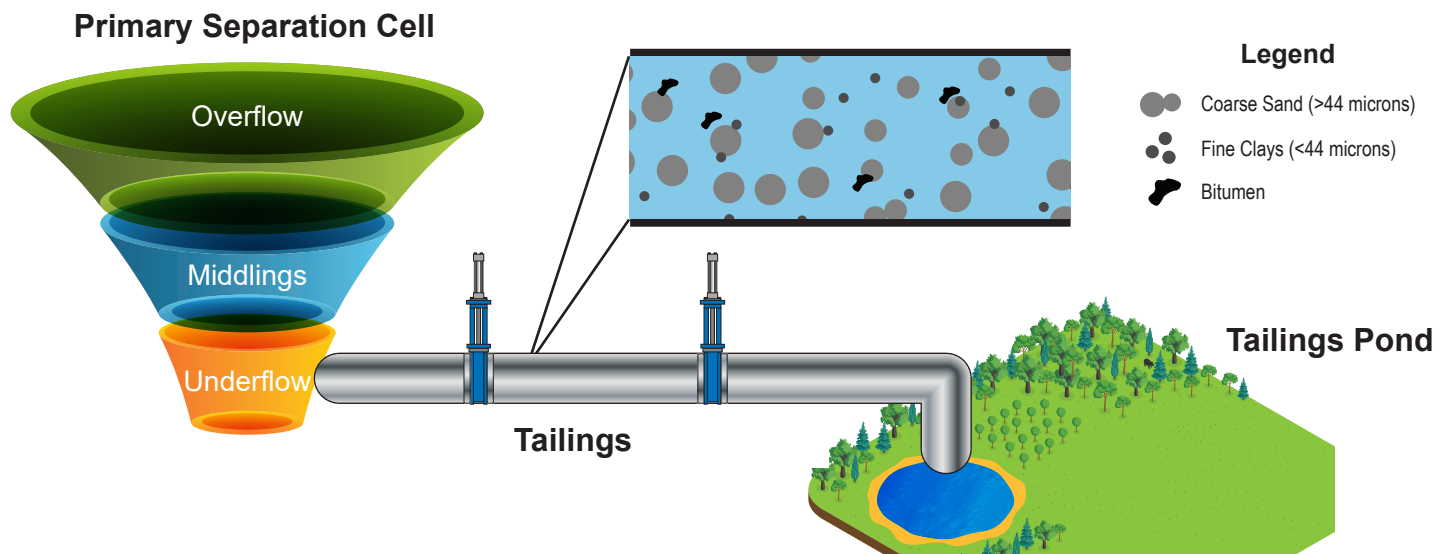


# DEZURIK KSV SEVERE SERVICE KNIFE GATE VALVES IN OIL SANDS TAILINGS



## Challenge

Tailings handling is one of the toughest applications in oil sands processing. Tailings are a slurry of water, sand, fine/coarse solids and traces of bitumen extracted from the primary separation cell (PSC). The PSC extracts the valuable bitumen from the crushed oil sands for further processing into crude oil, and the remaining tailings slurry is pumped at high velocity to the tailings pond. The tailings slurry is highly erosive, may have a high solids content of 50-60%, and is extremely damaging to processing equipment.

In the 90's, standard knife gate valves were used in tailings applications and had an expected service life as short as 3 months. The short service life of these valves meant frequently shutting down tailings lines to replace valves and the associated maintenance costs. Oil sands facilities needed a knife gate valve that would maximize production, minimize downtime and reduce maintenance costs.

## Solution

In response, DeZURIK designed and developed the KSV Severe Service Knife Gate Valve in consultation with oil sands facility engineers specifically for tailings applications. DeZURIK learned why standard knife gate valves were failing and designed the KSV valve to better handle rugged tailings applications and extend the service life of the valve well beyond what a standard knife gate valve provided.

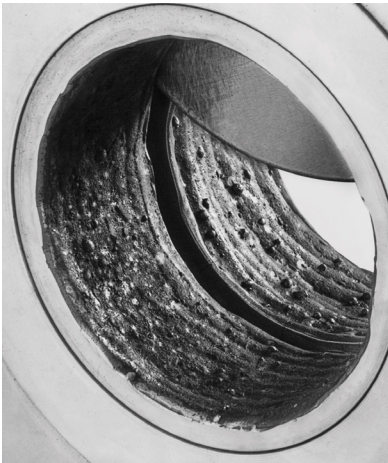
DeZURIK found that the turbulent tailings slurry quickly eroded seats on standard knife gate valves. The solution included developing the KSV valve's hardened seat rings along with the premium packing system to extend the service life of the valve and reduce maintenance. The premium packing system included a rounded and finished gate edge, rounded packing chamber, scraper ring, and adjustable packing gland to minimize external leakage.

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KSV valves installed at oil sands sites lasted more than four times the service life of standard knife gate valves and competitor's valves (depending on location). The standard knife gate valve seats were showing severe wear at 3 months whereas DeZURIK's KSV hardened valve seats showed minimal wear in the same time frame. The DeZURIK KSV valve's proven design demonstrates exceptional performance in severe service mining applications worldwide.

DeZURIK KSV Severe Service Knife Gate Valves are specifically designed to handle highly erosive slurry applications. The valve is bi-directional, drip-tight and suitable for dead-end service without a mating flange. KSV valves are designed for safety with a full-force lockout system to handle the full actuator force plus safety factor.

For additional information on KSV Severe Service Knife Gate Valves or any of DeZURIK's other products, visit [DeZURIK.com](http://DeZURIK.com) or contact your local DeZURIK representative.



DeZURIK KSV Severe Service Knife Gate Valve seat rings can be specified with tungsten carbide or chrome carbide welded overlays for maximum service life.

- Designed for highly erosive, high velocity and high solids content slurry service
- Bi-directional, drip-tight and dead-end service without a mating flange
- Rounded gate, rounded packing chamber extends packing life and reduces maintenance
- Interchangeable, rotatable and configurable hardened seat rings to extend service life
- Full-force lockout system designed to full actuator force plus safety factor

## SALES AND SERVICE

For more information, contact DeZURIK

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