



SUPERIOR
CONVEYORS

CONVEYOR BELT

Supply, splicing and replacement

Fabric • Steel cord • Solid woven

PU & PVC • Chevron & cleated • Specialty



Conveyor belt supply from Mackay

Superior Conveyors supplies belting for fixed plant, mobile equipment, processing lines and specialist conveyors. We confirm the belt construction, working surfaces, dimensions and joint with the application before quotation.

Belt supply, installation, splicing, repairs, inspections and thickness testing can be scoped together or quoted separately.



BELT CONSTRUCTIONS AND APPLICATIONS

Conveyor belt range

Selection covers carcass strength, carry and running surfaces, joint construction, profiles and fittings for the conveyor.

Belt range	Selection details
Fabric	Multi-ply rubber belting. Strength, ply count, cover grade, load support, troughability and joint.
Steel cord	Longitudinal steel reinforcement. Running and transient tensions, cord layout, pulleys, transitions and splice.
Solid woven	Integrated woven carcass. Impregnation, covers, fastener/splice requirements and relevant approvals.
PU & PVC	Process and machine belting. Surface, backing, dimensions, joining method and fabricated features.
Chevron & cleated	Inclined and road-profiling conveyors. Profile layout, base belt, joint and machine clearances.
Specialty	Sidewall, reinforced and application-specific constructions. Confirm the complete drawing and operating requirements.

Existing belt identification

A designation, part number, sample and photographs help identify the replacement. Record what is wearing or failing, rather than specifying more cover or a taller cleat by default.

Replacement belt specification

Width alone does not establish interchangeability. Check length, strength, working surfaces, pulleys, joint and the available installation space.



EP AND NN FABRIC CONSTRUCTIONS

Fabric conveyor belt

Rubber belting reinforced with textile plies. Specify the fabric, full-belt strength, ply count, cover compound and cover thickness together.

EP / polyester–nylon

EP construction uses polyester in the longitudinal warp and polyamide in the transverse weft. Australian PN descriptions are also used for polyester–nylon fabrics. Confirm the complete designation rather than assuming two belts are interchangeable from the fibre names alone.

Load support and troughability

The belt needs enough transverse support for the material without becoming too stiff to sit on the idlers. Belt width, trough angle, idler arrangement, bulk density and ply count all affect the selection. More plies are not automatically an improvement.

NN / nylon–nylon

NN uses polyamide in both directions. Its elongation and flexibility differ from polyester–nylon construction, so a substitution needs the take-up arrangement and conveyor geometry checked.

Splice and edge details

Confirm the intended vulcanised or mechanical joint, edge construction and any breaker reinforcement. Fastener selection and cleaner compatibility must be checked for a mechanically joined belt.

Designation example	What it identifies
PN1000/4	Polyester–nylon reinforcement; nominal full-belt strength 1,000 kN/m; four plies.
Covers specified separately	Carry-side and pulley-side thickness, compound/grade and applicable specification.

Designation example only. It is not a stock listing, a minimum pulley table or an allowable working-tension recommendation.

LONGITUDINAL STEEL REINFORCEMENT

Steel-cord conveyor belt

Steel cords carry the longitudinal belt tension. The rubber surrounding the cords, cover construction and splice determine how that reinforcement performs in the conveyor.

Low elongation at high tension

Steel-cord construction is a starting point for long-distance and high-tension applications. Low elongation can reduce the take-up travel associated with belt stretch, but it does not remove the need for correct tension control.

Cord-to-rubber adhesion

Specify cord arrangement and the required bond properties. Damage that exposes the cords, water entry and corrosion need assessment; cover wear alone does not describe the condition of a steel-cord belt.

Pulley and transition checks

Confirm every pulley diameter, the head and tail transition geometry, curves, trough angle and the maximum running, starting and braking tensions. A higher ST rating is not a drop-in substitute without these checks.

Splice and rip protection

Use the manufacturer's splice drawing and materials for the selected construction. Transverse reinforcement and detection loops are separate options: reinforcement does not make a belt rip-proof, and a detection loop needs a compatible installed monitoring system.



Belt and pulley installation on site. The photo does not identify the belt carcass.

Confirm strength, width, covers, splice drawing and reel lengths for the conveyor. Supply options are not restricted to one manufacturer's published limits.



INTEGRATED TEXTILE CARCASS

Solid-woven conveyor belt

A woven carcass is impregnated and combined with the selected cover construction. Specify the yarn system, cover material and joint as a complete belt.

An interwoven carcass

The textile yarns form an integrated carcass rather than separate fabric plies bonded by rubber skims. Carcass construction affects impact response, flexibility, elongation and mechanical-fastener retention.

Joint retention and belt cleaning

Specify the joint system with the belt. Confirm fastener selection, minimum pulley diameters and the cleaner configuration. A cleaner suitable for a vulcanised splice is not automatically suitable for a mechanical joint.

Covers and service conditions

Confirm the selected cover material, carry-side and pulley-side thicknesses, and the construction sheet. Rubber-belt gauges, mass and pulley schedules must not be carried across by assumption.

Fire and antistatic documentation

Where Grade S is required, obtain the documentation for the exact supplied design and factory, together with the required production tests and conformity statement. The abbreviation FRAS is not a complete belt specification.

Order documentation	What to establish
Belt construction	The exact designation, reinforcement, impregnation and covers being supplied.
Joint and pulleys	Permitted joint system, fasteners where applicable, and the selected belt's pulley requirements.
Required evidence	Construction-specific tests and design/site acceptance documents where applicable.

A certificate or registration for one construction does not cover every solid-woven belt. Match the supplied belt and manufacturing source to the required evidence.



PROCESS AND MACHINE BELTING

PU & PVC conveyor belts

PU and PVC belt specifications include the conveying surface, running-side backing, joint, support arrangement and any guides, cleats or sidewalls.

Polyurethane belting

Polyurethane is used in fabric-backed and homogeneous belt constructions. Suitable grades provide a wear-resistant conveying surface for processing and machine applications. Confirm the actual grade, backing and joining method rather than ordering by colour alone.

Fabric-backed or homogeneous

A coated fabric belt has a textile tension member. A homogeneous belt has a different construction and may use friction drive or a purpose-designed positive-drive system. They are not interchangeable simply because both are polyurethane.

PVC belting

PVC-coated fabric belts provide an economical option for many general conveying and packaging applications. Surface texture and backing are selected for grip, product release and the conveyor support arrangement.

Surface, backing and fittings

Specify smooth, matt or grip surfaces; the running-side finish; cleats, sidewalls or tracking guides; and any edge sealing or perforations. Check all fittings against pulley grooves, support beds, return rollers and clearances.

Selection detail	Confirm
Product contact	Product type, loading, grip or release requirement, abrasion and any cutting or marking.
Running side	Slider bed or rollers, drive arrangement, pulley diameters, guide grooves and reverse bending.
Exposure and cleaning	Water, oils, cleaning agents, concentrations, temperature and contact time.

Food-contact, chemical, fire and electrical requirements are grade-specific. Confirm the required documentation for the belt material and fabricated features.



WEAR • PRODUCT CONTACT • EXPOSURE

Cover and surface selection

Select carry-side and pulley-side covers for the material, wear conditions and conveyor arrangement. Cover thickness and compound changes also require a review of drive power and belt tensions.

Application	Selection checks
Abrasion	Material size and fines, sliding at the transfer, belt speed and measured wear. Compare the test basis as well as the result.
Cuts and impact	Lump shape, drop height and support. Cut/impact resistance and reinforcement are separate from abrasion performance.
Temperature	Actual belt-contact temperature, exposure time and hot lumps or fines. Cold milling is not the same application as hot asphalt.
Oils and chemicals	Identify substance, concentration, temperature and duration. Request compatibility for the selected compound.
Product handling	Required grip or release, marking, surface texture and the conditions at transfer points.
Fire / antistatic	Specified test and documentation requirements for the complete construction, separate from wear grading.
Drive power	Complete-belt mass, running resistance, loaded starting, traction and braking. Review the proposed cover change before ordering.
Weather exposure	Operating temperature range, weather exposure and the required compound properties.

Before increasing cover thickness, confirm drive capacity and belt tensions as well as pulley bending, splice preparation, profile clearances and reel handling. Drive assessment requirements are on the following page.



BELT SPECIFICATION CHANGES

Drive power and belt tensions

Cover thickness and compound changes can alter belt mass, running resistance and starting loads. Confirm the existing drive and conveyor can operate with the proposed belt before the specification is approved.

Belt mass and resistance

Extra cover adds mass to the carry and return strands. Use the complete belt's specified kg/m, including profiles. Review rolling, flexure and accessory losses. Compare the proposed belt with the original as-new specification and the worn belt in service.

Running and starting capacity

Recalculate pulley power and required motor shaft power after transmission losses. Check available continuous capacity, loaded restart torque, acceleration time, starts per hour, drive current limits and heating. Verify load sharing on multiple drives; nameplate kW alone is insufficient.

Braking and stopping

Review controlled and emergency stops, coast time, brakes and holdbacks under the relevant loading conditions. Belt mass and resistance changes can alter deceleration. On regenerative declines, lower running resistance can increase the power the braking system must absorb.

Cover compound

Pulley-side compound properties affect the energy lost as the belt deforms over idlers. Assess the operating temperature, speed, idler geometry and load. Abrasion grade or hardness does not establish rolling resistance. Check backing friction for slider-bed belts.

Traction and component loads

Check slack-side tension for traction and sag, peak belt and splice tensions, take-up force and travel, and pulley, shaft and bearing loads. Include wet or contaminated lagging conditions. More take-up tension is not a substitute for the correct drive and belt selection.

Mobile-machine drives

For hydraulic conveyor drives, confirm motor torque and speed, available pressure and flow, shared-circuit capacity and cooling limits with the machine supplier. Include the effect of changed covers, cleats or backing; total machine engine power is not conveyor-drive capacity.

Assessment information and approval

Provide the existing and proposed belt specifications; length, lift, speed and throughput; drive ratings; measured loading and start history; and the take-up and stopping arrangement. The responsible conveyor engineer should confirm the revised calculations, available capacity and any equipment or control changes before order release. Excessive mechanical drag must be rectified, not accommodated by increasing protection settings.



TRACEABILITY AND ACCEPTANCE REQUIREMENTS

Specification and test records

The order specification identifies the belt construction, applicable standards, test reports and any required registration or site acceptance documents.

Document area	What it must identify
Textile reinforcement	Construction and physical-property requirements, using the specified standard and edition.
Steel-cord reinforcement	Cord construction, dimensions and physical properties against the agreed specification.
Fire and antistatic	The exact construction, required test evidence and design/site acceptance conditions where applicable.
Process-belt requirements	Required food-contact, cleaning, electrical or other evidence for the material and fabricated belt.
Reel and batch identity	Link the manufacturer, designation, order, batch/reel reference and reports to the delivered belt.

Standards and certification

Identify the relevant standard, edition, grade, construction sheet and acceptance documents with the enquiry. Do not assume similarly named AS, DIN or ISO grades use identical tests.

Belt identification and traceability

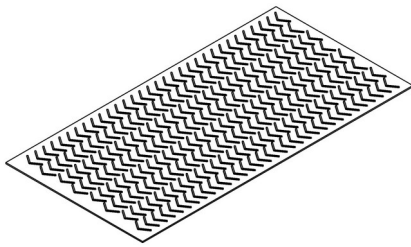
Retain reel identification, installed location, splice identification, measurements and completion photos with the supply and test records.



PROFILE GEOMETRY

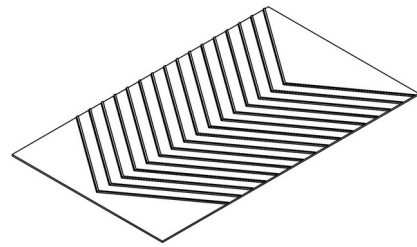
Chevron and cleated belts

Raised profiles are selected with the base belt, material, conveyor angle and return path. These drawings show pattern differences; they do not establish machine fit.



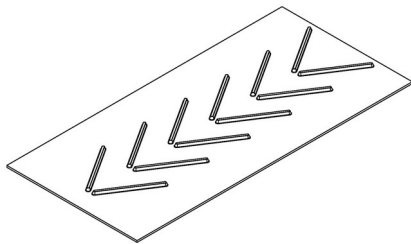
Open chevron

Separated V ribs with gaps between the rows.



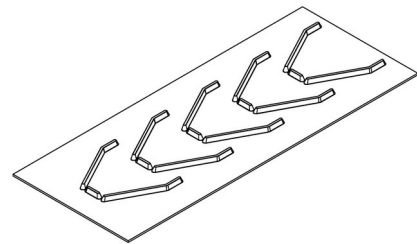
Continuous chevron

A continuous V across the profiled width.



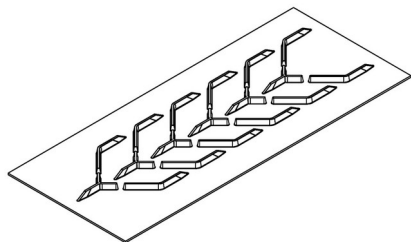
Split chevron

A centre opening divides each chevron.



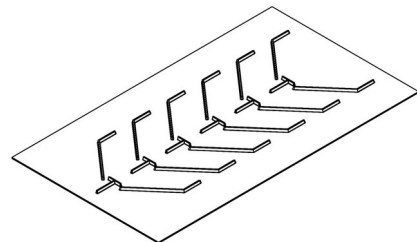
Segmented pocket

Separate ribs form a pocket-shaped pattern.



Y profile

Branched ribs with interruptions in the pattern.



Chevron with centre ribs

Interrupted ribs and transverse centre elements.

Profile excerpts from supplied technical drawings. Confirm the current approved pattern, dimensions and availability; do not scale these examples for manufacture.



CIVIL AND ROADWORKS

Road-profiling machine belts

Replacement belts for pickup, transfer and discharge conveyors. Identify the machine and conveyor position before comparing the belt pattern.



Road-profiling machine and discharge conveyor in the workshop.

Machine identification

Record the make, model, serial number and pickup, transfer or discharge conveyor position. Match the part or drawing reference to the base belt, profile and joint.

Material and belt damage

Record the milled material, operating conditions, cover wear, cleat loss, edge damage, mistracking or joint failure. Cold-milled pavement and hot-asphalt production have different temperature requirements.

Pulley and profile clearances

Record pulley diameters, return supports and profile clearances. Check the belt path through folding, slewing or other moving sections where fitted.

Belt replacement requirements

Confirm finished length, joint type, access and machine availability. Inspect guide and support rollers and the transfer area before fitting the new belt.

Photographs for belt identification

Machine and conveyor; belt marking; profile plan and side views; clear edges; joint; and worn or damaged areas.



WIDTH • HEIGHT • PITCH • CLEAR EDGES

Cleated belt replacement specifications

Cleated replacements are specified by the base belt, profile dimensions, joint and available machine clearances.

Detail	Record
Belt and machine	Machine make/model/serial, conveyor position and part or drawing reference.
Base belt	Reinforcement, designation, covers, total thickness and required finished length.
Profile geometry	Profile shape, height, pitch, profiled width and left/right clear edge widths.
Travel and clearances	Normal travel direction, pattern orientation, minimum pulleys, return supports, guides and moving sections.
Splice zone	Joint type, cleat spacing at the joint and any profile-free area required for preparation.
Supply scope	Open or endless supply, length measurement basis, quantity, installation requirements and timing.

Moulded and attached profiles

A moulded profile and an attached cleat are different constructions. Confirm the base material, attachment or moulding process, flexing path and the approved drawing.

Measuring a worn belt

Record wear and distortion. A worn cleat height or stretched length may not represent the original specification; use the part reference or drawing where available.



SPECIALTY BELT CONSTRUCTIONS

Specialty conveyor belting

For other materials, shapes and machine requirements, send the existing sample, drawing and operating details. We confirm the construction and supply scope for the application.

Sidewall and transverse-cleat belts

Specify the base belt, transverse rigidity, sidewall height, cleat layout and the full pulley path together. Loading and discharge geometry are part of the selection.

Reinforced and high-tension constructions

Aramid and other specialist reinforcement can be assessed from the required tensions, weight, flexibility and available take-up. Obtain construction-specific data before substitution.

Enclosed and shaped conveying

Pipe and other shaped-belt applications require the complete conveyor geometry and belt-rigidity requirements. These are design-specific replacements, not catalogue substitutions.

Other machine and process belts

Bring the sample, drawing or part reference for other surfaces, materials and fabricated features. Dimensions, availability and the supply scope are confirmed for the application.

Temperature, chemical, fire, electrical and product-contact requirements are confirmed for the specified belt construction and fabricated features.

Joints and fabricated features

Profiles, sidewalls, guides, perforations and edge treatment need to be checked against the material, support bed, pulleys and return path. Confirm availability and manufacturing detail before ordering.

SUPPORTS • PULLEYS • TRANSITIONS • TAKE-UP

Conveyor compatibility

Nominal strength and belt width are only part of the selection. A replacement needs to work with the existing supports and available movement.

Troughability and load support

A belt that is too stiff can bridge across the idlers. A belt with insufficient support can flex excessively under load. Check width, carcass construction, trough angle, roll lengths, material density and loading.

Minimum pulley diameters

Use the selected manufacturer's requirements for each pulley position and tension condition. Total belt thickness alone is not a reliable basis for selecting the minimum diameter.

Transitions and curves

Record the distance from the terminal pulley to the first fully troughed idler, the pulley elevation and the changing trough angles. Include convex and concave curves where they affect belt loads or contact.

Take-up and operating tensions

Confirm take-up type, available travel and current position. Review running, starting, braking and reversing conditions. Replacing fabric with steel cord, or changing the fabric construction, can change the required design assumptions.



Process and mobile conveyors

Also check slider beds, guide grooves, edge sealing lanes, reverse bends and profile clearances. Belts with different backing or fabricated features can need different machine arrangements.

Cover and construction changes: drive-power and belt-tension assessment on page 8.



SUPPLY SCOPE AND CHANGE-OUT PLANNING

Belt replacement and splicing

Agree the belt, joint and installation method before the reel arrives. Supply length, splice allowances, handling equipment and site access need to match the planned work.

Belt length and splice allowance

Distinguish the running belt length from the ordered length and splice allowance. Confirm the number of reels, individual lengths and the location of planned splices.

Splice specification

Rubber, solid-woven and thermoplastic belts use different joint constructions and preparation methods. Follow the current procedure for the selected belt and materials. No generic cure or welding settings apply across these constructions.

Belt change-out requirements

Scope the reel stand, lifting and pulling arrangements, access, isolation and stored-energy controls. Confirm the splice work area, power, weather protection, equipment capacity and disposal or storage of the old belt.

Commissioning and handover records

Inspect the completed joint and belt run under the agreed commissioning plan. Record splice identification, location, work completed, checks, photographs and any remaining corrective work.



Superior site mobilisation and conveyor work.



SUPPLY DOCUMENTATION AND SITE MEASUREMENTS

Inspection and quality records

Quality records cover the supplied belt, installation and in-service inspections. Retain them against the conveyor ID and belt or reel identification.

Stage	Asset records
At supply	Belt designation, dimensions, covers, fabrication details, batch/reel identification and required test reports.
At installation	Conveyor or machine identity, supplied belt record, joint specification, checks, photographs and commissioning findings.
In service	Wear measurements, damage locations, belt run, loading, profiles, joint condition and agreed follow-up work.



Belt condition monitoring

Distinguish cover wear, cuts, cleat damage, edge damage and joint deterioration. Use identified measurement locations and a consistent method when comparing condition over time.

Belt inspections, thickness testing, defect reporting and splice quality-control work can be included in the agreed scope.

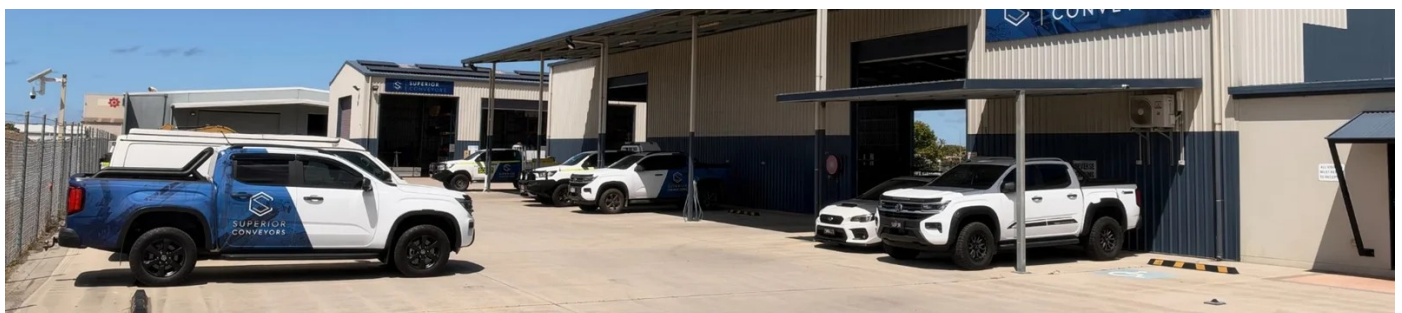


SUPPLY • FABRICATION • INSTALLATION

Conveyor belt enquiries

Send the information you have. An existing designation, clear photographs, sample or drawing is more useful than an assumed construction.

Enquiry information	Include
Belt and quantity	Type, width, length and measurement basis, thickness, covers, joint, quantity and reel split.
Equipment and application	Conveyor or machine identification, conveyor position, material and operating conditions.
Profiles and fittings	Cleat pattern and dimensions, clear edges, guides, sidewalls, perforations and the drawing reference.
Timing and records	Delivery or change-out date, access/handling constraints and required documentation.



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Belt suppliers



ICL

International Conveyors Limited

Selected suppliers. The belt ranges offered are not restricted to these manufacturers.