VLI

A MEMBER OF THE TAIYUAN HEAVY MACHINERY GROUP (太重集团)

CONVEYOR BELT

The Valley Longwall International Conveyor Division (VLI Conveyors) is one of Australia's major manufacturers and distributors of conveyor and ancillary mining products. The division offers a comprehensive product range with efficient after market service and support to the bulk materials handling and mining industries both locally and overseas.

We employ over 160 people nationally with manufacturing, warehousing, distribution and service centres throughout Australia and overseas. The quality of our products and services are assured as our manufacturing and service operators are certified to ISO (International Standards Organisation) standards.

Over the past few years, we have rapidly become a key player in the Australian market by delivering cost effective conveyor solutions without compromising on quality. With corporate backing from the Valley Longwall International (VLI) group of companies, the future is positive for VLI Conveyors. With a world-class portfolio of resources and strong market financial positioning, we have the freedom to explore new opportunities both locally and abroad.

Our global supplier network gives us access to the best technologies available in the world today. This advantage enables us to deliver the highest quality products and services to our customers. Our commitment to research and development has given the company an enviable reputation as innovators in new product design and product sourcing.

HISTORY

Once a number of smaller specialised companies, VLI Conveyors has amalgamated to introduce a one-stop-shop for all your conveyor and mining needs.

Our strength is enforced through the thirty years of experience bought together from our previous well renowned companies – **Pittop, Uni-Rod, Tyton and Austbelt.** This combination of experience ensures we will remain at the forefront of the conveyor industry.

Our achievements to date in the Australian market have set the benchmark for products and services. We deliver exceptional performance and products through our ability to offer our customers total solutions including:

+ Products and services that meet the requirements of our customers.
+ Strategic partnerships to improve performance and reduce costs.
+ Providing cost effective spare parts.
+ Endorsing a strong safety culture and safety management system.
+ Maintaining high levels of quality both in product and services.

CONTENTS

CONVEYOR & ELEVATOR BELTING

VLI have been supplying quality Conveyor and Elevator Belting since the 1980's. During this time we have worked closely with one of the world's leading manufacturers, ContiTech Conveyor Belt Group and together we have been delivering tailored solutions to meet our customer's needs.

We supply an extensive range of belting to accommodate virtually any application. From fabric belts through to steel cord belting, we have the right solution at hand. Currently VLI supplies belting to many industries including coal, grain, steel, shipping, sugar, quarrying and ports.

VLI's global buying power ensures steady availability of product, reasonable costs on raw materials, fast delivery times and competitive pricing. Through this global network of material supplies and products, we are able to offer our customers a guaranteed service without compromising quality.

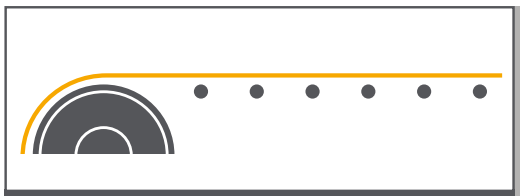
VLI is one of the most experienced suppliers of conveyor and elevator belting internationally.

CAPABILITIES

A significant proportion of our business is in the resource sector. We provide on-going engineering solutions to varied clientele. Having direct access to capable manufacturing facilities has enabled us to supply major OEM projects along with some of the longest overland conveyors in Australia.

VLI has access to facilities that are capable of producing more than 650km of fabric (EP) and steel cord (ST) belts per year with 4 steel cord, 2 fabric belt presses and 6 press lines with a capacity of more than 27,000 tonnes per year.

Continental IMAS S.A.



AS-N

PRODUCT OVERVIEW

Grade N Belting is a general purpose abrasion resistant compound used for carrying coal, grain, cement, screenings etc. This compound is used on standard and stock belting and complies with AS1332-2000. Where special compounds are not required this is the most appropriate belt compound.

TYPICAL APPLICATION

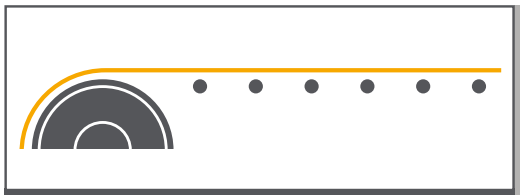
- Coal handling & processing
- Mineral processing plants
- Quarries
- Mobile Crushing Plant
- Timber Mills
- Grain Processing
- Screening Plants

STANDARD SIZES AVAILABLE

- Widths to 2400mm (up to 3200mm on special manufacture)
- Ply Strength from PN100 to PN500 (single & multiple ply available)
- Roll lengths up to 1000m (depending upon construction)
- Specials can be made upon request

TECHNICAL INFORMATION

RUBBER PROPERTIES	TYPICAL RESULTS	AS1332 SPECIFICATIONS FOR AS-N
Abrasion Resistance (maximum mm^3)	190	200
Tensile Strength (minimum MPa)	19	17
Elongation (minimum %)	450	400



AS-M The Allrounder

PRODUCT OVERVIEW

AS-M Cover is the most widely used in the Mining & Construction industries. Tried and proven over many years, it has proven to be cost effective and durable. Grade M is a general purpose compound with a higher degree of cut and gouge resistance used to convey large abrasive lumps such as quartz, limestone, coke etc. Grade M complies with Australian Standard AS1332-2000 and is suitable for handling burden to 50°C.

TYPICAL APPLICATION

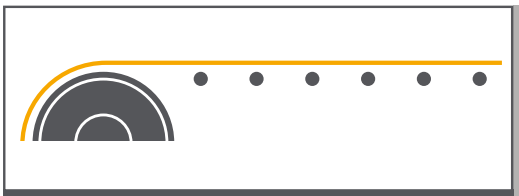
- Iron ore handling & processing
- Coal handling & processing
- Steel plants
- Mineral processing plants
- Quarries
- Hard rock mining
- Heavy duty applications

STANDARD SIZES AVAILABLE

- Widths to 2400mm (up to 3200mm on special manufacture)
- Ply Strength from PN100 to PN500 (single & multiple ply available)
- Roll lengths up to 1000m (depending upon construction)
- Specials can be made upon request

TECHNICAL INFORMATION

RUBBER PROPERTIES	TYPICAL RESULTS	AS1332 SPECIFICATIONS FOR AS-M
Abrasion Resistance (maximum mm^3)	115	125
Tensile Strength (minimum MPa)	26	24
Elongation (minimum %)	500	450



AS-A

PRODUCT OVERVIEW

This conveyor belt is designed for the ultimate resistance to abrasion, and is recommended for transporting abrasive materials. Equivalent to DIN-W with less than 70 Cu.mm abrasion loss. It is developed to assure the longest belt life and is suitable for conveying glass, cullet, granite, trap rock and other abrasive materials.

TYPICAL APPLICATION

- Iron ore handling & processing
- Coal handling & processing
- Steel plants
- Mineral processing plants
- Quarries
- Hard rock mining
- Heavy duty applications

STANDARD SIZES AVAILABLE

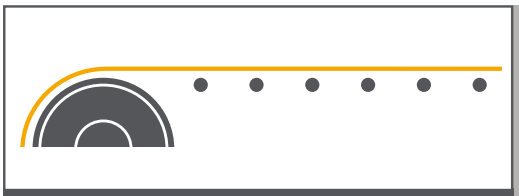
- Widths to 2400mm
- Belt Strength from PN100 to PN500 (single & multiple ply available)
- Roll lengths up to 1000m (depending upon construction)
- Specials can be made upon request

FEATURES

- Low wear
- Good ozone sustain
- Satisfactory impact resistance
- Satisfactory cut & gouge resistance

TECHNICAL INFORMATION

RUBBER PROPERTIES	TYPICAL RESULTS	AS1332 SPECIFICATIONS FOR AS-A
Abrasion Resistance (maximum mm^3)	65	70
Tensile Strength (minimum MPa)	19	17
Elongation (minimum %)	450	400



LRR

PRODUCT OVERVIEW

Low Rolling Resistance Cover (LRR) is the preference for the bottom cover on long centered conveyors. Designed to reduce wear and power consumption (up to 20%) without compromising other qualities such as elongation, impact and gouge resistance.

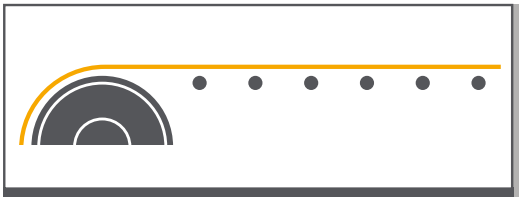
TYPICAL APPLICATION

Long Centered Conveyor

- Coal handling
- Iron ore handling
- Grain handling
- Ports and Terminals

ADVANTAGES

- Power Reduction
- Increased cover life
- Good adhesion
- Good cut and gouge resistance



AAA

PRODUCT OVERVIEW

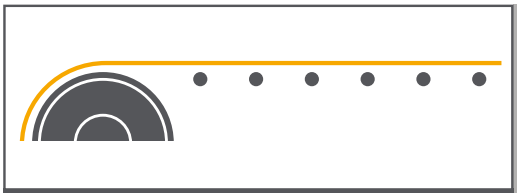
AAA cover is a special compound development by IMAS for use in the handling of ROM Coal. Its superior wear resistance gives increased cover life without compromising other qualities such as impact, cut and gouge resistance. Abrasion less typically less than 45cu.mm

TYPICAL APPLICATION

- Coal handling
- Ports and Terminals

ADVANTAGES

- Low wear
- Good impact resistance
- Good cut gouge resistance
- High adhesion



SUGAR FRAS

PRODUCT OVERVIEW

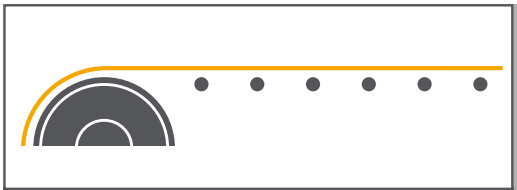
Sugar FRAS is a special non stick compound manufactured with fire resistant and anti static qualitites especially for the Sugar Industry.

TYPICAL APPLICATION

- Sugar Mills
- Sugar terminals

ADVANTAGES

- Non stick
- High adhesion
- Low wear



FRAS RUBBER CONVEYOR BELT

PRODUCT OVERVIEW

Our FRAS (Fire Resistant Anti Static) Conveyor Belt meets AS1332 & AS4606 (as applicable). FRAS Conveyor Belting is a requirement for all underground mining, and is often the choice for thermal power fertilizer plants, bulk grain & sugar handling applications. Belts with covers of varying gauges provide excellent abrasion resistance while meeting applicable standards.

FIRE RESISTANCE

Fire resistant belting shall comply with the following requirements:

(a) **Grade F** The requirements for Grade F belting are as follows

(i) When belting is tested in accordance with AS 1334.11, the surface temperature of the drum shall not exceed 325°C and there shall be no visible flaming or visible glowing.

(ii) When belting is tested in accordance with AS 1334.10, the average duration of the visible flame shall not exceed 30 s and the average duration of the visible afterglow shall not exceed 120 s. The duration of the visible flame of any test piece shall not exceed 45 s and the duration of the visible afterglow of any test piece shall not exceed 180 s.

(b) **Grade S** The fire resistance requirements for Grade S belting shall be as specified in AS 4606-2012.

NOTE: The above fire resistance requirements in AS 4606 do not apply to other Grades.

TYPICAL APPLICATION

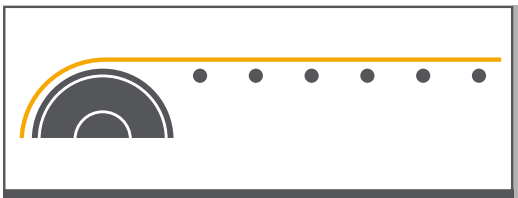
- Coal handling
- Fertilizer processing
- Sugar handling
- Bulk grain

STANDARD SIZES AVAILABLE

- Widths to 2400mm
- Ply Strength from PN100 to PN500 (single & multiple ply available)
- Roll lengths up to 1000m (depending upon construction)
- Specials can be made upon request

TECHNICAL INFORMATION

RUBBER PROPERTIES	TYPICAL RESULTS	AS1332 SPECIFICATIONS FOR FRAS
Abrasion Resistance (maximum mm^3)	-	-
Tensile Strength (minimum MPa)	16	14
Elongation (minimum %)	325	300



AS-E Grade Anti Static

PRODUCT OVERVIEW

A premium, static conductive, rubber conveyor belt is designed to provide reliable service for bulk grain handling applications. Anti Static Belt is essential to convey product that sticks to the belt surface with static electricity that may explode or ignite by electrification.

TYPICAL APPLICATION

- Grain Handling

ELECTRICAL RESISTANCE

When the electrical resistance is measured in accordance with AS 1334.9 -

(a) the average of two measurements on the carrying side shall not exceed 300 M Ω

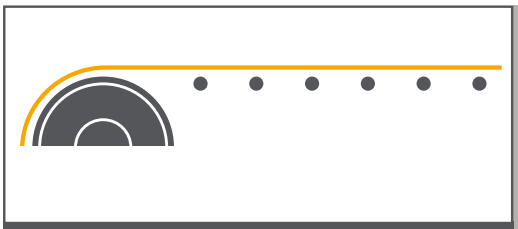
(b) the average value of two measurements on the pulley side of the belting shall not exceed 300 MΩ

STANDARD SIZES AVAILABLE

- Widths to 2400mm
- Ply Strength from PN100 to PN500 (single & multiple ply available)
- Roll lengths up to 1000m (depending upon construction)
- Specials can be made upon request

TECHNICAL INFORMATION

RUBBER PROPERTIES	TYPICAL RESULTS	AS1332 SPECIFICATIONS FOR AS-E
Abrasion Resistance (maximum mm^3)	-	-
Tensile Strength (minimum MPa)	16	14
Elongation (minimum %)	325	300



CROWS FOOT WEAVE (CFW) M GRADES (Also Available In Other Compounds)

PRODUCT OVERVIEW

Crows Foot Weave (CFW) M Grade Rubber Conveyor Belt, designed for high abuse installations, is manufactured with a unique EP (polyester nylon) carcass with 50% more threads (ends) in the warp, 40% heavier weft yarn, 20% more weft threads (picks) and over twice the strength in the weft providing a belt with 5 times the strength of conventional fabric conveyor belts.

TYPICAL APPLICATION

- Gold processing Plant
- Iron ore handling & processing
- Coal handling & processing
- Steel plants
- Mineral processing plants
- Quarries
- Hard rock mining
- Heavy duty applications

STANDARD SIZES AVAILABLE

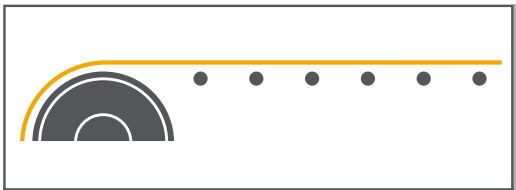
- Widths to 2400mm
- Ply Strength from PN200 to PN500 (single & multiple ply available)
- Roll lengths up to 1000m (depending upon construction)
- Specials can be made upon request
- Available in XCG and A Grade

FEATURES OF CFW M GRADE

- Outstanding resistance to rip & tear
- Low elongation
- High strength
- High adhesion
- Good impact resistance
- Very good cut, abrasion & gouge resistance

TECHNICAL INFORMATION

RUBBER PROPERTIES	TYPICAL RESULTS	REQUIREMENTS
Abrasion Resistance (maximum mm^3)	115	125
Tensile Strength (minimum MPa)	26	24
Elongation (minimum %)	500	450



HEAT RESISTANT RUBBER

PRODUCT OVERVIEW

Heat resistant rubber conveyor belts are most suitable for most heat resistant applications where the temperature of the material being carried is over 60°C.

TYPICAL APPLICATION

- Coal handling & processing
- Steel plants
- Mineral processing plants
- Fertiliser plants
- Cement plants

STANDARD SIZES AVAILABLE

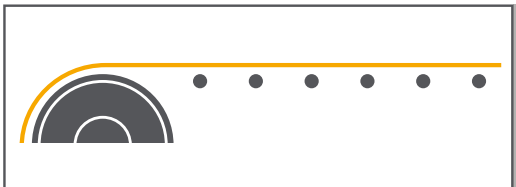
- Widths to 2400mm
- Ply Strength from PN100 to PN500 (single & multiple ply available)
- Roll lengths up to 1000m (depending upon construction)
- Specials can be made upon request

FEATURES

- Provides superior abrasion resistance in elevated operating temperature environments.
- Recommended for most above ground high temp abrasive material handling applications, such as coal, crushed ores, mineral sands, salt and aggregates
- This belt can also be used in some applications involving acids and alkalis. - Refer VLI.

TECHNICAL INFORMATION

RUBBER PROPERTIES	T120°C	T150°C	T180°C
Abrasion Resistance (maximum mm^3)	110	110	110
Tensile Strength (minimum MPa)	20	20	15
Elongation (minimum %)	600	600	500
Temperature°C (Sustained Loads)	120	130	170
Temperature°C (Peak Loads)	130	150	180



OIL RESISTANT NITRILE RUBBER

PRODUCT OVERVIEW

The core rubber used in the manufacture of Oil Resistant belts is specially compounded for applications requiring resistance to oils & some solvents. It generally has outstanding abrasion, ozone and water resistance. This conveyor belt is recommended for the conveyor lines causing swelling and sponginess by oils.

TYPICAL APPLICATION

- Timber mills
- Coal processing
- Mineral sands mining & processing
- Grain handling facilities
- Waste recycling plants
- Tyre industry
- General construction industry
- Bitumen & asphalt production
- Fertiliser plants

STANDARD SIZES AVAILABLE

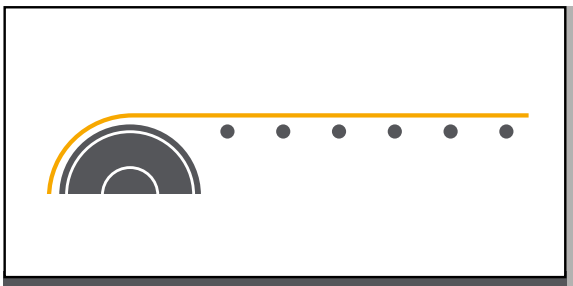
- Widths to 2400mm
- Ply Strength from PN100 to PN500 (single & multiple ply available)
- Roll lengths up to 1000m (depending upon construction)
- Specials can be made upon request
- Also available in high temperature NITRILI for most bitumen applications

FEATURES

- High strength with low stretch
- Excellent resistance to mineral oils
- Exceptional resistance to swelling from terpines
- Very good abrasion resistance
- Resistance to rot, mildew & UV ozone damage
- Resistant to a number of acids & chemicals

TECHNICAL INFORMATION

Please refer to our Technical Data Sheets for more details and suitability to specific oils, solvents and temperatures.



ROUGH TOP RUBBER CONVEYOR BELT

PRODUCT OVERVIEW

Our range of light to medium duty EP250/2RTB, & medium duty EP375/3RTB are both suitable for a wide variety of over deck incline & decline conveying applications up to approx 32°. Rough Top Rubber Conveyor Belts offer excellent resistance to rip, tear, mildew, rot & moisture. N Grade rubber covers provide good resistance to abrasion while preventing vibration of, or absorbing & reducing impact to conveyed materials by providing a cushioning effect. Our heavy duty 3ply belt is available up to 1800mm wide & is a popular choice for recycling facilities & replacement belts for Hesston 5540 & 5580 balers.

TECHNICAL INFORMATION

Please refer to our Technical Data Sheets for more details and suitability to specific oils, solvents and temperatures.

TYPICAL APPLICATION

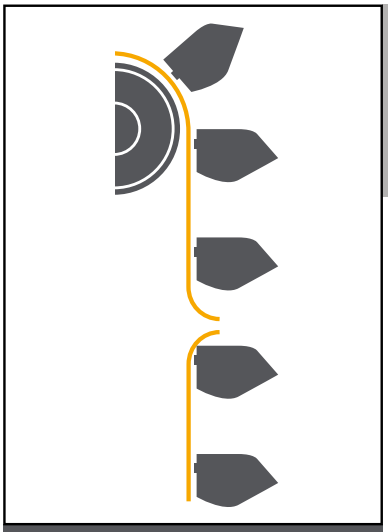
- Timber mills
- Warehouse facilities
- Waste recycle plants
- Brick works
- Roof tile plants
- Airport luggage

STANDARD SIZES AVAILABLE

- Widths to 1800mm wide
- Roll lengths up to 200m (depending upon construction)
- 2 & 3 ply available
- Various colours

FEATURES

- Excellent resistance to rip & tear
- Excellent resistance to rot, mildew & moisture
- Good resistance to abrasion
- Low friction coefficient with bale back bottom



SOLID WOVEN PVC BELT OIL RESISTANT COVERS

PRODUCT OVERVIEW

The exceptional bolt holding strength of the solid woven belting makes it ideally suited for bucket elevators. This strength, combined with the flame retardant and static conductive properties of the PVC compound, makes it a popular choice for grain and feed applications. Solid woven PVC belting offers many advantages.

TYPICAL APPLICATION

- Grain
- Power stations
- Chemical plants
- Metallurgy industries
- Fertilizer plants

FEATURES

- Low stretch
- Superior fastener retention
- Moisture resistant
- Oil resistant
- Flame resistant
- Static conductive
- Temperature range

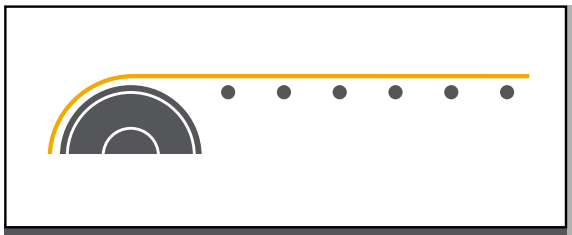
STANDARD SIZES AVAILABLE

- Up to 1830mm
- Belt strength 44 - 131 kn/m
- Roll length up to 150m

All belt specifications can be supplied to width and length and punched to suit any bucket configuration. Other specifications available on request.

TECHNICAL INFORMATION

Specification	250	350	450	750
Rated operating tension (kN/m)	44	61	79	131
Maximum bucket projection (mm)				
• Agricultural	175	200	225	250
• Industrial	150	175	200	250
Minimum pulley diameter (mm)	150	200	250	450
Thickness (mm)	6.4	7.6	8.9	10.2
Weight (kg/m^2)	8.8	9.4	10.6	12.3

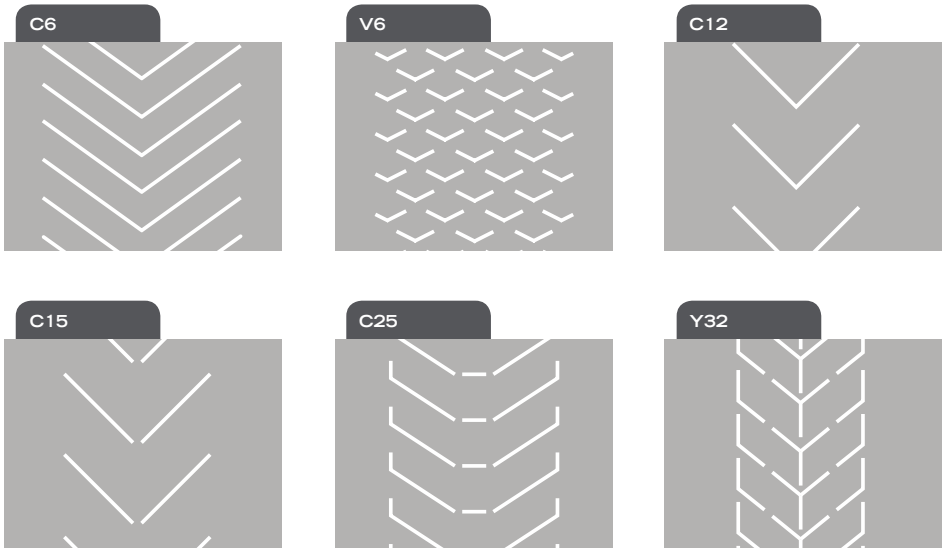


CHEVRON CLEATED RUBBER

PRODUCT OVERVIEW

Incline (Cleated) conveyor belt is used to carry product such as grain, sand, and minerals up steep inclines. Cleated belts increase the capacity of granular materials in heavy duty incline applications. All cleats are integrally moulded with high abrasion resistant qualities. Where the angle of inclination of conveyors exceeds 18° utilisation of a Cleated belt is recommended. C6 is suitable for 20° incline, C15 for 30° incline & C25 for 40° incline. In all cases the cleat designs ensures contact with rollers at every cleat transition.

TECHNICAL INFORMATION & STANDARD SIZES



FEATURES

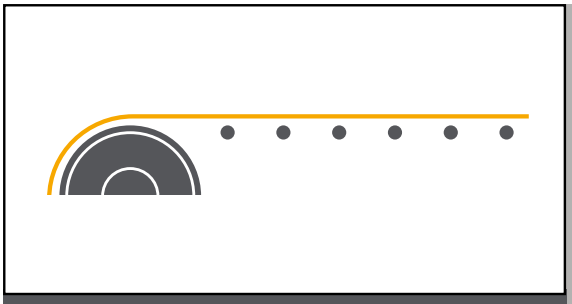
- High quality fabric with low stretch
- Cleat angle and pitch are designed for smooth travel over return idlers
- High angle up to 40° of incline
- Cleat height to 32mm
- 6 standard designs.

TYPICAL APPLICATION

- Quarries
- Grain handling
- Mineral sands
- Timber industry
- Coal handling
- Packaging
- Recycling plant

TECHNICAL INFORMATION

Chevron Type	Pattern	Cleat Height (mm)	Cleat Width (mm)	Cleat Pitch (mm)	Belt Width mm
C6	C6-P230	6	230	75	300-400
	C6	6	300-1200	100	300-1200
V6	V6	6	600-1800	75	600-1800
C12	C12-V800	12	800	150	800-1200
C15	C15-V330	15	330	250	400-600
	C15-V385	15	385	250	500-800
	C15-V450	15	450	300	600-800
	C15-P500	15	500	340	550-750
	C15-P600	15	600	250	750-1000
	C15-P750	15	750	250	900-1200
C25	C25-P450	25	450	335	600-750
	C25-P550	25	550	250	600-800
	C25-P750	25	750	330	900-1200
Y32	Y32-P450	32	450	255	500-800
	Y32-P600	32	600	300	800-1000
	Y32-P800	32	800	333	1050-1200



STEEL CORD

PRODUCT OVERVIEW

Steel Cord Conveyor Belting is manufactured to meet the specific needs of the given application, providing superior protection against the abuse of conveying virtually any material. Practice has proven that the steel cord belt is superior to all other belt types with regard to long life and economy, especially at high belt tension levels and when heavy goods are to be conveyed.
The reason for this superior quality is the all - rubber construction and a high impact resistance. The outstanding splice strength allows the tensile strength of the steel cord belt to be put to optimal use.

TYPICAL APPLICATION

- Iron ore handling & processing
- Coal handling & processing
- Overland & high tension conveyors
- Hard rock mining
- Granite mining

STANDARD SIZES AVAILABLE

- Width up to 2600mm
- Structured from ST500 to ST8000
- Up to 60mm thick
- Wide variety of cover grades available
- Reel sizes to meet customers needs

FEATURES

- High strength & outstanding flexibility
- High belt speeds & deep troughing
- Excellent adhesion

COVER COMPOUNDS

Steel Cord Rubber Conveyor Belt is available with a wide variety of rubber types & gauges to ensure maximum protection of the high tensile steel cords. For severe applications, additional protection from penetration & ripping can be provided by enhancing the belt with a range of breakers & rip protection cords.

TECHNICAL INFORMATION

Please ask your local account manager for our technical data sheets for more details and suitability to your specific application.

CONSTRUCTION

Due to the all-rubber construction of the steel cord belt, a full connection between the rubber on the top side and that of the bottom side may be obtained. At the same time, the thickness of the layers above and below the tension members may be significantly greater than any textile belt.

Compared to the textile counterparts, steel wire cords need less space to carry the necessary tension so that there is more volume available for abrasion-proof covers without increasing the thickness of the belt.

As a rule, the rubber layer above the cord is made as thick as possible in order to minimise its vulnerability. Sharp-edged material does not cut into a thick cover as readily as a thin one. The thickness of the rubber beneath is gauged to provide good cord protection, even with a soiled pulley.

RIP PROTECTION SYSTEM

PRODUCT OVERVIEW

The IMAS Rip Detection System incorporates “belt sensor loops” in the belt at predetermined spacings (usually 30 - 50m) which are detected by a reader to ensure that rips are contained to a minimum.

TYPICAL APPLICATION

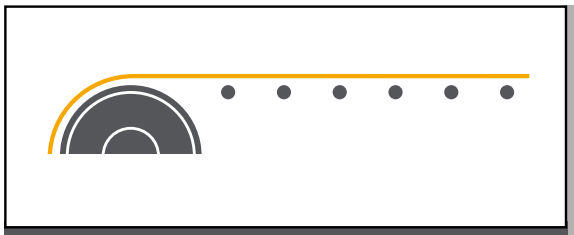
- Medium to Long centered Conveyor
- Coal handling
- Iron ore handling
- Grain
- Sugar
- Ports

ADVANTAGES

- No detuning of transmitter / receiver unit
- Transmitters and receivers are completely enclosed
- All parameters are tuned online
- Signal levels can be compared online, to identify mechanical misalignment or pre-damaged loops

EASY TO USE – USER-FRIENDLY & INTUITIVE

- Modern 15“ color touchscreen
- User interface for different user groups
- Device can be accessed directly by IMAS technical support (if desired)
- Teach-in of loops runs automatically



POLYESTER / NYLON FABRIC CONVEYOR BELT (EP)

POLYESTER / NYLON FABRIC (EP)

"EP" CONVEYOR BELT is a conveyor belt consisting of a synthetic woven fabric, utilising a polyester fibre for warp and a polyamid (nylon 66) fibre for weft, and has the following specific features:

CHARACTERISTICS

LESS STRETCH OF BELT

It makes take-up travel shorter, and thus saves space and the cost of the conveyor. It also makes belt start more smoothly, especially in long distance conveyor.

GREATER RESISTANCE TO THE EFFECTS OF MOISTURE & WATER

It minimises damage from moisture and water such as declining of belt strength and separation between plies, thus ensuring longer life.

LESS INFLUENCE UNDER TEMPERATURE

It retains constant belt strength, stretch and dimension even under high temperature conditions, making it very suitable for use at the high temperature and high humidity area.

EXCELLENT TOUGHNESS
EXCELLENT RESISTANCE TO IMPACT
EXCELLENT RESISTANCE TO CHEMICALS
FREE FROM MILDEW & ROT

Code No	Thickness Per Ply with skim rubber (mm)	Tensile Strength kN/m/ply	Max. Rated Tension		Max working Tension kN/m/ply
			Cold/warm vulcanised kN/m	Mechanical joint kN/m	
EP-100	1.0	100	10.0	8.0	10.0
EP-125	1.1	125	12.5	10.0	12.5
EP-160	1.2	160	16.0	12.8	16.0
EP-200	1.3	200	20.0	16.0	20.0
EP-250	1.4	250	25.0	20.0	25.0
EP-315	1.7	315	31.5	25.2	31.5
EP-250	1.9	350	35.0	28.8	35.0
EP-400	2	400	40.0	32.0	40.0
EP-500	2.7	500	50.0	48.0	50.0

Kind of Carcass	Full Tensile Strength Belt Min. kN/m	Allowable Tension ratings Max.kN/m	Minimum Head Drive Pulley(mm)				
			No. of Plies				
			2	3	4	5	6
EP	160	16.0	200	400			
EP	250	25.0	300	400			
EP	315	31.5	300	400	450		
EP	400	40.0	350	400	500	550	
EP	500	50.0	350	450	550	600	
EP	630	63.0	400	500	600	700	
EP	800	80.0		600	700	750	850
EP	1000	100.0		700	800	850	950
EP	1250	125.0		800	900	1000	1050
EP	1500	150.0			1000	1150	1300
EP	1800	180.0				1300	1400
EP	2000	200.0				1400	1500
EP	2500	250.0					1650

Tail, Take-up pulley: Diameter of Table x 0.85
Snub, Bend pulley: Diameter of Table x 0.7

PHYSICAL PROPERTIES - BELT MASS

COVER WEIGHT (kg/m²)

Cover Gauge	Grade AS-N	Grade AS-M	Oil Resistant	Heat Resistant	FRAS AS-S
1	1.13	1.10	1.22	1.11	1.41
1.5	1.70	1.65	1.83	1.67	2.12
2	2.26	2.20	2.44	2.22	2.82
3	3.39	3.30	3.66	3.33	4.23
4	4.52	4.40	4.88	4.44	5.64
4.5	5.09	4.95	5.49	4.00	6.35
5	5.65	5.50	6.10	5.55	7.05
6	6.78	6.60	7.30	6.66	8.46
6.5	7.35	7.15	7.93	7.22	9.17
7	7.91	7.70	8354	7.77	9.87
8	9.04	8.80	9.76	8.88	11.28
9	10.17	9.90	10.98	9.99	12.69
10	11.3	11.00	12.20	11.10	14.10
12	13.56	13.20	14.64	12.21	16.92
14	15.82	15.40	17.08	15.54	19.74
16	18.08	17.60	19.52	17.76	22.56
18	20.34	19.80	21.96	19.98	25.38
20	22.60	22.00	24.40	22.20	28.20
22	24.86	24.20	26.84	24.42	31.02
25	28.25	27.50	30.50	27.75	35.25

BELT CARCASS WEIGHT (kg/m²)

Fabric Type (kN/ply/m)	Skim Gauge	Number of Plies				
		2	3	4	5	6
EP150	0.60mm	1.82	3.14	4.47	5.79	7.11
EP200	0.70mm	2.32	3.96	5.60	7.24	8.88
EP250	0.70mm	2.58	4.35	6.12	7.89	9.66
EP300	0.80mm	3.06	5.13	7.21	9.28	11.36
NN150	0.60mm	1.60	2.81	4.02	5.23	6.44
NN200	0.70mm	1.98	3.45	4.92	6.39	7.88
NN250	0.70mm	2.20	3.78	5.36	6.94	8.52
NN300	0.80mm	2.42	4.18	5.94	7.70	9.46

Example - Mass of 1400mm wide ply PN150 (EP 750/5) belt with 5mm top cover/2mm bottom cover grade N

Carcass Mass 5.79 kg/m²
Cover Mass 7.91 kg/m²
Belt Mass 13.70 kg/m²
and 1.4m X 13.70 = kg/m of Belt

FABRIC BELT THICKNESS

To cover thickness add the carcass thickness from Table 3. Unit is mm.

Fabric Type (kN/ply/m)	Bare Fabric	Number of Plies				
		2	3	4	5	6
EP150	0.70	2.00	3.30	4.60	5.90	7.20
EP200	0.85	2.40	3.95	5.50	7.05	8.60
EP250	1.08	2.86	4.64	6.42	8.20	9.98
EP300	1.25	3.30	5.35	7.40	9.45	11.50
NN150	0.60	1.80	3.00	4.20	5.40	6.60
NN200	0.80	2.30	3.80	5.30	6.80	8.30
NN250	0.85	2.40	3.95	5.50	7.05	8.60
NN300	1.05	2.90	4.75	6.60	8.45	10.30

Example - Gauge of 4 Ply PN150 (EP600/4) with 6mm top cover and 2mm bottom cover = 4.6 + 8.0 = 12.6mm.

STEEL CORD BELTS - MASS AND THICKNESS

Because of the wide combination of cord diameters and number of cords that can be used to build a steel cord belt, it is best to refer to VLI for details of belt mass and thickness.

ELASTIC MODULUS OF BELTING

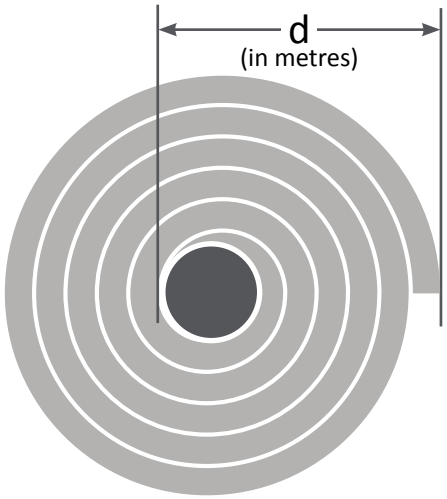
The Modulus of Elasticity can be defined as the tensile strength applied to stretch a test peice from the unstrained condition to the given elongation. The Modulus of a belt indicates what type of elongation can be expected in service. A high modulus indicates a lower elongation belt and a low modulus a higher elongation belt. The modulus is important in calculating such items as vertical curves, transition lengths and take-up travel. In general, low modulus materials, although subject to greater stretch, are preferred in areas of high impact owing to their ability to stretch locally and absorb impact.

The value of the elastic modulus varies widely between different makes of belt, according to the reinforcement used, its processing and construction. The manufacturer's own value should be obtained for closer calculations relating to a specific application.

PHYSICAL PROPERTIES- ROLL LENGTH

To calculate the length of belting on a roll, measure the length "D" in diagram and count the number of turns in the roll. Calculate the length of belting on a roll:

Length (m) = d X N X 3.1416 metres where N = number of turns.



Alternatively the following formulae can be used:

(a) To determine length of belt in reel

$$L = \frac{d^2 - 0.0645}{0.0127t}$$

(b) To determine reel diameter

$$d = \sqrt{0.00126t + 0.0645}$$

Where:

L = Length of belt in metres
d = Diameter of reel in metres
t = Thickness of belt in millimetres

SPLICE KITS

OPTIONAL EXTRA –
Monitor the temperature of your Splice Kit from manufacturer to installation to ensure optimum performance

Key Features:
Stores up to 16,382 Temperature Reading Measurements.
Easy to Use – No Training Required.
Protected against moisture.
Supports -35 to +80°C.
Includes all software to install.
Battery Operated.

Valley Longwall Conveyor Division are now able to supply you with a complete range of Steel Cord and Fabric Conveyor Belt Splice Kits from our Manufacturing and Service Facility in Welshpool.

A. Top Cover Rubber:
Various thicknesses and grades available
B. Adhesion Rubber:
Cover and bond securely to the steel cord
C. Steel Cord:
D. Bottom Cover Rubber:
Various thicknesses and grades available

STEEL CORD SPLICE KITS:

We are able to manufacturer a wide range of Splice Kits based on -

- Belt widths up to 3200mm wide
- A wide range of cover grades
- Routine supply and replenishment stock
- Emergency Supply
- Cover Panel Kits Only
- Combination Kits Only (Excluding Cover Panels)

Unless specified all Steel Cord Splice kits will be supplied to suit belting manufactured to AS1333, however VLI can supply kits to any other specification as required.

FABRIC SPLICE KITS:

We are able to manufacturer a wide range of Splice Kits based on -

- Belt widths up to 3200mm wide
- A wide range of cover grades including heat, oil, or Flame resistant
- Routine supply and replenishment stock
- Emergency Supply

Unless specified all Fabric Splice Kits will be supplied to suit belting manufactured to AS1332, however VLI can supply kits to any other specification as required.

SPLICE KIT INQUIRY FORM

Steel Cord Splice Kit

Belt Width				
600	750	800	900	1000
1050	1200	1400	1500	1500
1800	2000	2200	2400	Other.....
Belt Strength				
ST500	ST630	ST800	ST1000	ST1250
ST1500	ST1600	ST1800	ST2000	ST2500
ST2800	ST3150	ST4000	ST5000	Other.....
Splice Configuration				
Cord Diameter	No. of Cords	Cord Pitch	No. Stages	Splice Length
Cover Grade				
AS-N	AS-M	AS-A	AS-F	AS-S
M+	Other.....			
Cover Thickness		Breaker Fabric		
		Yes	No	

Fabric Splice Kit

Belt Width				
600	750	800	900	1000
1050	1200	1400	1500	1600
1800	2000	2200	2400	Other.....
Individual Ply Strength				
PN125	PN150/PN160	PN200	PN250	Other.....
Number of Plies				
2	3	4	5	6
Cover Grade				
AS-N	AS-M	AS-A	AS-F	AS-S
M+	Other.....			

VLI LOCATIONS:

HEAD OFFICE

VLI Group
Centre of Excellence
8 Balook Drive
Beresfield NSW 2322
T + 612 4964 2300
F + 612 4028 6796

QUEENSLAND

Mackay
6 Fursden Street
Glenella QLD 4740
T +617 4942 7495
F +617 4942 4944

Emerald
44 Industrial Drive
Emerald QLD 4720
T +617 4987 5011
F +617 4987 4711

Hospital Road
Emerald QLD 4720
T +61 7 4987 5500
F +61 7 4987 5558

Brisbane
Building 3, 836 Boundary Road
Coopers Plains QLD 4108
T +61 7 3276 7000
F +61 7 3272 7033

Townsville
Unit 5 46-50 Hugh Ryan Drive
Garbutt, Qld, 4814
T +61 7 3276 2000

NEW SOUTH WALES

Unanderra
3 Investigator Drive
Unanderra NSW 2526
T +61 2 4220 9400
F +61 2 4272 5530

Mudgee
24A Industrial Avenue
Mudgee NSW 2850
T +612 6372 9847
F +612 6372 9972

VICTORIA

Melbourne
1/78 Lock Avenue
Werribee VIC 3030
T +61 3 8742 6930
F +61 3 8742 6931

WESTERN AUSTRALIA

Perth
5 Temperley Close
Welshpool WA 6106
T +61 8 9452 6600
F +61 8 9353 6422

Kalgoorlie
2 Brooks Way
Kalgoorlie WA 6430
T +61 8 9021 2102
F +61 8 9021 2203

Karratha
1530 Lambert Road
Karratha WA 6714
T +61 8 9144 2411
F +61 8 9143 1577

Newcastle
Muswellbrook
Mackay
Emerald
Unanderra
Melbourne
Brisbane
Rockhampton
Townsville
Perth
Kalgoorlie
Karratha
CHINA
USA
RUSSIA