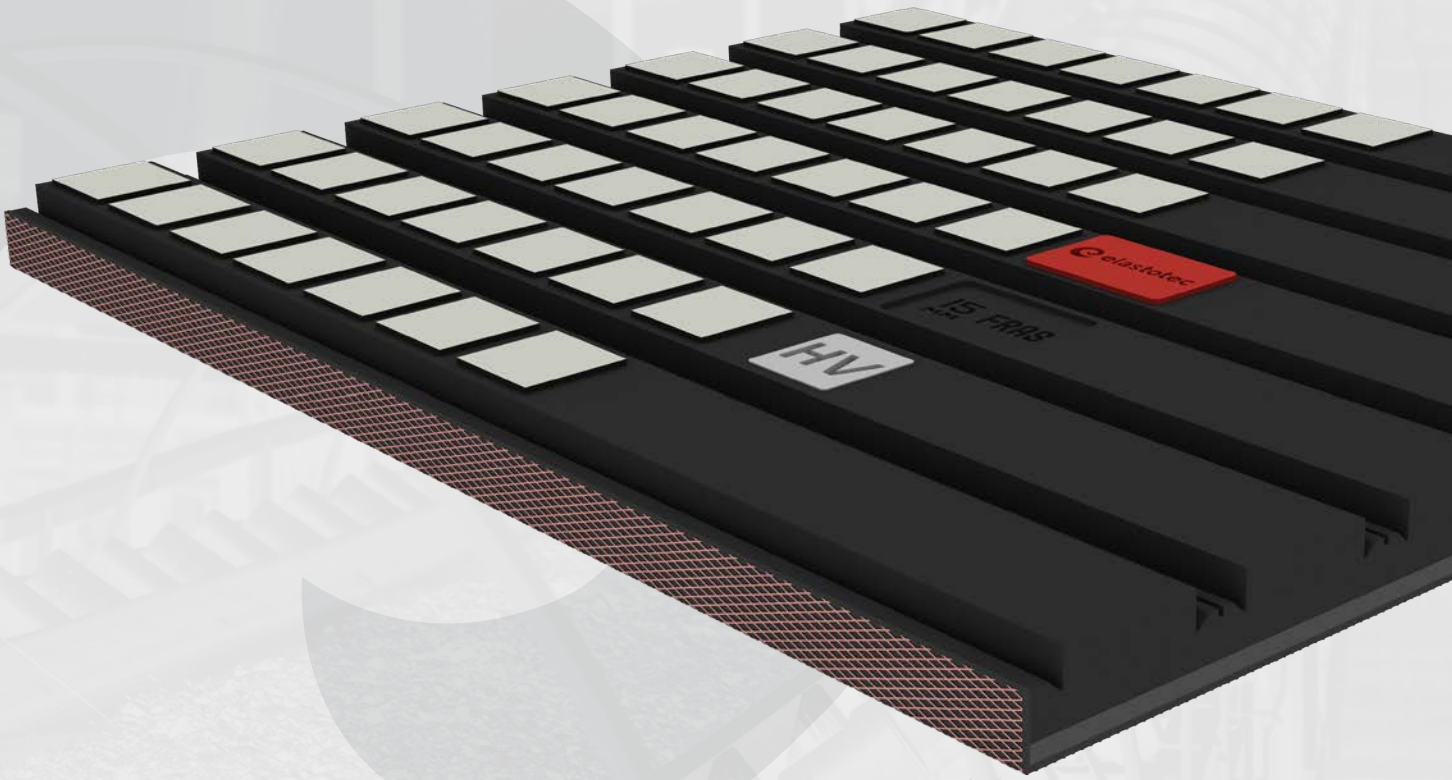
elastotec™

Pulley Lagging Capability Statement



elastotec.com.au



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Company Overview

Elastotec is a recognised leader in pulley lagging and advanced wear protection technology, providing engineered solutions for demanding conveyor applications across the mining and bulk materials handling industries. Built on decades of experience in materials engineering, pulley performance and site-based problem solving, Elastotec focuses on improving traction, reliability and lagging service life while protecting critical conveyor components.

At the core of Elastotec's approach is the understanding that pulley lagging is more than a consumable, it is an integral part of the conveyor system. From ceramic and rubber lagging to specialised polyurethane, crowned, FDA and application-specific solutions, Elastotec develops and manufactures lagging systems engineered to suit different pulley duties, belt tensions and operating environments.

Supporting its product range is Lagging Select™, an engineering analysis tool developed in collaboration with Conveyor Dynamics Inc. (CDI). By analysing the interaction between the belt, pulley and lagging, Lagging Select™ helps customers move beyond conventional product selection and make informed, application-specific decisions based on actual conveyor operating conditions.

Through technical support, engineering analysis and its network of Approved Applicators, Elastotec provides customers with a complete approach to pulley lagging from selection and specification through to application and long-term performance.



Head Office

61 Somersby Falls Rd,
Somersby NSW 2250, Australia

Adelaide Office

Servicing South Australia,
Western Australia and Tasmania

Vietnam Manufacturing Plant

Ho Chi Minh City

Elastotec is committed to the production and development of the highest quality, longest lasting pulley lagging and ceramic wear panels for the global mining industry.

2010

Elastotec is established.
Develops industry-leading ceramic-to-rubber bonding technology.

2012

Developed autoclave-vulcanised ceramic lagging.
Guaranteed ceramic and pulley adhesion.

2014

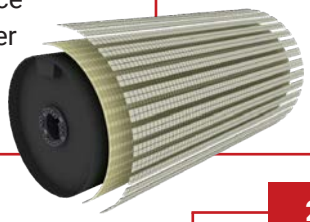
Introduced industry-first polyurethane lagging.
For cold bonded and hot vulcanised applications.

2015

Elastotec expands globally.
Expanded international partnerships, operations and R&D.

2016

Introduced Direct Bond Ceramic Lagging.
High performance with faster, easier installation.

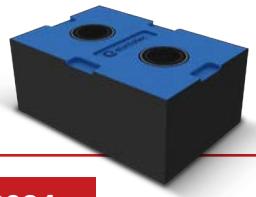


2018

Manufacturing expands globally.
New Vietnam and Somersby facilities established.

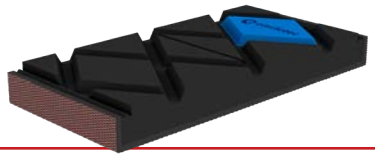
2019

Launched Magnefast™ Wear Panels.
Reduces liner wear and maintenance costs.



2021

Extreme Rubber Lagging developed. High wear resistance for heavy-duty pulleys.



2022

4 Pillars for Lagging Performance introduced.

Smart Pricing platform launched for easy quoting and stock checks.

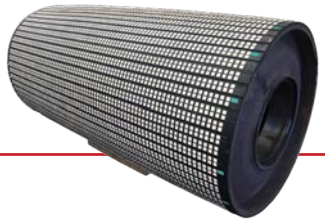
2024

Launched Lagging Select™ tool.
Supports correct lagging selection and improves performance.



2023

Crowned Lagging introduced.
Improves belt tracking.



2025

Developed the Wear Liner Cost Calculator
Enables data-driven wear and maintenance cost analysis.

2026

10,000+ Pulleys Lagged
Trusted by customers across mining and bulk materials handling.

Large-Scale Magnefast™ Deployment
Demonstrating proven performance at scale.

Engineered Solutions from Design to Delivery

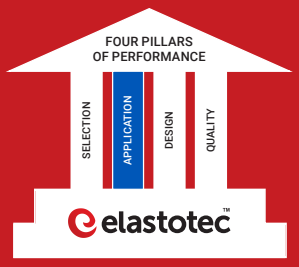
Elastotec takes an engineered approach to pulley lagging, considering the interaction between the belt, pulley, lagging and operating conditions. From selecting the right solution through to application and quality control, every stage is focused on improving reliability and long-term performance.

The company's approach is structured around its Four Pillar Process, ensuring consistent, high-quality results across all projects.



Selection

With multiple lagging types available, selecting the right solution requires more than matching a product to a pulley. Elastotec considers pulley duty, belt tension, traction, wear and operating conditions to recommend lagging suited to the application.



Application

Correct application is critical to lagging performance. From surface preparation and bonding to installation and curing, Elastotec's proven application procedures and Approved Applicator Program help deliver consistent, reliable results.



Design

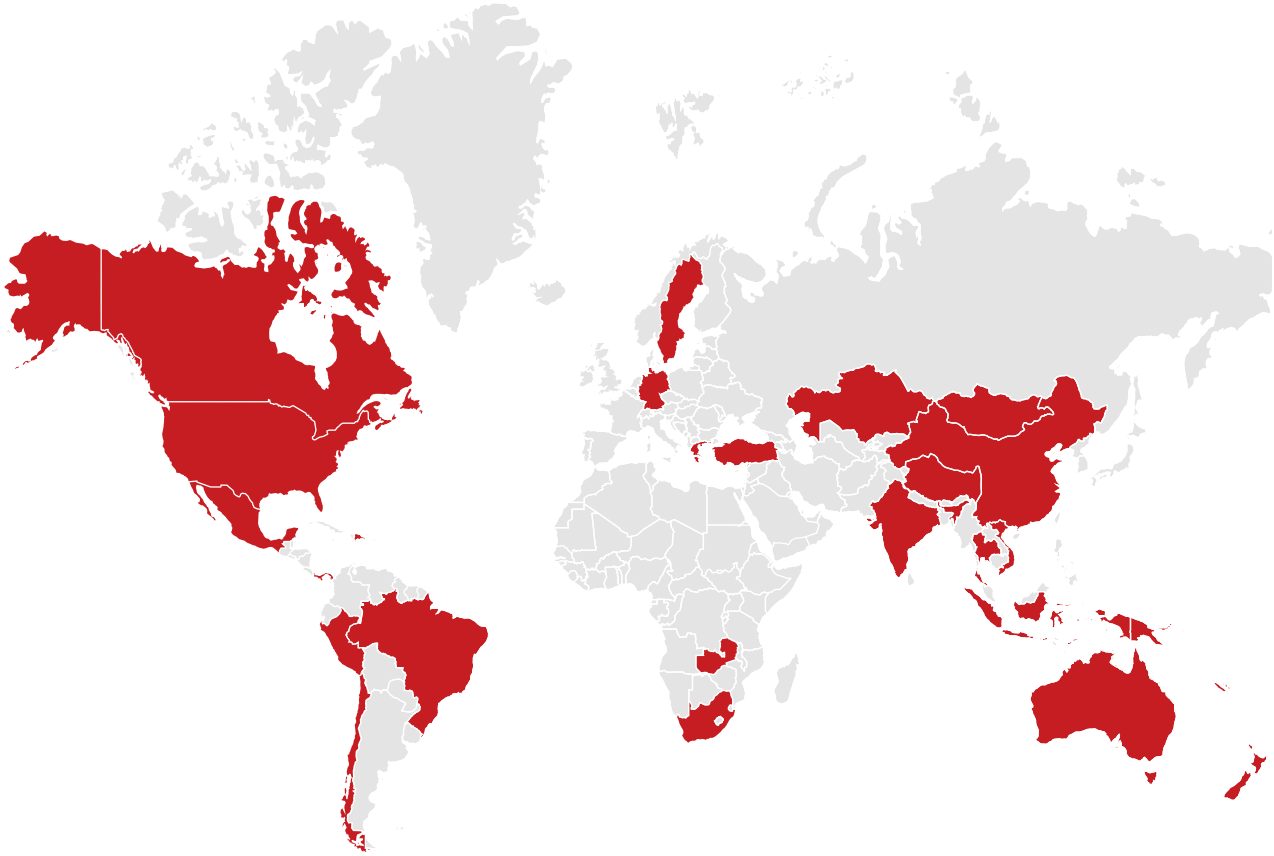
Elastotec combines ongoing research, materials expertise and engineering analysis to develop pulley lagging for demanding conveyor applications. Lagging Select™ provides additional insight into traction, localised slip, shear stress and fatigue to support more informed lagging design and selection.



Quality

Independently audited systems that comply with ISO 9001:2008 ensure Elastotec products are manufactured to the highest quality.

Engineered to Perform Anywhere in the World

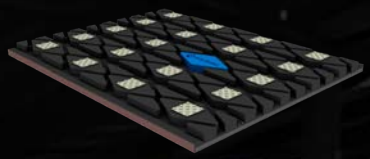


Our Clients

BHP
Fortescue
Evolution MINING
PPI
ENDEAVOUR MINING
FIRST QUANTUM MINERALS
Lycopodium
Continental
CODELCO
GLENCORE
Martin
HOLCIM
Freeport McMoRan Copper & Gold
MMG
thyssenkrupp
Newmont
CONTITECH
NEPEAN Conveyors
Metso:Outotec
PILBARA PORTS AUTHORITY
PROK
RioTinto
Teck
VALE

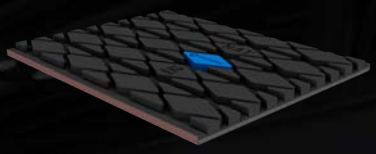


Our Pulley Lagging Product Range



Ceramic Lagging

High performance Elastotec ceramic tiles set within a 100% rubber tear bonding system. Available in a range of ceramic tile coverage and thicknesses. Suitable for both Hot Vulcanised and Cold Bonded applications.



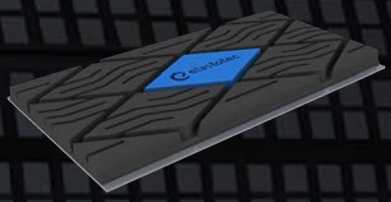
Rubber Lagging

Rubber lagging manufactured using an abrasion resistant top rubber layer and a buffed CN bonding layer to provide high levels of adhesion. FRAS rubber is available where there is a risk of fire or explosion and safety is critical, for example, in underground coal mines or grain and sugar handling facilities.



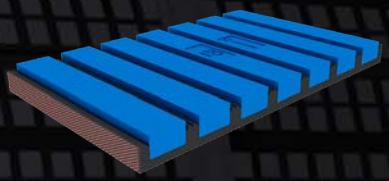
Crowned Lagging

Elastotec Crowned Lagging is engineered to improve belt tracking and extend pulley service life on non-drive pulleys. Available in rubber, ceramic and polyurethane, each solution is custom made to create an optimised crowned profile for improved belt alignment, wear resistance and reliable conveyor performance.



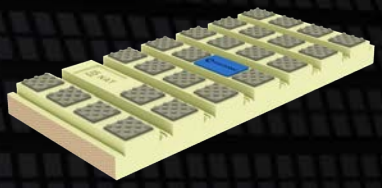
Slide Lagging

Elastotec Slide Lagging is a quick-change pulley lagging system designed to improve conveyor availability and simplify maintenance. Lagging pads slide directly into retainers welded to the pulley shell, allowing worn pads to be quickly replaced without removing the pulley from the conveyor.



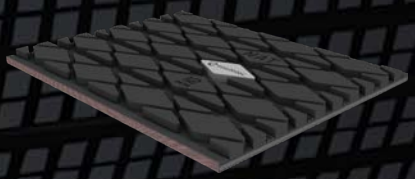
Polyurethane Lagging

Elastotec Polyurethane Lagging extends the life of non-drive pulleys with extreme abrasion resistance and a low-friction surface that protects the belt cover. Its slippery finish resists carry-back build-up, keeping conveyors cleaner and running longer.



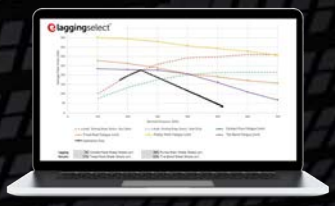
FDA Lagging

Elastotec FDA Lagging is manufactured with CFR-21 listed ingredients and fully complies with FDA regulations. Safe for use in food industry applications.



Oil-Resistant Lagging

Elastotec Oil-Resistant Ceramic Lagging is engineered for conveyor applications handling oily materials such as bitumen, tar sands and various grains. Its specialised oil-resistant bonding system helps prevent tile loss and lagging debonding, delivering longer service life, improved reliability and reduced operating costs in demanding environments.



Lagging Select™

Lagging Select™, developed by Elastotec Australia with Conveyor Dynamics Inc. (CDI), is an advanced tool that analyses the interaction between conveyor belts and pulley lagging. It helps engineers predict slip, wear, and shear stresses to optimise lagging selection and maximise conveyor performance.



Lagging Accessories

Lagging Accessories are designed to support fast, reliable pulley lagging installation. From adhesives to primers and cleaners, each product ensures strong bonding and long-lasting performance.

Ceramic Lagging Products



Diamond 15%
Ceramic Lagging

Designed as a step up from conventional rubber lagging where belt slippage is becoming a problem. Diamond-shaped ceramic tiles increase traction while the relatively low ceramic coverage maintains flexibility.

Key Benefits:

- 15% ceramic coverage for increased grip
- Helps overcome belt slippage where rubber lagging falls short
- Flexible design suited to low-to-medium belt tensions
- Available in multiple thicknesses
- Suitable for Hot Vulcanised or Cold Bonded application
- SBR and FRAS options available essential

Ideal Applications:

- Drive, tail, snub, bend and take-up pulleys
- Low-to-medium tension conveyor applications
- Mining, quarrying, mineral and metal processing
- Applications requiring greater traction than rubber lagging

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Checkerboard 20%
Ceramic Lagging

Combines 20% ceramic coverage with a staggered checkerboard pattern to improve traction and wear resistance while retaining the flexibility required for low-to-medium tension applications.

Key Benefits:

- Increased grip compared with rubber lagging
- Improved abrasion resistance and service life
- Flexible design assists material shedding
- Dimpled tiles available for drive pulleys
- Smooth tiles available for non-drive pulleys

Ideal Applications:

- Low-to-medium tension flexible fabric belts
- Drive pulleys experiencing slippage
- Non-drive pulleys requiring increased wear resistance
- Mining, quarrying, mineral and metal processing

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High performance Elastotec ceramic tiles set within a 100% rubber tear bonding system. Available in a range of ceramic tile coverage and thicknesses. Suitable for both Hot Vulcanised and Cold Bonded applications.



Medium Single Row 38% Ceramic Lagging

Engineered with 38% ceramic coverage to provide increased traction and wear resistance in harsh conveyor environments while maintaining flexibility and cost-effectiveness.

Key Benefits:

- 38% ceramic coverage for improved traction
- Heavy-duty abrasion resistance
- Up to 96% aluminium oxide ceramic
- Five-sided tile bonding helps resist cracking and pull-out
- Suitable for Hot Vulcanised and Cold Bonded application
- Available in strips, rolls and custom-cut formats

Ideal Applications:

- Drive, tail, bend and snub pulleys
- Moderate to harsh operating environments
- Wet, muddy or clay-laden conditions
- Higher-tension conveyor applications

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Medium Double Row 42% Ceramic Lagging

Designed to provide mechanical interlock between the belt and lagging on drive pulleys while delivering high abrasion resistance on non-drive pulleys.

Key Benefits:

- 42% ceramic coverage
- Increased grip compared with rubber lagging
- High abrasion resistance for longer service life
- Five-sided ceramic tile bonding
- Dimpled tiles for increased drive-pulley traction
- Smooth tiles for increased non-drive pulley wear resistance
- Suitable for Hot Vulcanised and Cold Bonded application

Ideal Applications:

- Drive pulleys requiring increased traction
- Non-drive pulleys requiring longer wear life
- Abrasive operating environments
- Applications where rubber lagging does not provide sufficient grip or service life

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Ceramic Lagging Products



Full 80% Ceramic Lagging

With 80% aluminium oxide ceramic tile coverage, Full Ceramic Lagging is designed to minimise exposed rubber surface and provide increased protection against physical damage and wear.

Key Benefits:

- 80% ceramic coverage
- High resistance to abrasion and physical damage
- Reduced exposed rubber surface area
- Helps reduce shear forces between ceramic tiles and the belt cover
- Available for Hot Vulcanised and Cold Bonded applications

Ideal Applications:

- Severe wear environments
- Applications requiring maximum ceramic protection
- New and refurbished pulleys
- Applications where belt and lagging protection are critical

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Extreme 42% Ceramic Lagging

Combines 42% ceramic coverage with heavy-duty 8 mm body ceramic tiles and larger tapered dimples to deliver increased traction, toughness and durability in demanding conveyor applications.

Key Benefits:

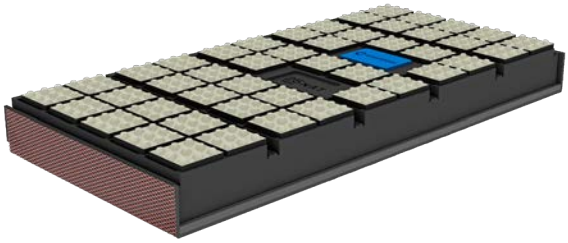
- 42% ceramic coverage
- Heavy-duty 8 mm ceramic tile body
- 1.5 mm tapered dimples for increased grip
- Increased flexibility and toughness
- Higher tile adhesion strength
- Engineered for demanding, high-tension applications

Ideal Applications:

- High-tension conveyor pulleys
- Heavy-duty drive applications
- Severe mining environments
- Applications exposed to high loads and demanding operating conditions

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High performance Elastotec ceramic tiles set within a 100% rubber tear bonding system. Available in a range of ceramic tile coverage and thicknesses. Suitable for both Hot Vulcanised and Cold Bonded applications.



Extreme 80% Ceramic Lagging

Developed for mining applications where conventional lagging may struggle to achieve the required service life, Extreme 80% combines high ceramic coverage with Elastotec's heavy-duty ceramic lagging design for demanding operating conditions.

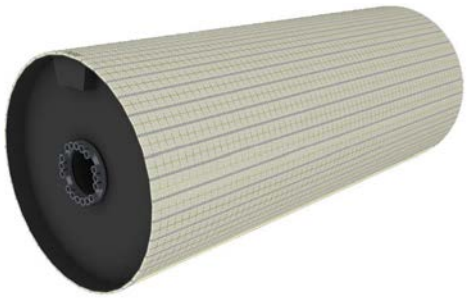
Key Benefits:

- 80% ceramic coverage
- Maximum protection of the lagging surface
- High abrasion and wear resistance
- Heavy-duty construction for demanding conditions
- Designed to maximise lagging reliability and service life

Ideal Applications:

- Extreme mining environments
- Severe abrasion applications
- Critical conveyor pulleys
- Applications where extended service life is a priority

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Direct Bond Ceramic Lagging

Direct Bond Ceramic Lagging provides a robust ceramic wear surface using a controlled bonding system designed to achieve consistent, reliable adhesion and long-term pulley performance. Elastotec positions the system as providing consistent OEM-grade bonding.

Key Benefits:

- Ceramic bonded directly to the pulley shell
- High wear resistance
- Consistent bonding quality
- Engineered for reliable long-term performance
- Suitable for demanding conveyor applications

Ideal Applications:

- Applications requiring direct-bond ceramic protection
- High-wear conveyor pulleys
- New and refurbished pulleys
- Operations prioritising long-term lagging reliability

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Rubber Lagging Products

Rubber lagging manufactured using an abrasion resistant top rubber layer and a buffed CN bonding layer to provide high levels of adhesion. FRAS rubber is available where there is a risk of fire or explosion and safety is critical, for example, in underground coal mines or grain and sugar handling facilities.



Diamond
Rubber Lagging

Elastotec Diamond Rubber Lagging combines a high degree of elasticity with excellent wet and dry abrasion resistance. Its diamond profile increases traction while helping shed carryback, reducing slippage and protecting the pulley shell against wear and corrosion.

Key Benefits:

- Excellent wet and dry abrasion resistance
- Diamond profile improves traction and reduces slippage
- High elasticity assists with shedding carryback
- Resistant to outdoor ageing and weather exposure
- Cold Bonded and Hot Vulcanised options available
- FRAS compound available for higher-risk environments

Ideal Applications:

- General conveyor pulley applications
- Applications requiring improved grip
- Wet or dry operating environments
- Applications requiring pulley shell protection

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Extreme
Rubber Lagging

Elastotec Extreme Rubber Lagging is designed for applications where conventional rubber lagging can be subjected to high localised shear forces. Its soft, highly flexible rubber compound helps absorb stresses while protecting the conveyor belt, making it particularly suited to high-tension and dirty-side belt applications.

Key Benefits:

- Soft, highly flexible 60A rubber compound
- Helps absorb localised shear stresses and protect the belt
- Low abrasion loss for extended service life
- 100% rubber-tear adhesion system
- Designed for extreme belt tensions and demanding operating conditions

Ideal Applications:

- High-tension bend and snub pulleys
- High-tension and high-power drive pulleys
- Non-drive pulleys contacting the dirty/carry side of the belt
- Pulleys contacting uneven or worn belt top covers

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Specialised Pulley Lagging

Elastotec's Specialised Pulley Lagging range is engineered for applications where standard lagging solutions may not meet specific operational requirements. From improving belt tracking and simplifying lagging replacement to providing enhanced wear performance or meeting food-grade requirements, each solution is designed to address a particular conveyor challenge while supporting reliable operation and extended service life.



Crowned Rubber Lagging

Elastotec Crowned Rubber Lagging is designed to create a crowned profile when applied to a flat pulley shell, helping improve belt alignment and tracking in low-to-medium tension applications. Custom strip sizing allows the crown profile to be matched to the pulley diameter and face width.

Key Benefits:

- Helps improve conveyor belt tracking
- Creates a crowned profile on a flat pulley shell
- Custom manufactured to suit pulley dimensions
- Built-in wear indicator
- Cold Bonded and Hot Vulcanised options available
- Durable rubber suited to outdoor operating conditions

Ideal Applications:

- Low-to-medium tension conveyors
- Non-drive pulleys
- Applications experiencing belt tracking issues
- Flat pulley shells requiring a crowned lagging profile are critical

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Slide Lagging

Elastotec Slide Lagging is a mechanically retained system that allows individual lagging pads to be quickly replaced without removing the pulley. Pre-fabricated kits are customised to the pulley diameter and face width, providing a practical solution where rapid changeout and reduced maintenance downtime are priorities.

Key Benefits:

- Quick replacement of individual lagging pads
- No adhesives or primers required for pad replacement
- No sandblasting of the pulley shell required for installation
- Available with rubber or ceramic lagging pads
- Pre-fabricated kits customised to pulley dimensions
- Crowned end pieces available to assist belt tracking

Ideal Applications:

- Applications requiring rapid lagging replacement
- Sites seeking to reduce pulley maintenance downtime
- Low-tension fabric belt conveyors
- Agriculture, quarrying, cement, aggregate and recycling applications

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Specialised Pulley Lagging



Oil Resistant Rubber Lagging

Elastotec Oil Resistant Rubber Lagging is designed for applications where exposure to oils can degrade conventional rubber and compromise the bonding system. Its oil-resistant formulation helps maintain lagging integrity, resist debonding from the pulley shell and extend service life in challenging material-handling environments.

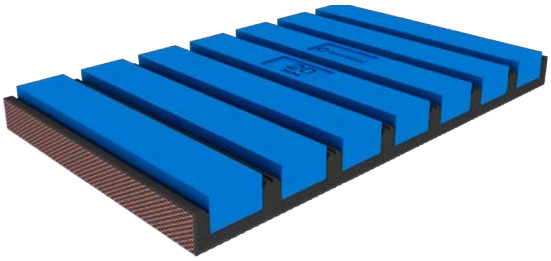
Key Benefits:

- Oil-resistant rubber formulation
- Helps resist rubber degradation
- Bonding system designed to resist debonding from the pulley shell
- Extended service life in oily environments
- Helps reduce maintenance and operating costs

Ideal Applications:

- Bitumen handling
- Tar sand applications
- Grain handling
- Conveyors exposed to oils or oily materials

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Polyurethane Lagging

Elastotec Polyurethane Lagging is designed for non-drive pulleys where abrasion, material build-up and belt protection are key considerations. Its tough polyurethane surface provides excellent wear resistance and reduced friction, while a resilient rubber backing supports secure bonding and helps protect the conveyor belt. It is available for both Cold Bonded and Hot Vulcanised applications.

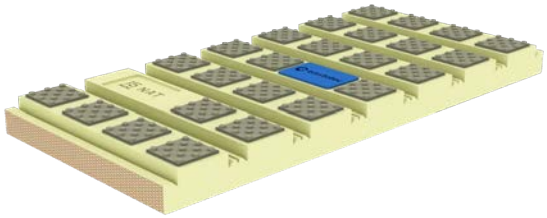
Key Benefits:

- High abrasion resistance for extended service life
- Low-friction surface helps protect belt covers
- Minimises carryback and material build-up
- Resilient rubber backing provides flexibility and secure bonding
- Available for Cold Bonded and Hot Vulcanised applications
- Precision moulded in 250 mm strips for accurate fitting

Ideal Applications:

- Non-drive pulleys
- Abrasive operating environments
- Applications prone to material build-up and carryback
- Applications where reduced friction and belt protection are priorities

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FDA Lagging

Elastotec FDA Lagging is specially formulated for conveyor applications requiring food-grade materials. Manufactured using raw materials accepted under CFR-21, it combines compliance requirements with the mechanical strength and durability expected from industrial pulley lagging. It can be installed using either Cold Bonded or Hot Vulcanised methods.

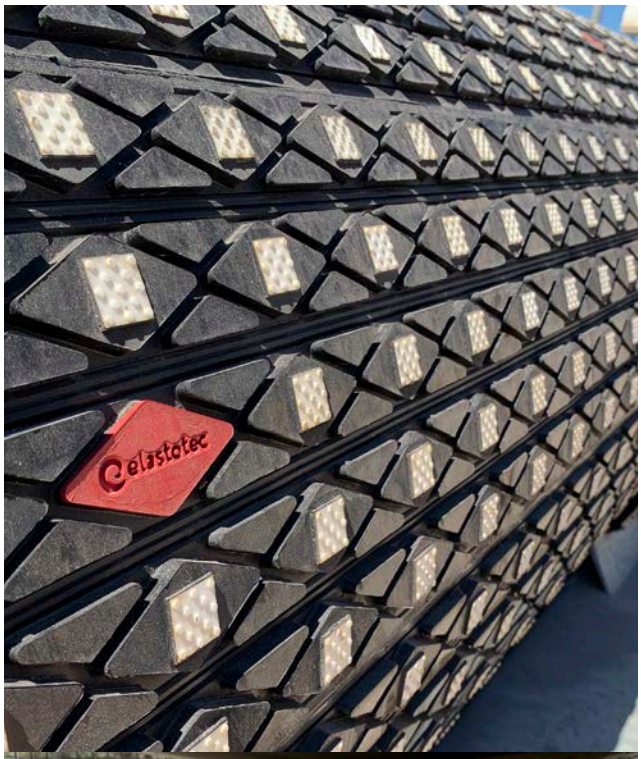
Key Benefits:

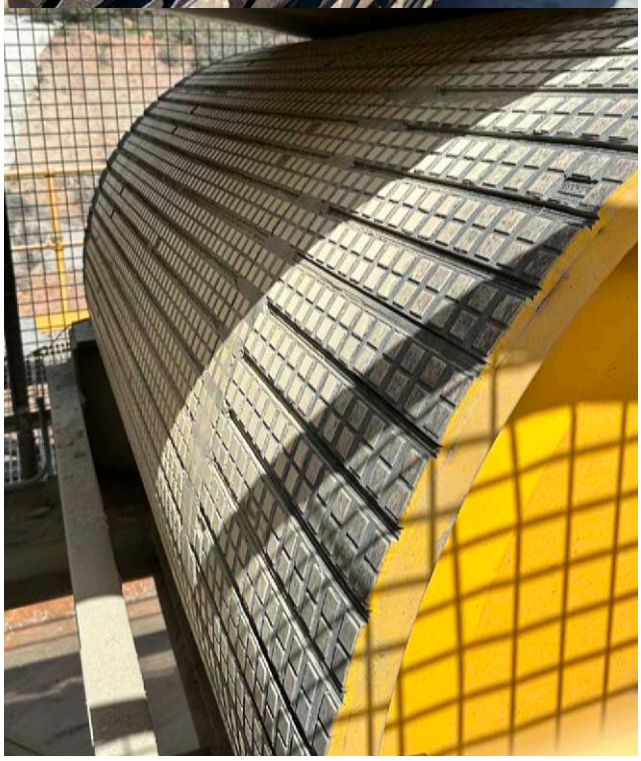
- Formulated using materials listed under CFR-21
- Designed for food-industry applications
- Strong mechanical properties for reliable performance
- Available for Cold Bonded or Hot Vulcanised installation
- Available in multiple thicknesses
- Supports hygienic conveyor applications

Ideal Applications:

- Food processing conveyors
- Beverage production
- Pharmaceutical processing
- Hygienic material-handling applications
- Operations requiring food-grade conveyor components

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Lagging Accessories

Elastotec offers a comprehensive range of accessories, adhesives, application equipment and testing tools to support Cold Bonded, Hot Vulcanised and Direct Bond lagging systems. From bonding and installation through to testing and quality control, the range provides applicators with purpose-specific products for reliable lagging application.



Adhesives & Bonding

- Direct Bond Adhesive Kits
- DBA Cartridge Kits
- DBA Mixing Nozzles
- Other application-specific bonding products

Application Tools & Equipment

- DBA Pneumatic Dispenser
- Staple Gun
- Spacers and installation accessories





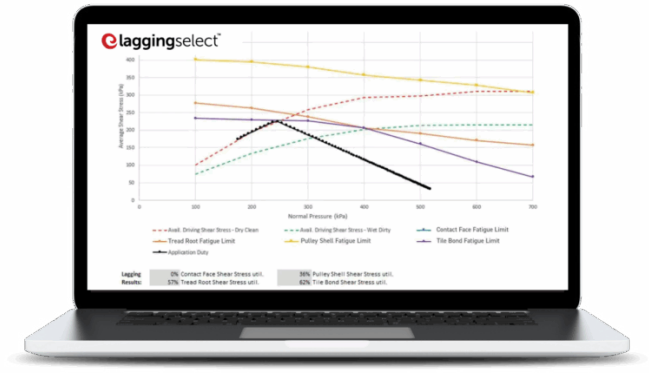
Testing & Quality Control

- Cold Bond & Hot Vulc Test Piece
- Direct Bond Test Piece Jig
- Direct Bond Test Piece HV-CB

laggingselect

Better Lagging Starts With Better Analysis

Developed by Elastotec in collaboration with Conveyor Dynamics Inc. (CDI), **Lagging Select™** is an engineering analysis tool that evaluates the interaction between the conveyor belt, pulley and lagging. Rather than relying on conventional selection methods alone, Lagging Select™ uses conveyor-specific operating data to assess performance, identify potential risks and support more informed lagging selection for both driven and non-driven pulleys.



Lagging Select™ can support engineering decisions throughout the pulley lifecycle:

- **New Pulley Design** — assess lagging suitability before the pulley enters service.
- **Pulley Refurbishment** — determine whether the existing lagging specification remains appropriate for current operating conditions.
- **Conveyor Upgrades** — reassess lagging when changes to throughput, belt tension, belt construction or operating conditions alter pulley demands.
- **Premature Failure Investigation** — investigate recurring wear, tile loss, debonding, belt damage or unexpected lagging failure.
- **Lagging Optimisation** — compare alternative designs and understand their effect on traction, stress and fatigue before implementation.

Key Features & Benefits:

Traction & Localised Slip
Identifies traction utilisation and areas of localised slip that can contribute to belt and lagging wear.

Shear Stress & Fatigue
Evaluates stresses acting on the belt, splices and lagging system to identify potential fatigue risks.

Lagging Design Optimisation
Assesses lagging type, geometry and stiffness against actual conveyor operating conditions.

Uneven Wear & Build-Up
Evaluates how belt wear, lagging wear and material build-up can change load distribution and pulley performance.

Failure Investigation
Provides engineering insight to help identify factors contributing to premature lagging or belt failure.

Design Comparison
Allows alternative lagging configurations to be assessed before changes are made.

Trust Elastotec Hot Vulcanised Ceramic Lagging

Minimise Risk, Maximise Production and Reduce Downtime.

We don't just manufacture lagging – we ***engineer performance.*** Here's How:



The Elastotec Autoclave

Precision-controlled vulcanization for superior bond strength.



In-House Product Design & Manufacturing

Innovation-driven solutions for maximum longevity.



Approved Applicator Program

Rigorous training and certification to ensure flawless application.



Advanced Laboratory Testing

Every batch is tested for uncompromising quality and durability.



Proven Track Record

Over 5,000 successful applications worldwide.



Lagging Select™ – Your Online Resource

The ultimate platform for selecting the right lagging solution.

Ready to Engineer More Reliability Into Your Pulley Lagging?
Talk to Elastotec about the right Hot Vulcanised Ceramic Lagging solution for your application.

Case Studies

How Lagging Select Can De-risk an Entire Mining Operation

Problem

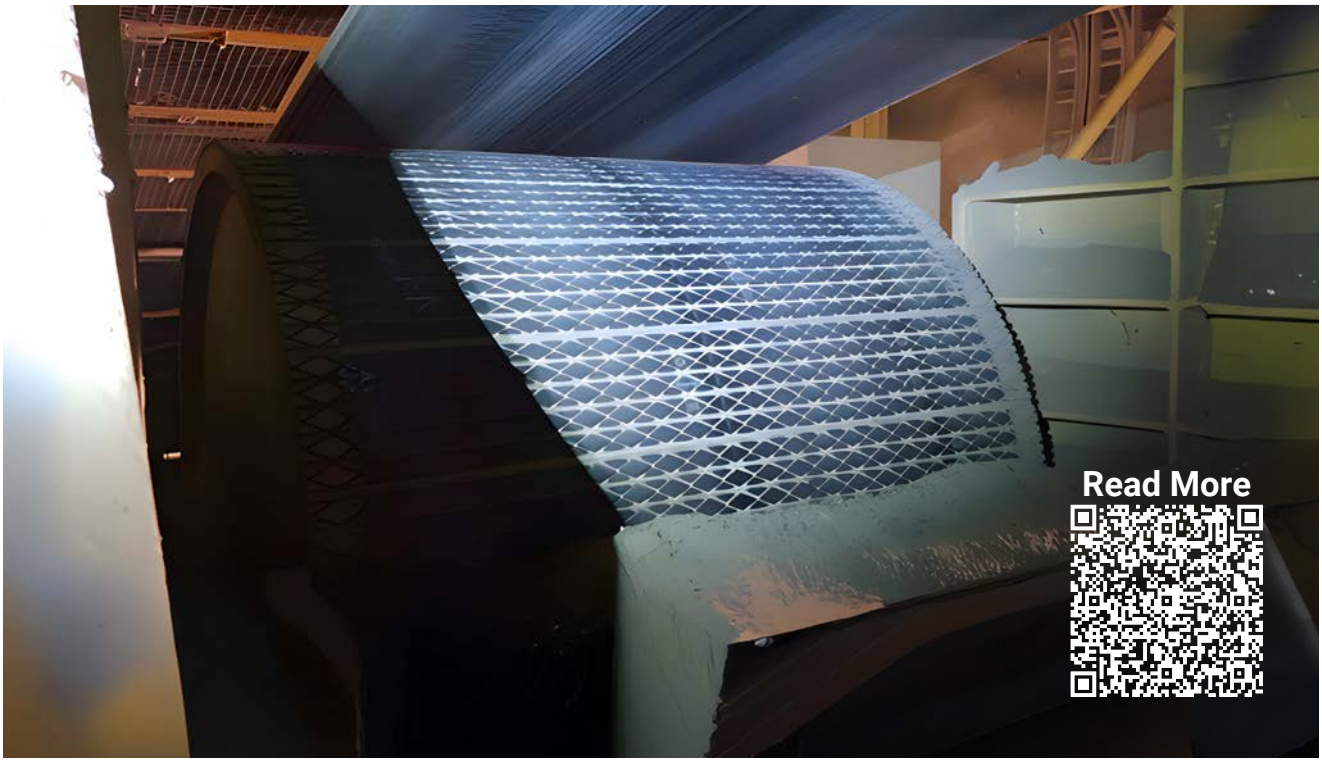
Following a conveyor upgrade, existing rubber lagging suffered catastrophic failure after just four weeks, contributing to three days of downtime and approximately AUD $21 million in lost production.

Solution

Using **Lagging Select™**, Elastotec identified excessive rubber fatigue as the root cause and engineered a new Chevron lagging design with improved geometry and increased belt contact area.

Outcome

The redesigned lagging increased belt contact from 43% to 95% and extended service life from four weeks to more than two years, enabling more predictable maintenance and reducing the risk of unexpected failure.



Case Studies

Increased Service Life of Pulleys with Elastotec HVCL

Problem

Frequent pulley lagging failures were causing significant conveyor downtime, with changeouts taking more than 12 hours and up to 10 pulleys requiring refurbishment during major shutdowns.

Solution

Following a successful trial in 2014, the site adopted **Elastotec Hot Vulcanised Ceramic Lagging (HVCL),** using dimpled HVCL on drive pulleys and plain HVCL on non-drive pulleys.

Outcome

More than 50 pulleys were installed with zero reported lagging failures, with some HVCL remaining in excellent condition after nine years—reducing refurbishment requirements from up to 10 pulleys to an average of just one per major shutdown.



Hot Vulcanised Ceramic Lagging Extends Pulley Life At An Iron Ore Mine

Problem

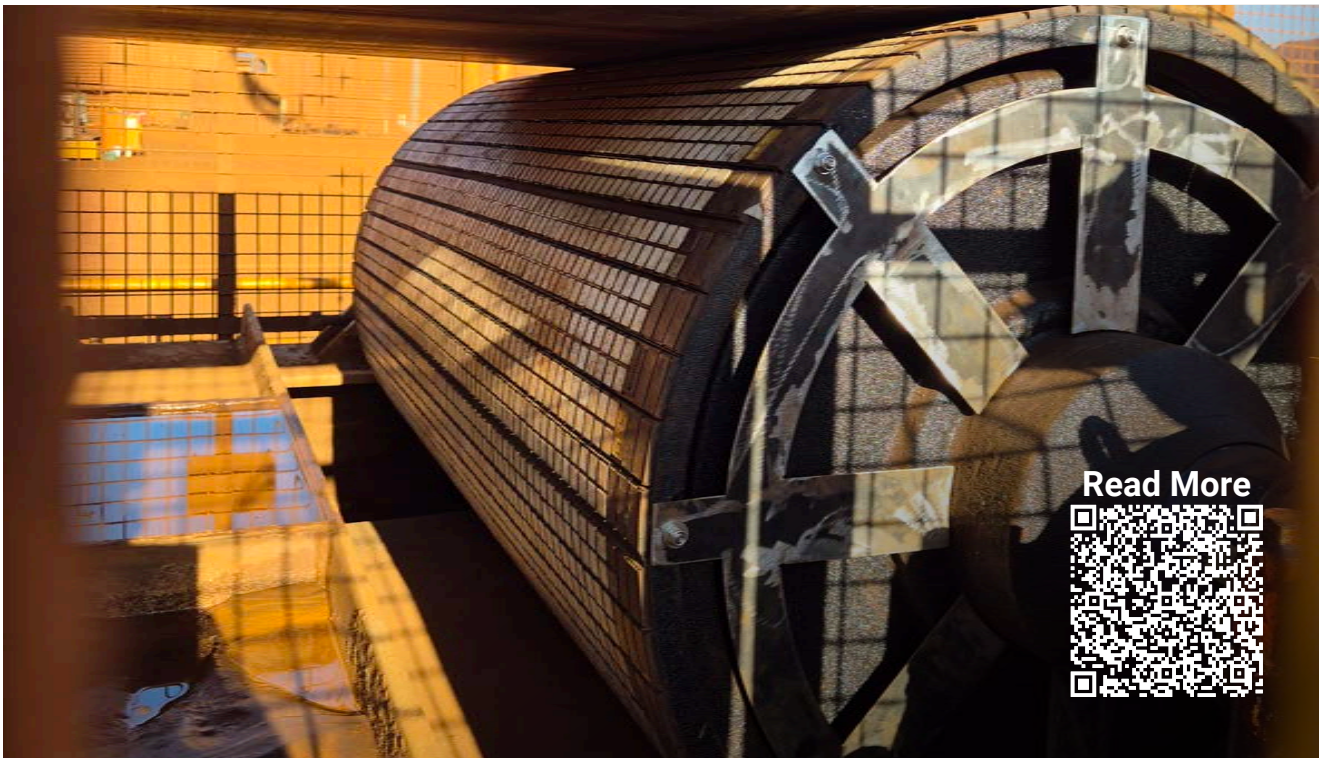
Recurring tile debonding on a pulley in a high-spillage loading zone meant the existing direct bond ceramic lagging lasted only nine months, contributing to unplanned shutdowns, belt damage risk and ongoing maintenance.

Solution

Elastotec and PROK identified flexing, cyclic stresses and elevated interface temperatures as key contributors, replacing the existing system with **15mm Hot Vulcanised Rubber-Backed 80% Ceramic Lagging** for greater flexibility, cushioning and bond strength.

Outcome

The new lagging delivered 12+ months of uninterrupted operation with no tile loss, belt damage or tracking issues, reducing shutdowns and maintenance while extending pulley and belt life.



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