



**GOLD PROCESSING
SOLUTIONS**



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Derrick Solutions

for Gold Processing Carbon in Leach (CIL/CIP) Circuits

For more than 70 years, Derrick Corporation has pioneered the development of fine screening solutions to serve diverse industries throughout the world. Our commitment to unmatched quality, combined with vertically integrated product design and a culture of continuous improvement throughout our organization, has led to the well-recognized long-term reliability and productivity of Derrick products.

Derrick first introduced polyurethane screens to the gold processing industry in the early 1980s. Before introduction to gold processing, Derrick's polyurethane Polyweb® screens had demonstrated their exceptional capabilities in numerous mining applications. The abrasion-resistance and non-blinding properties of these unique polyurethane screens offered extended service life with minimal maintenance to maximize efficiency and productivity. Applying this advanced technology to gold processing has allowed this vital industry to also reap their myriad benefits.

Following our initial contributions to advancing gold processing technology, Derrick continued to develop new, innovative, high-capacity screening equipment. Our efforts focus on reducing operational expenditure (OPEX), development of new patented technologies, and minimizing maintenance and footprint to reduce environmental impact. All of which contribute to a favorable return on investment (ROI).

Efficient gold recovery is assured by our advanced leaching circuit screen technology that demonstrates our firm commitment to advancing gold processing. These solutions include trash screens, urethane interstage screens, carbon sizing screens, dewatering screens, tails safety screens, and other processing stages.

All Derrick equipment incorporates our strong commitment to personal safety by employing extensive hazard communication labeling and minimizing touchpoints.

Derrick now offers its latest innovation—Trilogy™ surface technology—our most advanced screen system. Trilogy is composed of individual thermoplastic components that may be assembled into various configurations for added flexibility. This new innovation from Derrick can increase gold recovery, while and reducing operating cost by enhancing productivity and profitability!





STAGE 1:
DP800 TRASH SCREEN

STAGE 3:
DP800 LOADED CARBON SCREEN

STAGE 4:
DP800 CARBON DEWATERING SCREEN

STAGE 2:
G-Vault URETHANE INTERSTAGE SCREEN

STAGE 5:
DP800 CARBON SIZING SCREEN

STAGE 6:
DP800 CARBON SAFETY SCREEN

Typical CIL Circuit

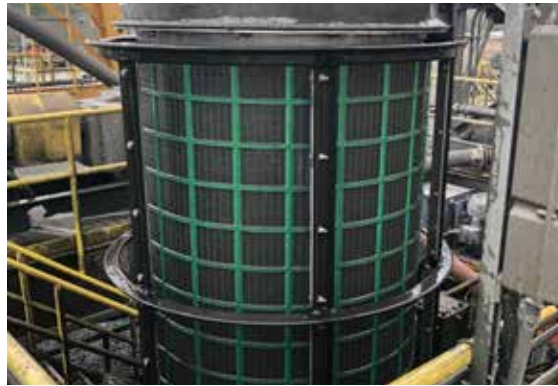
Derrick Application Solutions

in Gold Processing Carbon in Leach (CIL/CIP) Circuits



Stage 1: Trash Screen

Trash of any kind can present many problems for process streams and downstream unit operations. Gold processing plants remove trash from their leaching circuits to prevent preg-robbing from organic matter. Screens are the most economical method to remove trash from process streams; however, not all screens are created equal. Derrick high frequency vibrating screens fitted with 3-D Trilogy Surface Technology have risen to the top as the most robust and cost-effective screen for removing trash. Only Derrick offers a vibrating screen capable of handling large volumes of feed while effectively removing trash without media blinding and consequently reducing throughput.



Stage 2: Urethane Interstage Screen

Derrick's interstage offering is a welcomed alternative to traditional stainless steel wedge wire screens. Where higher open area is essential, Derrick's tailor-made approach ensures compatibility. Our infusion of technology and tradition is delivered to gold producers looking to capitalize on the ease of a bolt-in replacement or complete unit while maintaining efficient separation. The combination of urethane's abrasion- and cut-resistant properties, coupled with Trilogy surface technology, results in increased life, higher throughput, and less maintenance for your screen system.

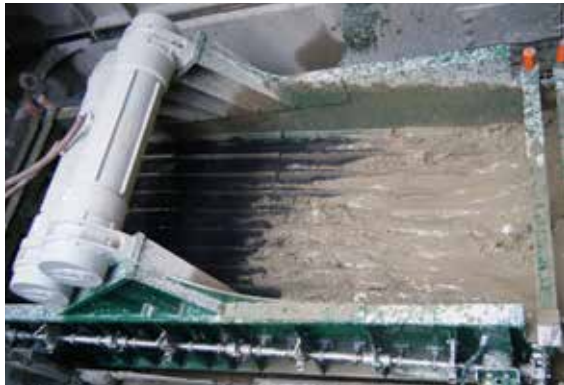
Derrick's Trilogy technology was developed to produce interchangeable screen modules ranging from 500 to 1200 μm . This new safer and longer lasting standard of CIL/CIP operation increases throughput and raises operational confidence.



Stage 3: Loaded Carbon Screen

Loaded Carbon screening combines high percent solids scalping with solid/ solid separation to make for one of the toughest screening duties in the CIL/CIP Circuit. To prevent downstream stripping circuit issues, it is critical that slurry is effectively removed so that only carbon is sent to oversize. Derrick's high-open-area, non-blinding panels ensure the most effective separation with minimal maintenance through the entire panel life. Additionally, Derrick's industry leading G-force screens maximize conveyance for worry-free operation, delivering superior capacity in a small footprint.

Our efforts focus on reducing operational expenditure (OPEX), development of new patented technologies, and minimizing maintenance and footprint to reduce environmental impact.



Stage 4: Carbon Dewatering

Effective carbon dewatering is key to minimizing reactivation kiln fuel cost. Derrick's 3D Trilogy panels take this operation to the next level by delivering up to 45% higher screening area in the same footprint as conventional 2-dimensional panel technology. The 3D screening further enhances permeability by allowing more fluid to pass through the top of the screen with the solids consolidating in the valley sections.



Stage 5: Carbon Sizing Screen

Compared to conventional stationary sizing screens, Derrick's vibrating units deliver superior value through higher efficiency and mechanical reliability. Our non-blinding, high-open-area panels are less susceptible to clogging than sieve bends. This ensures efficient separation over the entire life of the panel without frequent cleaning. This efficient separation keeps carbon fines that adsorb gold (but are too fine to report to the elution circuit) from reporting to the CIL/CIP tanks. This can have a significant benefit to overall gold recovery and can really add up over the life of a plant!



Stage 6: Carbon Safety Screen

The carbon safety screen is the last line of defense before gold-laden carbon fines are lost to tailings. To maximize gold recovery, Derrick high-open-area, non-blinding screen panel technology can capture carbon down to 250 microns—half the size of competitors' screens. Because Derrick's screen panel technology delivers the highest throughput per unit screen area of any manufacturer, this fine separation can be achieved with the same or smaller unit(s) compared to the competition.

TRIOLOGY

SURFACE TECHNOLOGY

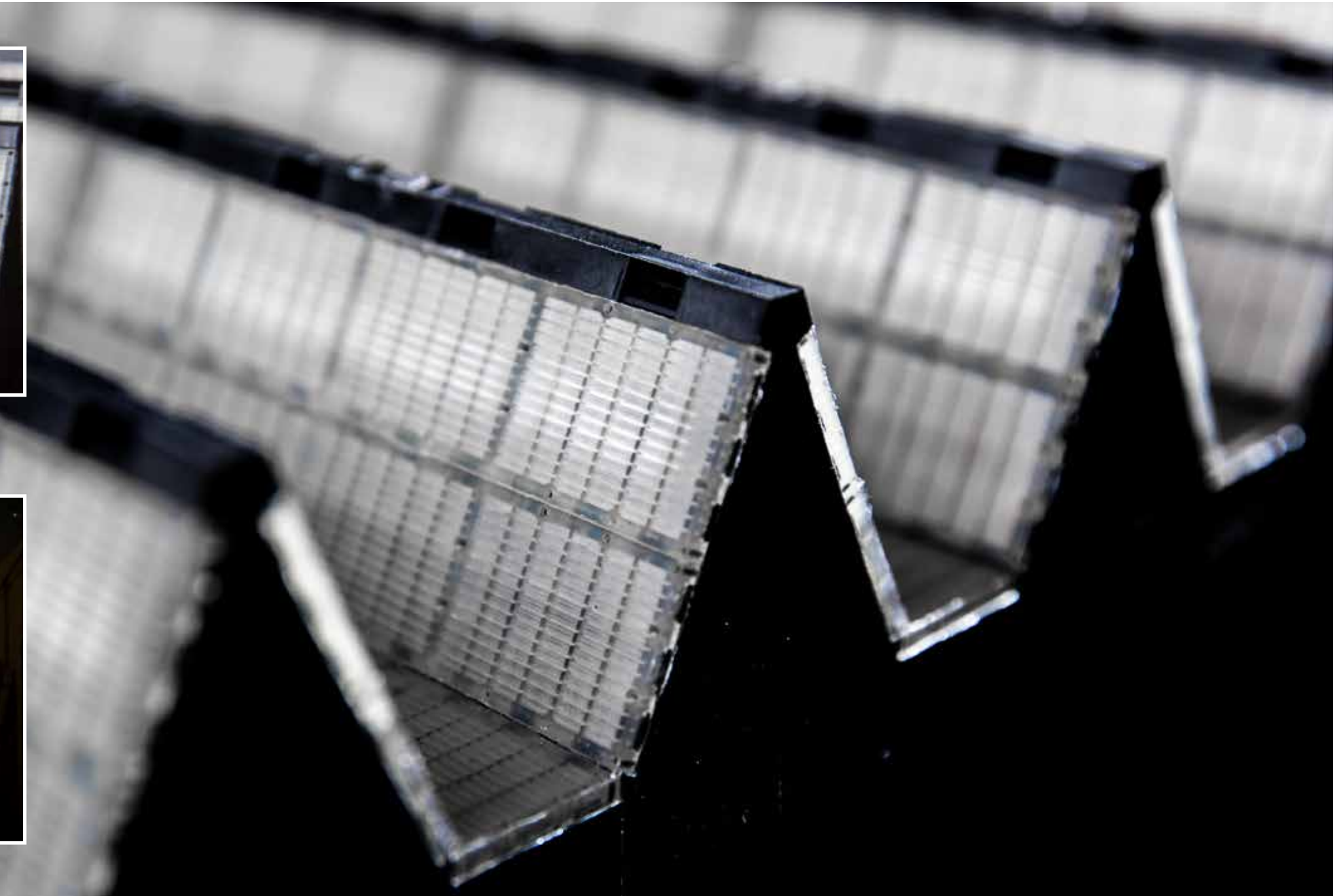
With innovation setting the course and tradition at the helm, Derrick has spent the last 35 Years perfecting fine screening solutions for the mining industry. With aperture sizes as fine as 38um, all with superior performing open area and cut points, Derrick is the recognized leader in applying urethane technology to screen surfaces.

Through an initiative titled: Trilogy, we transitioned our screening surface from a flat thermoset urethane screen to a thermoplastic three-dimensional urethane screen. Our newest innovation employs a modular approach in which the screen surface is combined with a robust support structure that can be joined together easily. This modularity gives us the ability to increase screening area in the same footprint.

Trilogy screens feature tapered openings which highlight its non-blinding characteristics, the ability to withstand higher material temperatures and increased capacity. Trilogy carries on the pedigree of its predecessor's extended service life and high open area. All of which lead to increased gold recovery.

With the development of Trilogy, Derrick has succeeded in maintaining its incumbency as the industry leader in fine screening solutions.





Dual Pool® 800 Series

Screening Machines

With a history of innovation and setting new standards, Derrick Dual Pool® 800 Series linear motion screens offer long-life with low maintenance requirements. This premium product includes an innovative dual concave screen frame and convenient screen compression system, allowing for screen panel changes in less than 45 seconds. The combination of these features and the use of Derrick anti-blinding, high-open-area Trilogy urethane screen panels ensure outstanding wet screening and dewatering performance with minimal operator involvement.

Derrick Linear Motion machines are designed for high volumetric capacity when feed slurry has a low percentage of oversize solids. This performance characteristic is achieved by the use of Derrick vibratory motors rotating in opposite directions, creating high G-force, true linear motion. This motion causes forward, uphill conveyance of solids out of the fluid pool that forms near the feed end of the machine.

Head or pressure from the liquid pool enhances the fluid throughput through the screen panels. The high G-force acceleration and uphill movement of the solids promotes the production of an oversize fraction that is consistently stackable and conveyable.

When fitted with high G-force Derrick vibratory motors and fed thickened slurry, the Linear Motion machines perform a dewatering function that enhances the removal of free liquid from the oversize solids.

Four sizes of Linear Motion machines are available to meet the variable screening capacity needs of the trash, loaded carbon, carbon dewatering,

carbon sizing, and tails safety duties. Abrasion-resistant urethane coatings and greased-for-life Derrick vibratory motors assure long-life, low maintenance operation.



1. Dual Concave Screen Bed

- + Fluid centering technology increases capacity
- + Increased efficiency in a smaller footprint
- + Compression fit bed material requires no hardware

2. Screen Compression System

- + Eliminates bypass of solids under screen panels
- + Less than 45-seconds per screen panel change
- + Fast, secure panel retention

3. Multiple Machine Configurations

- + Various feed box options available for all flow conditions
- + Provides wet screening/dewatering capability for a wide range of mass and volumetric feed capacities
- + Open design allows visual inspection of screen panels

4. Derrick Integrated Vibratory Motors

- + Zero maintenance
- + Low sound level
- + Multiple options available – Super G® series or W vibratory motors
- + Low dynamic loads
- + Powerful, quiet and low energy consumption
- + Super G vibratory motor has greased-for-life bearings
- + Optional Super G2 or W vibratory motors have continuous recirculating internal oil lubrication system

5. Spray Wash Water System

- + Wash water spray bars with multiple nozzle styles
- + Enhances removal of fines from oversize fraction

6. Coatings & Linings

- + Non-wear surfaces painted with zinc-rich primer and urethane enamel top coat
- + Wear surfaces coated with 100% solids urethane or lined with suitable types of rubber or other elastomers for maximum abrasion resistance

7. Health, Safety & Environment (HSE)

- + Low sound production
- + Easy screen inspection, removal and installation
- + Light-weight screen panels for easy installation





URETHANE INTERSTAGE SCREEN

Derrick's lengthy history in the mining community, together with its commitment to customer process improvement, has sparked the development and production of the G-Vault Urethane Interstage Screen for Gold Leaching Circuits. The G-Vault utilizes Trilogy urethane screen surface technology and offers a welcome alternative to traditional stainless steel wedge wire screens.

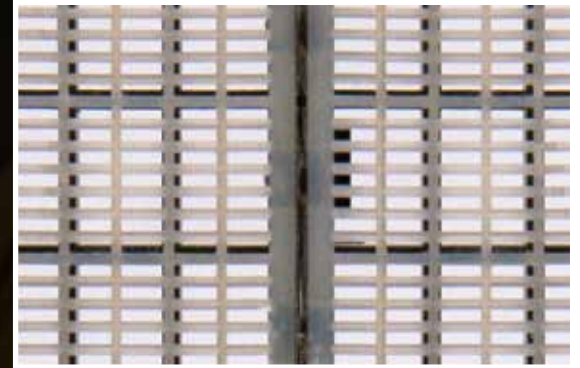
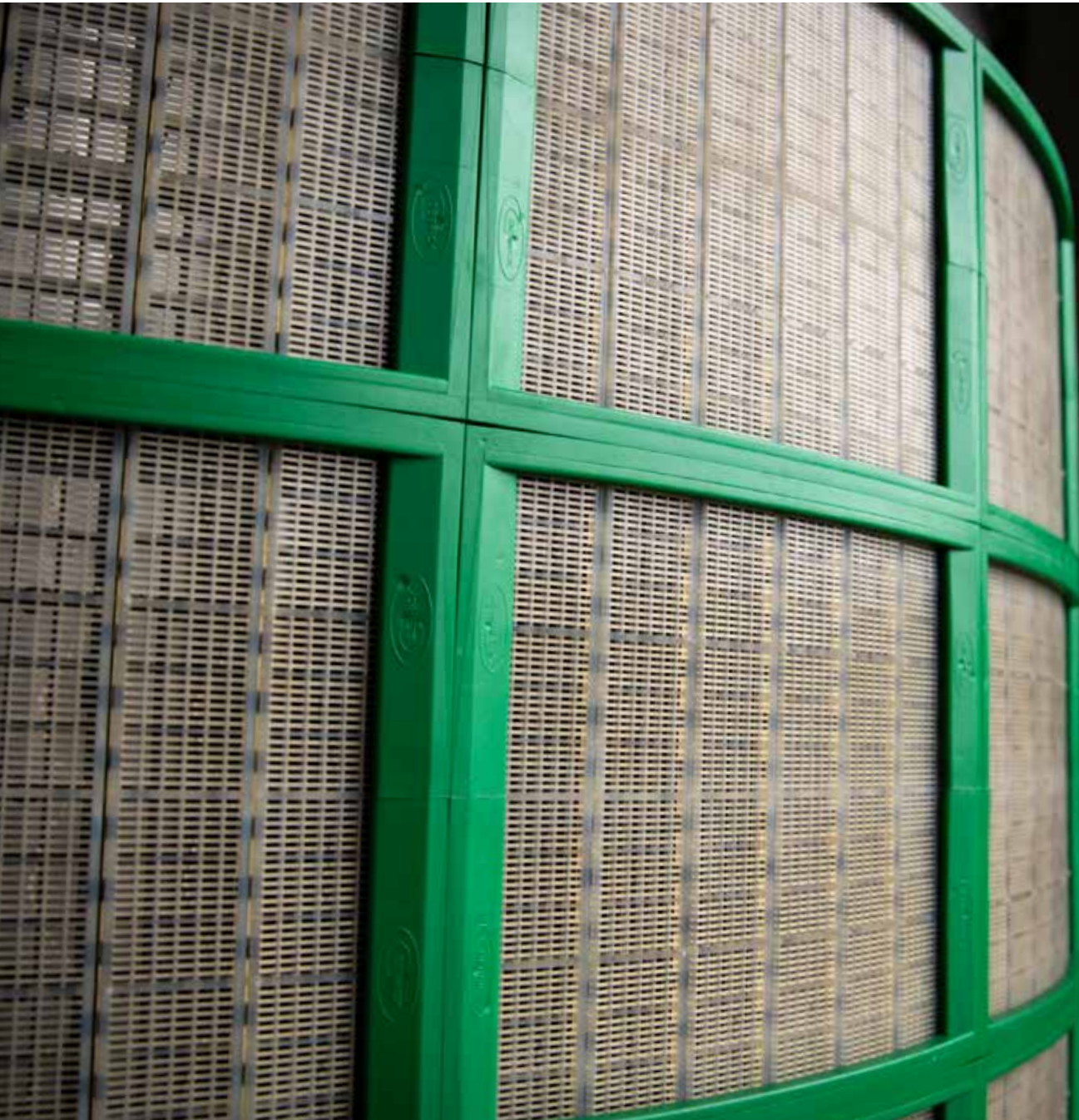
The G-Vault creates a new standard of operation by increasing capacity and extending runtimes beyond 12 months without regular cleaning cycles. Given the alternative of multiple weekly shutdowns related to wedge wire screens, the G-Vault creates a new standard of operation by lengthening run-times to beyond 12 months without regular cleaning cycles. Due to its modular design, screens can be individually replaced as needed rather than an entire wedge-wire screen, which contributes to reduced OPEX.



Derrick Exclusive Technology

- + Superior flow
- + Long life
- + High open area
- + Easily replaceable
- + Low maintenance
- + Patented screen technology
- + Resistant to blinding





The G-Vault® is a Bolt-In Replacement Urethane Intestage Screen



G-Vault® Prism™ 3-D Urethane Interstage Screens

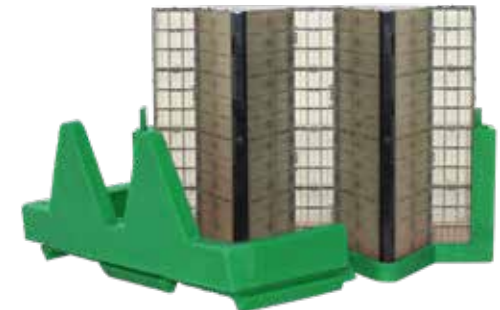
After the successful launch of Derrick's G-Vault Urethane Interstage Screen, a need was seen to again raise the bar. Acknowledging that mill capacity at a mine site directly correlates with the size of an interstage mechanism, Derrick sought to increase its interstage screen product offerings. To do this, Derrick's Business Development Division collaborated with the mining industry's elite engineering and gold producing teams to provide a complete solution for interstage screening.

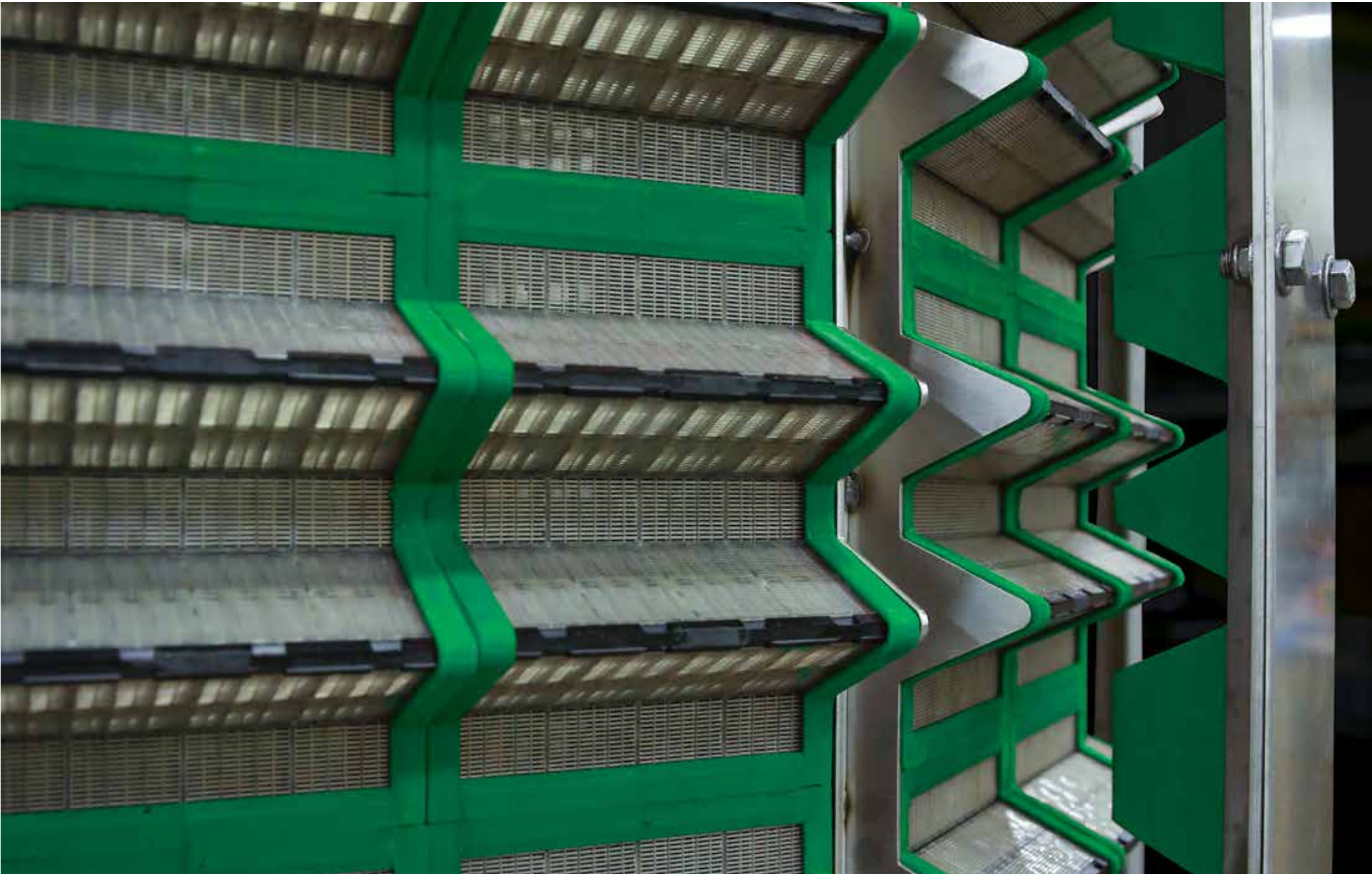
The outcome of this effort is the G-Vault Prism (GVP). Utilizing a modular, three-dimensional urethane screen surface, it is the only complete interstage offering for Greenfield Projects or Brownfield Expansions. The key feature of this advanced screen design is a substantial increase (average of 30%) in available screening area, which has led to the success of this remarkable product. These unique interstage screens allow both engineering firms and end users to deploy smaller units with smaller aperture sizes than proposed, leading to increased gold recovery in a sleeker, more efficient package.



Derrick Exclusive Technology

- + Greenfield Solution
- + Long life
- + Resistant to blinding
- + High open area
- + Low maintenance
- + Easily replaceable
- + 3-D screen surface
- + 30% higher open Area





Gold Processing

Installations

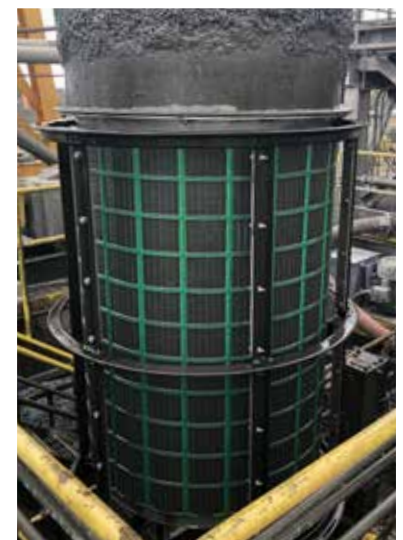
Derrick offers solutions for fine screening in gold processing plants that effectively address reducing maintenance and operating costs, improved equipment reliability, improved kiln performance and efficiency, and increasing gold recovery.

Testimonial

“After the first checkup at six weeks, the determination was made to replace all interstage screens at our operation with the Derrick G-Vault baskets. This decision was based mainly on performance. During the first six weeks of the trial, neither basket had to be pulled by operations for any reason. Performance in the circuit went up, while also allowing operators to focus on other tasks. The wear on the screen panels tested was minimal to none over the trial.”

Jeremy Rozelle
Senior Metallurgist
OceanaGold's – Haile Gold Mine





Weights & Dimensions

EQUIPMENT	DIMENSIONS			
Model	Width in (mm)	Length in (mm)	Height in (mm)	Weight lbs (kg)
SP813	38-7/16 (977)	134-13/16 (3424)	88 (2235)	2241 (1017)
SP814	38-7/16 (977)	157-3/16 (3992)	88 (2235)	2613 (1186)
DP814	61-12/16 (1569)	157-3/16 (3992)	88 (2235)	4198 (1905)
DP815	61-12/16 (1569)	179-15/16 (4570)	88 (2235)	4830 (2191)
DPX816	79-12/16 (2026)	216 (5486)	103-7/16 (2627)	9095 (4126)
DPX817	79-12/16 (2026)	237-7/16 (6031)	103-7/16 (2627)	9997 (4536)

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GOLD PROCESSING SOLUTIONS



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