

PROJECT SPOTLIGHT: GRAVEL RUNWAY STABILIZATION (SECUR)

*Midwest's SECUR Stabilization:
Transforming Remote Gravel Runways into
Reliable Infrastructure for Modern Aircraft*

<p>Q400</p> <p>Operations approved through flight testing</p>	<p>365 Day</p> <p>Year-round reliability and performance</p>	<p>51 CBR Value</p> <p>Achieved and Maintained – Exceeding the minimum requirement</p>
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CHALLENGES

- Stabilize the runway surface to preserve aggregate and fines, reducing Foreign Object Debris (FOD) risk.
- Create a bound, high-strength surface capable of supporting frequent year-round Q-400, C-130, L382 Hercules, and DC6 aircraft.
- Eliminate the need for snow-packed winter operations to enable jet traffic year-round.
- Complete construction within a single weekend to meet a highly constrained operational window with no disruption to service.

SOLUTION

- Performed laboratory testing (PSD, Proctor, and CBR) to determine optimal mix design and ensure aircraft load requirements were met.
- Installed the SECUR System by blending EK35[®] into a newly placed 4-inch aggregate surface course.
- Executed installation using a CAT RM300 reclaimer to uniformly and efficiently incorporate the EK35[®] into the surface layer to a 4-inch depth.
- Coordinated installation between the customer's construction team and Midwest's onsite technical support.

RESULTS

- **High-Strength, Bound Surface:** Hard, stabilized surface that exceeded required CBR strength thresholds for aircraft operations and enabled features such as painted runway markings.
- **Improved Operational Safety:** Delivered consistent and stable surface conditions for aircraft takeoff and landing, validated through flight testing with Dash Q400.
- **Enhanced Surface Durability:** Stabilized surface held up to 1800 locked wheel turns for re-positioning aircraft.
- **Exposed Runway for Winter Operations:** The stabilized runway removed the need for winter snow-pack operations and enabled year-round Q-400 service on an exposed gravel surface.
- **Quick and Seamless Installation:** Installed within the tight operational window—completed in a single weekend – resulting in no operational delays.
- **Reduced Maintenance & Extended Life of Runway:** Eliminated routine grading, significantly lowered runway maintenance activities and extended the life of the runway by years.
- **Reduced Environment Impact:** EK35[®] reduced dust settling on the adjacent tundra vegetation and reduced the mine's water consumption for runway dust control.



PROJECT BACKGROUND

Product: EK35[®]

Location: North Slope, Alaska

Industry: Private Aviation Infrastructure

A major oil producer operating in the remote North Slope of Alaska required a reliable solution to stabilize its gravel runway and ensure safe, year-round Q-400 operations. The runway is critical infrastructure, as the site has no permanent road access and depends entirely on air transport.

The existing runway suffered from significant loss of surface fines, resulting in reduced strength and poor performance during thaw cycles and heavy rainfall. Additionally, operators required a stabilized surface that could remain exposed throughout the winter—eliminating reliance on snow-packed operations.

After extensive laboratory testing and meetings with the site's operations team, it was determined that Midwest's SECUR Stabilization system is the ideal and only solution to deliver the desired runway and performance outcome.

LOOKING FORWARD

This project demonstrates the effectiveness of the SECUR System in transforming traditional gravel runways into engineered, high-performance surfaces capable of supporting demanding aviation operations in extreme environments. This project demonstrated its value in an evolving aviation environment as aircraft change and gravel kits are phased out. By combining site-specific design, laboratory validation, and controlled construction practices, the system provides a reliable alternative for remote airstrips where conventional paving is not feasible.