

The Coldest Journey

Best Practice Case Study



Project data

Project: Transportable living and workshop quarters

Client: The Coldest Journey Expedition

Spray Foam Contractor: Isotech Sprayfoam Ltd.

Scope of Project: Provide thermal insulation and condensation prevention

Year Completed: 2012

Products Used: WALLTITE CL 100 spray foam insulation

Photo by Harriet Wooltorton

Project description

December 2012 sees the start of the last great polar challenge: crossing Antarctica in winter. 'The Coldest Journey' is a 2000-mile trek that has never before been attempted and the expedition's six-man 'Ice Team' – led by Sir Ranulph Fiennes – will have to overcome one of earth's most hostile environments if they are to succeed, exposing themselves to temperatures dropping close to -90°C and operating in near permanent darkness. In these hostile conditions the team and their equipment will be accommodated in a 'land train'. Pulled by powerful tractors, two cabooses, consisting of converted shipping containers, will serve as living area, scientific laboratory and workshop for the team. Keeping the living quarters warm is a critical issue and the steel containers have been treated with WALLTITE spray foam as an initial layer of insulation.

Challenges

The Cabooses are constructed from adapted steel shipping containers. Two 28ft containers are locked together to provide four heated rooms. Being made of steel the walls have no thermal insulation. The challenge is to provide effective insulation without also causing a condensation problem. Previous solutions involved battening the interior of the walls to provide a flat surface for thick layers of insulation. However, the steel walls are corrugated, and filling the gaps behind the battens with loose fill insulation had not provided the reliable and consistent insulation that is essential for this project.

Solution

WALLTITE spray foam insulation was chosen as an initial insulation layer, sprayed directly onto the steel shell where it fills the corrugations, providing a flat surface for further insulation layers and partitioning to be fixed as the interior layout is designed.

The conversion of shipping containers into living accommodation is increasingly common, and providing adequate insulation without causing condensation is always an immediate challenge.

WALLTITE, sprayed directly onto the internal surface removes this condensation problem entirely and provides consistent and effective insulation across the area.

WALLTITE is a closed cell polyurethane insulation spray foam, providing a highly versatile and effective insulation system suitable for roofs, walls or floors. It is only supplied via approved FoamMasters contractors who have received the technical training and back-up from BASF to provide the highest standard of installation.

The Cabooses for this project were treated by Isotech, a specialist spray foam contractor based in Hampshire.

The Trek

A winter traverse of the Antarctic is widely regarded as the last true remaining polar challenge and the expedition's success will reassert Britain's status as the world's greatest nation of explorers.

A fund-raising initiative will run side-by-side with the expedition with the aim of raising \$10m for Seeing is Believing to help fight blindness around the world. Having never been attempted, the expedition will also provide unique and invaluable scientific research that will help climatologists, as well as forming the basis for an education programme that will reach up to 100,000 schools across the Commonwealth.

WALLTITE is proud to be part of this brave endeavour.

