Market Solution Comparison

A practical overview of the most common solutions used to manage build-up, carryback and restricted material flow in Australian mining operations.

Build-up and carryback can reduce payload, restrict chute capacity, increase cleaning requirements and expose operations to additional downtime and safety risk. The most suitable response depends on the material characteristics, moisture, equipment geometry, operating conditions and severity of the issue. Mining operations commonly use a combination of surface treatments, liners, flow-assistance devices, cleaning methods and engineered modifications.

Main Solution Options

SOLUTION	Spray-On Release Agent + Tailored Equipment	Spray-On Release Agents (Conventional)	Wear Liners (UHMWPE / Ceramic)	Mechanical Vibrators / Shakers	Manual Cleaning (High Pressure Water / Air)	Design Changes (Modification)
HOW IT WORKS	Nano-thin barrier prevents adhesion of materials	Creates temporary slippery layer on the surface	Changes surface material to reduce adhesion	Uses vibration to dislodge material	Removes build-up after it has accumulated	Alters geometry or flow to reduce accumulation
EFFECTIVENESS ON BUILD-UP PREVENTION	High (Proactive Prevention)	Medium (Temporary Protection)	Medium (Depends on Conditions)	Low (Doesn't Prevent, Only Removes)	Very Low (After Build-up Occurs)	Medium (Variable Results)
IMPACT ON DOWNTIME	Minimal (No Cleaning Required)	Low (Requires Regular Re-application)	Medium (Replacement Downtime)	Medium (Requires Maintenance)	High (Significant Downtime)	Medium (Depends on Modification)
OPERATING COST	Low (High ROI)	Medium (Ongoing Product & Labor)	High (High Capex)	Medium (Equipment & Maintenance)	High (Labor, Water, Downtime)	High (Engineering & Implementation)
MAINTENANCE REQUIREMENT	Low (Periodic Application)	Medium Frequent Application)	High (Inspection & Replacement)	Medium (Equipment Upkeep)	High (Labor Intensive)	Medium (Depends on Design)
IMPACT ON EQUIPMENT LIFE	Positive (Protects Surfaces from Wear)	Neutral (Depends on Chemicals Used)	Positive (Protects High Wear Areas)	Neutral (No Direct Impact)	Negative (Potential Surface Damage)	Positive (Improves Flow & Reduces Wear)
ENVIRONMENTAL IMPACT	Low (Eco-Friendly, Biodegradable)	Medium (Chemical Based)	Low (Long Lifespan, Less Waste)	Low (Depends on Energy Use)	High (High Water, Consumption)	Low (One-time Impact)
SUMMARY	BEST OVERALL SOLUTION Proactive Prevention, Low Cost, Minimal Downtime, Eco-Friendly	GOOD FOR SHORT-TERM USE Needs frequent re-application, moderate cost	HIGH CAPEX BUT EFFECTIVE Good for high wear areas, but costly installation	SUPPORTING SOLUTION ONLY Helps remove material but doesn't prevent it	REACTIVE & COSTLY High downtime and labor cost, not sustainable	SITUATIONAL SOLUTION Can be effective but requires engineering investment

This comparison is not exhaustive. It covers the most common solutions used in Australian mining operations to manage material adhesion, build-up, carryback and flow restrictions. The suitability of each option depends on the material, equipment and operating environment.

Our objective is simple: deliver measurable operational improvements with minimal disruption to your operation.

Preventing Build-Up or Removing It After It Occurs

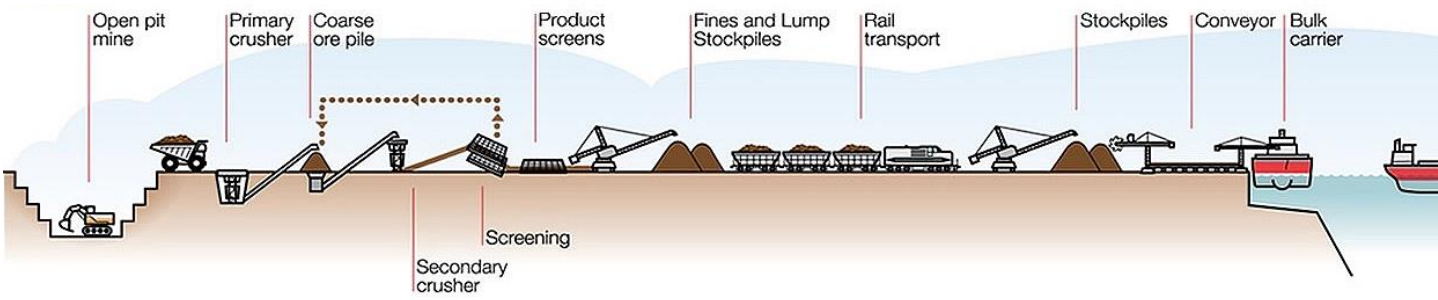
Some solutions aim to reduce adhesion before build-up develops, while others restore flow after material has already accumulated. In practice, many mining operations use a combination of preventive and reactive controls.

Solution	Preventive	Reactive	Typical role
ECORA	✓	✓	Reduces initial adhesion and assist in releasing existing build-up following application and operation.
Low-friction / wear liners	✓		Reduces friction and protects the equipment surface.
Design modifications	✓		Improves flow geometry and removes areas where material accumulates.
Air cannons		✓	Breaks bridging and releases material from chutes, bins and hoppers.
Mechanical vibrators		✓	Applies vibration to mobilise retained material.
Water washing / sprays		✓	Breaks down and removes accumulated deposits.
Mechanical or manual cleaning		✓	Physically removes build-up after isolation.
Conveyor belt cleaners	✓	✓	Continuously removes material remaining on the belt.

An Integrated Approach : ECORA works independently or alongside existing solutions to reduce adhesion, minimise reactive cleaning and improve material flow.

BOOK YOUR TRIAL:
LET'S MEASURE HOW MUCH ECORA CAN DO FOR YOUR OPERATION

During the trial, ECORA is applied manually and adjusted to the asset, material and operating conditions. The final report compares baseline and treated performance and recommends the most suitable application system, consumable rate, maintenance and monitoring approach.



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