INSULFOAM® A CARLISLE COMPANY

PROJECT PROFILE

JOB PROFILE

PROJECT LOCATION:
- Dalton Highway, Alaska (Fairbanks to Prudhoe Bay)

SCOPE OF PROJECT:
- 53 miles of road

CONTRACTOR:
- Brice Construction and Cruz Construction

PROJECT DURATION:
- 3 years

INSULATION SYSTEM:
- InsulFoam® 40 EPS

AMOUNT OF PRODUCT:
- 48 million board foot

Dalton Highway, AK: Below-Grade EPS Insulation Helps Alaska DOT Keep Crucial, Remote Road Open

Stretching 415 miles from near Fairbanks, Alaska, to the Prudhoe Bay oil fields on the Arctic Ocean, the Dalton Highway is one of America's most remote roads. Originally called the North Slope Haul Road, the highway was built to support construction of the Trans-Alaska Pipeline. Today, the Dalton Highway continues to serve oil field traffic and is a crucial lifeline for Alaskan communities above the Arctic Circle. The road faces such severe weather that it was featured on several seasons of the reality TV show "Ice Road Truckers."

To keep the Dalton Highway operating year-round, the Alaska Department of Transportation (DOT) hired Brice Construction for the first phase and Cruz Construction for the second and third phases to upgrade a 50-mile segment of the road running south from Prudhoe Bay. A key part of the project is installing insulation in the roadbed to raise and stabilize the road. The insulation banks cold within the roadbed in winter to keep the permafrost frozen in summer and provides lightweight structural infill to raise the roadbed above the flood level without over-compressing the underlying soil.

INSULATION ENGINEERED TO MAKE A DIFFERENCE.

The project team designed the road in accordance with the strenuous specifications of AASHTO M230 – the American Association of State Highway and Transportation Officials' "Standard Specification for Expanded and Extruded Foam Board (Polystyrene)." Traditionally, the only product that could meet this standard was extruded polystyrene (XPS) foam board, due to the standard's thermal values, water absorption, and compression values. However, because the Insulfoam plant in Anchorage has specialized manufacturing equipment, they are able to produce expanded polystyrene (EPS) boards that meet the AASHTO M230 specification.

Cruz construction is tasked with installing two layers of 2-inch-thick InsulFoam 40 EPS as part of the road base under a gravel road surface. InsulFoam 40 is a high-performance insulation consisting of a superior closed-cell, lightweight, and resilient EPS, manufactured in a plank mold.

To supply the massive quantity of insulation needed for the Dalton Highway, Insulfoam's Anchorage plant has, as of fall 2018, produced 4 million cubic feet of InsulFoam 40 EPS (picture a football field stacked about 70 feet high with insulation). This has required the plant to operate 24/7 for three years while navigating a range of production challenges to meet other local demands for insulation products. With project completion scheduled for 2019, the plant has ramped up production to supply three-and-a-half 52-foot-long flatbed trucks of EPS every day and has worked with the contractor to ship the materials more than 800 miles to the jobsite.