

Public Workshop – Village of Anaktuvuk Pass, Alaska

Anaktuvuk Pass, Alaska

Industry

Municipal Infrastructure

Products

Hard-Cem®

Project Partners

General Contractor:

ASRC Construction

Architect:

Umiaq Design

Engineer:

Hansen Engineering
(Final Mix Design by
Mark Hansen)

Ready Mix Supplier:

Alaska Sand & Gravel

Background

The Village of Anaktuvuk Pass is located above the Arctic Circle in Alaska's Brooks Range, where construction is challenged by extreme cold, limited seasonal access, and severe freeze-thaw conditions. Infrastructure in this remote region must perform reliably under heavy equipment use while minimizing long-term maintenance demands.

The project, commissioned by the North Slope Borough, involved the construction of a new public workshop and utility facility to support municipal operations in the village. Given the harsh environment and logistical constraints, the project team needed a concrete solution that would deliver long-term durability without adding complexity to construction.

Traditional surface-applied hardeners were not well suited for the site. These systems typically require additional labor, controlled curing conditions, and follow-up applications — all difficult to manage in subzero temperatures and during a short Arctic construction season.

Solution

To meet these challenges, the project team selected Hard-Cem®, Kryton's integral abrasion-resistant concrete admixture.

Umiaq Design developed the project specifications, while Hansen Engineering finalized the concrete mix design to ensure performance under Arctic conditions. Most concrete materials were supplied through Alaska Sand & Gravel, enabling reliable batching and delivery to the remote site.

By adding Hard-Cem directly to the concrete mix, abrasion resistance was built into the slab from the start.



SMART CONCRETE®

This eliminated the need for dry shake or surface-applied treatments, simplifying placement and reducing construction risk in extreme cold. The admixture was easily batched and placed, providing uniform durability throughout all concrete surfaces exposed to heavy wear.



Results

The use of Hard-Cem delivered a durable, low-maintenance concrete surface capable of withstanding heavy vehicle and equipment traffic in one of the most demanding environments in North America.

Key outcomes included:

- Extended service life in extreme Arctic and freeze-thaw conditions
- Simplified construction logistics with no surface application required
- Reliable abrasion resistance under heavy-use municipal operations
- Reduced long-term maintenance for the North Slope Borough

The Anaktuvuk Pass Public Workshop now stands as a resilient, long-lasting municipal facility – a smart investment for the community, built to perform in the Arctic using Smart Concrete® technology.