable, making it a versatile and scalable shelter option for areas where local solutions are not possible. For example, these shelters can play a vital role as communal infrastructure, providing the space for clinics, classrooms and child-friendly facilities.

## Which product is used for this solution?

Due to the unique and very challenging requirements for ultra-lightweight, low-cost and strong foam for composite structure, Better Shelter and the foam manufacturer chose Borealis Daploy™ HMS PP material to address the requirements for the production of low-density foams with a fine and controlled cell structure. In the foam manufacturer's extrusion process, Daploy™ HMS PP improves foamability, broadens processing temperature range, reduces cycle times and improves weight-to-strength ratio when creating the composite panels for Better Shelter's modular homes.

To find out more, talk to us today  
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## Borealis and Borouge PO foam solutions are expanding the limits

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With head offices in Vienna, Austria, Borealis employs 6,900 employees and operates in over 120 countries. In 2020, Borealis generated EUR 6.8 billion in sales revenue and a net profit of EUR 589 million. OMV, the Austria-based international oil and gas company, owns 75% of Borealis, while the remaining 25% is owned by a holding company of the Abu-Dhabi based Mubadala. We supply services and products to customers around the globe through Borealis and two important joint ventures: Borouge (with the Abu Dhabi National Oil Company, or ADNOC, based in UAE); and Baystar™ (with Total, based in the US).

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