PRIMA®
BY PROVULCO

The **solutions-maker**

Our mission : boost the reliability of your conveyor systems and help maximize your productivity

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PRIMA
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PRIMA

PRIMA is the fruit of over 30 years of experience in the manufacturing, installation and distribution of conveyor belts.

PRIMA is a **guarantee of quality and safety for your operations.** Our belts are manufactured to stringent technical specifications and in accordance with international quality standards.

PRIMA also means greater flexibility for our clients and partners with a wide range of products and technical support all us to provide you with tailor-made solutions.

OUR KNOW-HOW

OUR STAFF – THE SECRET OF OUR SUCCESS

PRIMA is the brand name of the conveyor belts produced by PROVULCO french, leader in conveyor belts and amongst one of the leaders in Europe.

PROVULCO's teams constantly strive to deliver both products and services that are second-to-none tailored to your individual needs. To achieve this, we call upon our expertise in the manufacture of conveyor belts, the maintenance of conveyors, and an extensive sales network in France and abroad, enabling us to support you better, wherever you're located.

PROVULCO works mainly with cement works, the mining, steel-making, quarrying, agri-food and recycling industries, as well as conveyor system manufacturers.

Our approach is focussed on the long term and upon the respect for our employees, partners, clients, and suppliers. We have built solid foundations that allows us to be in a position to provide you with our support wherever you are located.

The background and experience of our teams have enabled PROVULCO to combine within one organisation the expertise of manufacturers of conveyor belts, and of specialists in their installation and maintenance, as well as the expertise of a skilled sales team.

By partnering with PROVULCO, you can be sure that your operations are in safe hands and that quality is uppermost in everything we do. Our commitment to you is to provide you with solutions that are tailored to your needs, along with support for your project from start to finish. Our multi-lingual staff are always ready to help you and answer any questions you may have.

PROVULCO's professionalism and reputation for excellence led to it becoming French company NETCO's exclusive supplier back in 2010. This group brings over 40 different service centres dedicated to conveyor belt maintenance and servicing. Together, PROVULCO and NETCO support a raft of major global names in both France and abroad in the fields of mining, the steel industry, cement manufacturing, quarrying, agri-food and waste recovery and recycling.

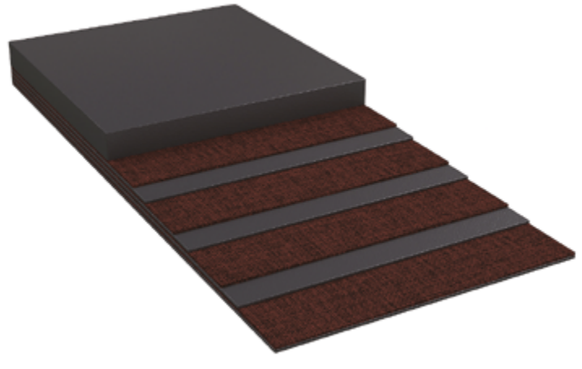
Mining · Cement works & quarries · Steel industry · Agri-food · Waste recovery & recycling

PRIMA PLY

EP or PP textile belts for moderate to extremely challenging operating conditions

Our **PRIMA-PLY** belts are used for the transportation of bulk materials in all extractive and processing industries under operating conditions ranging from easy to extremely challenging. The quality of the textiles and gum employed in the calendering process used on our belts provide excellent resistance to the multiple stresses that they may have to deal with.

PRIMA PLY EP belts (polyester warp and polyamide weft) are the most widely used betts. Polyester (E) confers an excellent level of resistance to rupture and delivers reduced elongation under loading which enables it to be used in short courses on tensioned systems. Polyamide (P) fibre, with a very significant elongation capability, is used for the weft in order to obtain the flexibility required in the width of the belt so that it can sit perfectly on the conveyor's trough.



Construction of PRIMA PLY EP

	Resistances of the PRIMA PLY EP (N/mm)											
Type N/mm	250	315	400	500	630	800	1 000	1 250	1 600	2 000	2 500	3 150
2	x	x	x	x	x	x	x	x				
3		x	x	x	x	x	x	x	x			
4			x	x	x	x	x	x	x	x	x	
5				x	x	x	x	x	x	x	x	x

**For other resistance values, please consult us*

→ **PRIMA PLY belts can also incorporate PP textile** (polyamide in the warp and in the weft). PRIMA PLY PP belts are used for special applications requiring a significant elongation in the warp and weft directions in order to withstand particular types of stress: a long drop, small diameter drums, or short trough transitions. If you require further information, please contact our technical department.

ADVANTAGES OF PRIMA PLY BELTS

- → Flexibility in the weft direction
- → All types of possible junctions
- → Long service life

→ **Our PRIMA PLY belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).**

Abrasion-resistant · Grease-resistant · Heat-resistant · Fire retardant

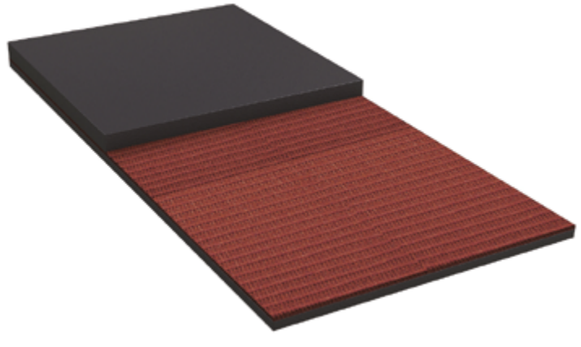
Mining · Cement works & quarries · Steel industry · Agri-food · Waste recovery & recycling

PRIMA FLEX

EPP textile belts for extreme operational conditions and low elongation values

Our single layer **PRIMA FLEX** belts boast excellent resistance to cuts, tears, and impacts. They are therefore used on conveyors that are subject to very significant stress.

The single layer EPP textile has been specifically designed to guarantee reduced elongation under loading, stability in the lengthwise direction, excellent resistance to impacts due to a weft which is both robust and flexible, and excellent troughability. This specific combination of warp and weft threads gives the **PRIMA FLEX** belt special properties that also enable it to cope with certain problems specific to conveyors with a short course on the tension system, and conveyors with drums of small diameter. Another advantage: The mechanical splicing approach can successfully be applied to **PRIMA FLEX** belts.



Construction of PRIMA FLEX

Number of plies	Resistances of the PRIMA FLEX (N/mm)				
1	400	500	630	800	1 000
2	800	1 000	1 250	1 600	

**For other resistance values, please consult us*

ADVANTAGES OF PRIMA FLEX BELTS

- → Excellent resistance to impacts, tears, and cuts
- → Elongation under operating conditions reduced by 30% compared to the traditional textile belt
- → Suitable for conveyors with a short tension course
- → Excellent troughability and guiding properties
- → Very suitable for the mechanical splicing approach
- → Excellent bond strength achievable through the hot vulcanizing method

→ **Our PRIMA FLEX belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).**

Abrasion-resistant · Grease-resistant · Heat-resistant · Fire retardant

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PRIMA STEEL

Steel cord belts

Our **PRIMA STEEL** belts, of the ST type of construction are suitable for conveyors with large centre distances and for high tensions for transport speeds are very wish speed transport. Our **PRIMA STEEL** belts are mainly used in harsh environments where reliability and performance are key.

Our **PRIMA STEEL** belts are compliant with German standard DIN 22131 specifying the number of warp cords, their diameter, and the distance between each cord. **PRIMA STEEL** cables have very low elongation values and optimum suppleness enabling the use of deep troughs.

Depending on the operating environment, our **PRIMA STEEL** belts can be reinforced with a metal transverse elastic steel cord ply or a textile ply in order to reinforce their resistance to impacts, tears, or cuts.

PRIMA STEEL belts are available in rupture tensions ranging from 630 N/mm to 8000 N/mm (for other tensions, please consult us).

- Warp cords in construction configurations of 7x7 or 7x19 are available in diameters from 3.1 to 11.3 mm

- The minimum bottom cover thickness is 4 mm to ensure a good level of quality.
- Maximum belt width available 2700 mm (for other widths, please consult us)
- The maximum weight of bobbins is 50 tonnes.

Construction of PRIMA STEEL*

	Resistances of the PRIMA STEEL (N/mm)																
Belt type	**630**	**800**	**1000**	**1250**	**1400**	**1600**	**1800**	**2000**	**2250**	**2500**	**2800**	**3150**	**3500**	**4000**	**4500**	**5000**	**5400**
Maximum cord diameter (mm)	3,2	3,7	4,1	4,9	4,9	5,6	5,6	5,6	5,6	7,2	7,2	8,1	8,6	8,9	9,7	10,9	11,3
Warp cord spacing	15	15	12	14	14	15	13,5	12	11	15	14	15	15	15	16	17	17
Cord construction	7x7	7x7	7x7	7x7	7x7	7x7	7x7	7x7	7x7	7x19	7x19	7x19	7x19	7x19	7x19	7x19	7x19
Minimum compound thickness (mm)	4	4	4	4	4	4	4	4	4	5	5	5,5	6	6,5	7	7	8
Approx. weight of the body (kg/m²)	6,2	8	8,5	9,3	11,5	12,8	14	14,8	15,2	16,5	19	22	23,8	28,5	29,8	34,5	37

**For other resistance values, please consult us*

ADVANTAGES OF PRIMA STEEL BELTS

- Very high resistance to ruptures up to ST 8000 N/mm
- Long lifespan
- Ideal for very long conveyors due to very low belt elongation values
- Suitable for belts with a high level of throughput

- Our PRIMA STEEL belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).

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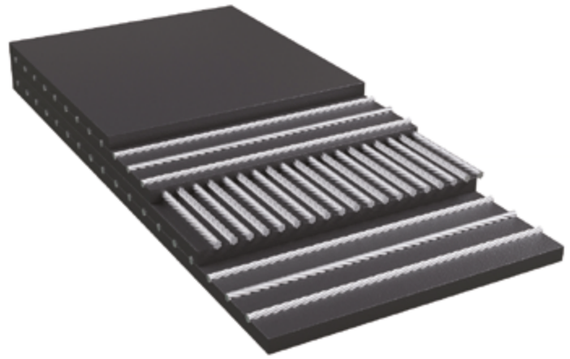
PRIMA CORD

Metal belt design devised specifically for complex or extremely testing operational environments

The **PRIMA CORD** belt is a hi-tech belt that is particularly used on conveyors subject to high levels of stress (frequent stops and starts, impacts, cuts, tears) and for conveyors with a winding curve on their trajectory where a traditional solution is not suitable.

In accordance with the EN ISO 15236 standard, **PRIMA CORD** is constructed with closely-spaced small diameter steel warp cords coated in a very elastic rubber layer and protected by two metal wefts using very high elasticity weft cords.



PRIMA TRANS

The **PRIMA TRANS** is a version of the **PRIMA CORD** containing a single metal weft, protecting the warp cords in the upper compound area.

Depending on the operating environment, PRIMA CORD and PRIMA TRANS are available with two different types of warp cord :

- 4X7 cords with median elongation values for conveyors operating on curves in the horizontal and/or vertical plane.

- 7X7 cords with low elongation values for conveyors with large centre distances and high speed operation.

ADVANTAGES OF PRIMA CORD AND PRIMA TRANS BELTS

- Resistance to repeated impacts
- Resistance to penetrationby external objects
- Excellent bond strength achievable through the hot vulcanizing method
- A high level of resistance to repeated stops and starts
- Very suitable for the mechanical splicing approach
- Suitable for small drum diameters

Our PRIMA CORD and PRIMA TRANS belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).

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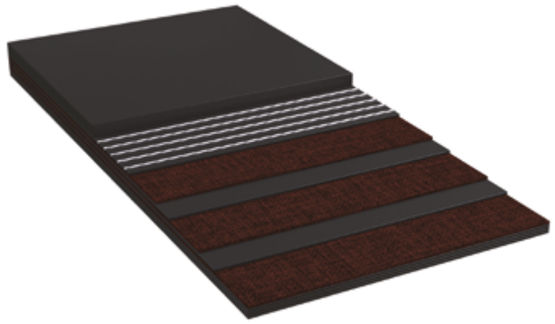
PRIMA ROCK

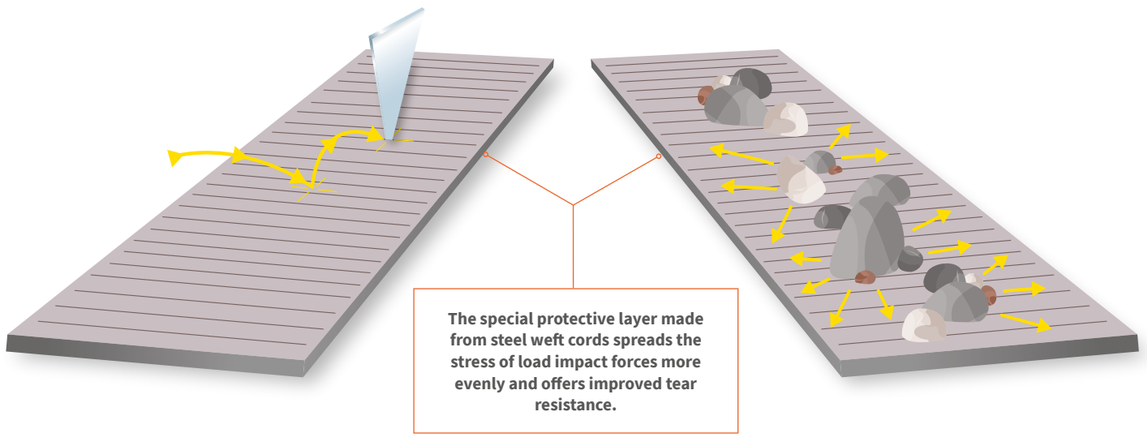
A textile belt equipped with a metal shield to help withstand difficult operating conditions

PRIMA ROCK belts are used on conveyors that are employed in difficult operational conditions. The special protective layer superimposed on the textile carcass gives PRIMA-ROCK belts excellent resistance to cuts, tears and repeated impacts.

Consisting of steel weft cords that are both tough and highly elastic, the protective layer on **PRIMA-ROCK** belts i's unique. It not only protects the belts but is also characterized by its excellent troughability.

→ **The type of cord and spacing between the cords can be tailored to suit conveyor** operating conditions.





ADVANTAGES OF PRIMA ROCK BELTS

- → Better distribution of stresses upon impact
- → Protection of the body against tears
- → Very suitable for the mechanical splicing approach

→ Our PRIMA ROCK belts belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).

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PRIMA STABLE

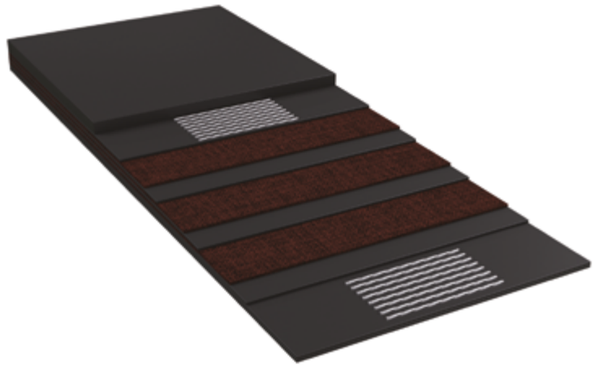
A belt that is self-centring on the conveyor

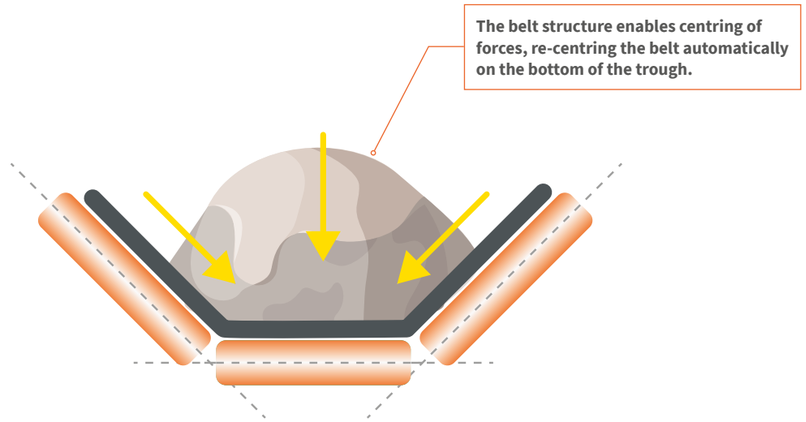
PRIMA STABLE belts provide the solution to problems of belt alignment with a unique body creating a naturally self-centring effect. **PRIMA STABLE** is particularly used on mobile and reversible equipment where offset problems are most frequent. They also have excellent stability on conveyors operating on a curve.

PRIMA STABLE belts are specifically suited to conveyors with carrying roller stations with 3 rollers and are able to operate with trough angles ranging from 35° to more than 60°.

→ **PRIMA STABLE** belts require no additional device. Their installation and maintenance are conventional just like any other belt.

→ **PRIMA STABLE** belts are available in textile and metal versions, suitable for a range of applications and conveyors.





ADVANTAGES OF PRIMA STABLE BELTS

- → The belt is self-centring
- → Suitable for reversible and mobile conveyors
- → Reduces loss of material due to the belt's offset
- → Reduces problems of deterioration of beading due to the belt's offset
- → Can be used with a trough angle up to 90°
- → Can be used for conveyors operating on a curve

→ Our PRIMA TRACK belts belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).

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PRIMA LIFT STEEL

Elevator belt with metal carcass

PRIMA LIFT STEEL was specially developed to meet the technical requirements of bucket elevators with medium and high tensions.

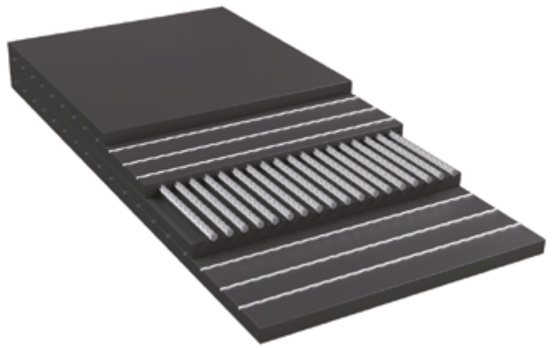
PRIMA LIFT STEEL consists of reduced elongation warp cords reinforced by two metal wefts using closely-spaced steel cords. This design not only delivers excellent performance in terms of belt stability and guidance, but also boasts proven robustness in terms of bucket mountings, even over long periods of time.

→ Our PRIMA LIFT STEEL belts are mainly used in cement works.

Standard tensions are*

	Resistances of the PRIMA LIFT STEEL (N/mm)			
N/mm	800	1 250	2 000	2 500

For other tensions, please contact us



ADVANTAGES OF PRIMA LIFT STEEL BELTS

- Suitable for small diameter drums
- The type of weft used ensures buckets are held firmly
- Excellent adhesion between the rubber and cords
- The compounds used are optimised for resistance to the materials carried and for the regulations currently in force (heat, grease, etc.)

PRIMA LIFT TEXTIL

Elevator belt with textile carcass

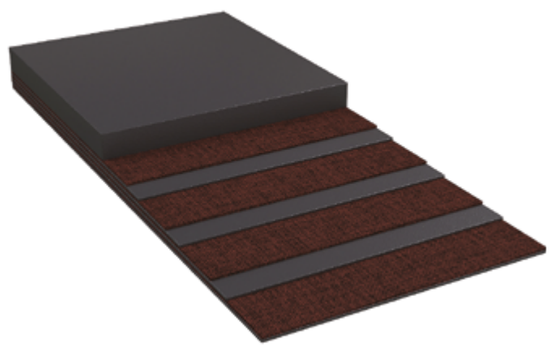
PRIMA LIFT TEXTIL was specially developed to meet the technical requirements of bucket elevators with low and medium tensions.

PRIMA LIFT TEXTIL consists of a textile body formed from reinforced fabric layers providing excellent performance and stability over time, due to a controlled degree of elongation.

→ Our **PRIMA LIFT TEXTIL** belts are mainly used in cement works, and in the agri-food sector.

	Resistances of the PRIMA LIFT TEXTIL (N/mm)				
N/mm	500	630	800	1 000	1 250
Number of plies	3	4	4	4	4

For other tensions, please contact us



ADVANTAGES OF PRIMA LIFT TEXTIL BELTS

- A lightweight belt optimised for lower throughput conveyor structures
- Suitable for small diameter drums
- The compounds used are optimised for resistance to the materials transported and for the regulations currently in force (heat, grease, etc.)

→ Our PRIMA LIFT belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).

Abrasion-resistant · Grease-resistant · Heat-resistant · Fire retardant

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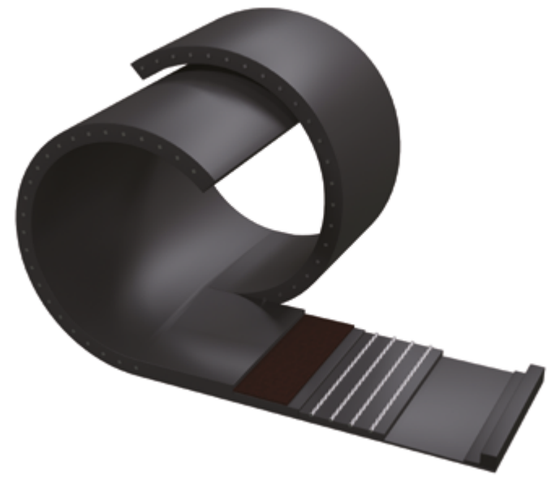
PRIMA PIPE

Belts specifically designed for tubular conveyors

PRIMA PIPE belts provide a solution to the requirements of tubular conveyors. Their specific design delivers just the right degree of rigidity to prevent the tube from collapsing during the transportation of materials as well as sufficient flexibility to enable it to open as needed for loading and unloading the belt.

PRIMA PIPE belts are available in textile or metal versions, each meeting the requirements of different operating conditions and applications. In order to ensure that the chosen belt is the right one for your conveyor system, our engineering service is at your disposal for advice on this choice.



ADVANTAGES OF PRIMA PIPE BELTS

- Suitable for curved belt conveyors
- Eliminates product loss
- Eliminates/Reduces environmental contamination

PRIMA WALL

Mining · Cement works & quarries · Steel industry · Agri-food · Waste recovery & recycling

Belts with rims and cleats for steep inclines

PRIMA WALL belts are used for the transportation of products in bulk on conveyors at very steep angles of up to 80°.

PRIMA WALL belt carcass, made from textile or metal, offer optimum rigidity in the weft direction, delivering excellent belt stability. Several heights of rim and cleat are available.

ADVANTAGES OF PRIMA WALL BELTS

- Improved material containment even with steep inclines

→ Our PRIMA PIPE and PRIMA WALL belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).

Abrasion-resistant · Grease-resistant · Heat-resistant · Fire retardant

Mining · Cement works & quarries · Steel industry · Agri-food · Waste recovery & recycling

PRIMA CHEVRONS

Belts designed for steep inclines

PRIMA CHEVRONS belts are used for the transportation of products in bulk on conveyors set at an incline of 20° or more. The chevrons prevent the transported material from slipping.

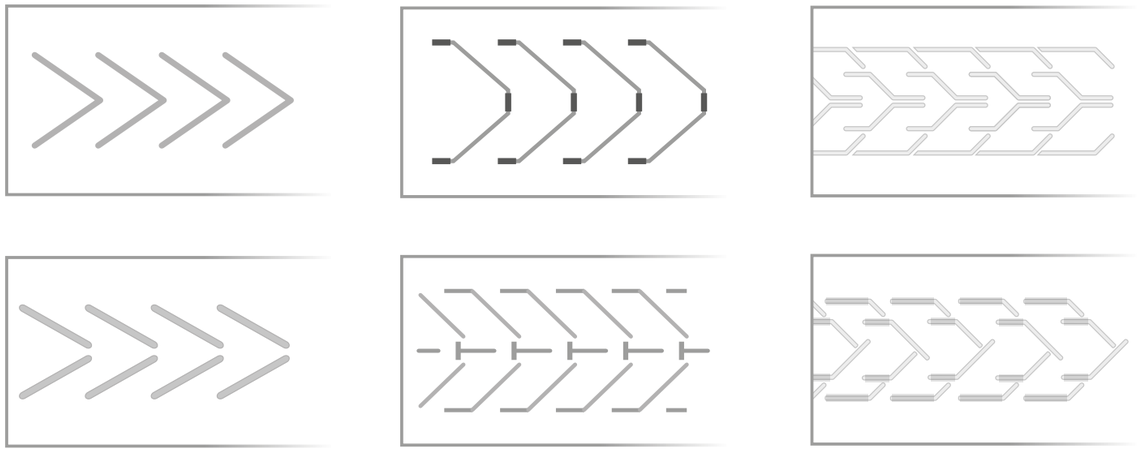
The design of the chevron is adapted to the type of product transported and to the conveyor's angle of inclination. The standard **PRIMA CHEVRONS** range consists of 7 different types of design with 4 different high of chevrons.

Levels of chevrons (mm)

15	17	25	32

Our **PRIMA CHEVRONS** belts are made with 2 to 3 plies of EP fabric (polyester in the warp, and polyamide in the weft) providing excellent resistance to rupture of the belt in the warp direction.

Available designs (for other requirements: please contact us)



→ **For all specific requirements, please contact us directly.**

→ **Our PRIMA CHEVRONS belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).**

Abrasion-resistant · Grease-resistant · Heat-resistant · Fire retardant

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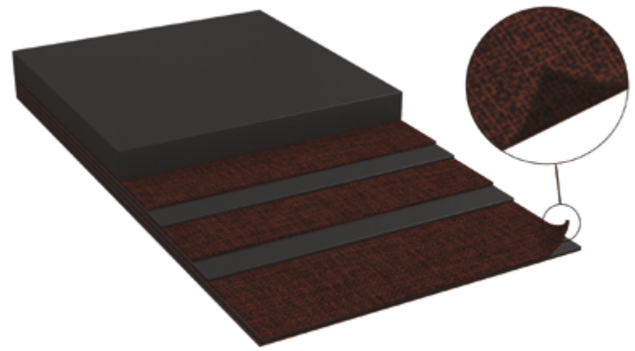
PRIMA SLIDE

Belts with anti-slip surface

PRIMA SLIDE belts are generally used for the transportation of fine-grained bulk goods or for the transportation of unit loads at temperatures between -15°C and +80°C on horizontal or inclined conveyors, flat-bed conveyors, on rollers or plates: wood, metal, or PVC.
PRIMA-SLIDE belts have been developed in response to the requirements of the wood, recycling, waste and packaging industries, as well as airports.

Our **PRIMA-SLIDE** belts are made with 2 to 3 plies of EP fabric (polyester in the warp and polyamide in the weft), are rotproof, and provide excellent resistance to rupture in the warp direction.



→ **For any specific enquiries, please contact us directly.**

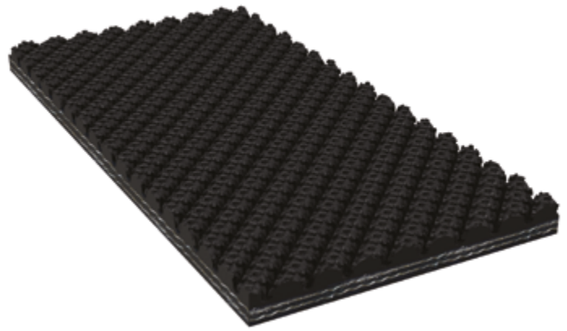
Mining · Cement works & quarries · Steel industry · Agri-food · Waste recovery & recycling

PRIMA GRIP

Belts with anti-slip surface

PRIMA GRIP belts are used for the transportation of packages, packaged goods, containers, or single parts at temperatures between -15°C and +80°C.
PRIMA GRIP belts have an upper 'roughtop' compound with a rough rubber surface that enables the products to be transported without moving or sliding.

Our **PRIMA GRIP** belts are made from plies of EP fabric (polyester in the warp and polyamide in the weft), are rotproof, and provide excellent resistance to rupture in the warp direction.



→ **For any specific enquiries, please contact us directly.**

→ **Our PRIMA SLIDE and PRIMA GRIP belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).**

Abrasion-resistant

Mining

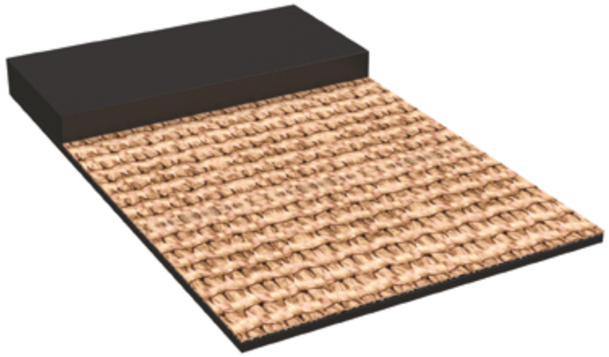
PRIMA SLW

Solid-woven belts for use underground

Our single-ply **PRIMA SLW** belts, of the solid woven type, are mainly used in underground mines under difficult operating conditions, which generally require excellent flame resistance.

Our **PRIMA SLW** belts are available with rubber covers (PVG) or in PVC (resistant to abrasion and/or flame). The fire-retardant properties of our compounds comply with the different safety classes currently in force: EN, ISO, and MSHA.

The body is formed of a three-dimensional weave of 3 to 5 levels of warp threads (polyester) and weft threads (polyamide), delivering excellent resistance to impacts.



ADVANTAGES OF PRIMA SLW WOVEN BELT

- Suitable for typical conditions in underground mines
- Very good resistance to impacts
- Very suitable for the mechanical splicing approach

Agri-food

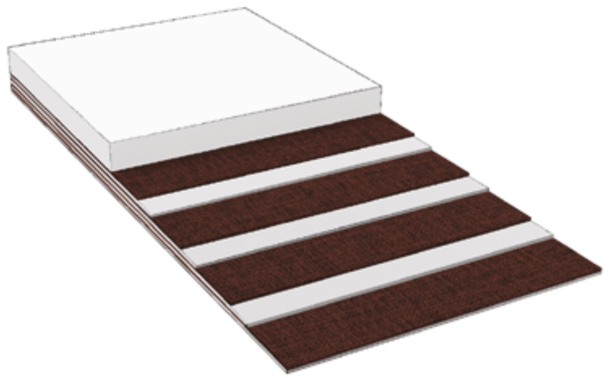
PRIMA WHITE

White rubber belts for transporting agri-food products

Our **PRIMA WHITE** belts with a white rubber compound are designed for the transport of agri-food products and comply with current safety and sanitary standards.

Our compounds allow complete resistance to any combination of abrasion, grease and fire and meet European and American standards.

The body of the **PRIMA WHITE** belt is formed from several EP textile layers.



Our teams are at your disposal to assist in determining the type and class of belt most suitable for your needs.

Our PRIMA SLW and PRIMA WHITE belts can be provided with different types of rubber covers, resistant to abrasion, grease and oils, heat, cold or fire (see pages 20 to 23).

Abrasion-resistant · Grease-resistant · Fire retardant

ANTI-ABRASIVE COMPOUNDS

PRIMA abrasion-resistant compounds have been developed to address various kinds of mechanical wear such as abrasion, cuts, tears, and impacts, a respond to international standards responding to current in force, such as, amongst others: ISO, DIN, AS.

All our preparations are designed to withstand temperatures between -15°C and + 80°C and are suitable for use across the whole range of extraction and transformation industries (quarries, cement works, port installations, power stations, etc…).

PRIMA abrasion-resistant rubber covers can be used on the entire PRIMA range (belts with a textile carcass, belts with a metal carcass, hi-tech belts).

STANDARDISED PRIMA ABRASION-RESISTANT RUBBER COVERS

Normative designation	Reference standard	Resistance to rupture (Mpa)	Rupture elongation (%)	Abrasion Max (mm^3)	Main applications
D	ISO 15236 ISO 10247 NF EN ISO 14890	18	400	100	Common applications
X	DIN 22102 DIN 22131	25	450	120	Abrasive and sharp materials
W	DIN 22102 DIN 22131	18	400	90	Highly abrasive materials and those of small particle size
Y	DIN 22102 DIN 22131	20	400	150	Highly abrasive materials and those of small particle size
L	ISO 15236 ISO 10247 NF EN ISO 14890	15	350	200	Standard applications
Z	DIN 22102 DIN 22131	15	350	250	Standard applications
N17	BS 490	17	450	150	Common applications

On request, specific preparations able to cope effectively with even the most abrasive materials are available for your specific applications.

It is important to understand the specific kind of mechanical wear involved in order to determine the most suitable compound. Our technical department is at your disposal to provide any advice you may need.

COMPOUNDS RESISTANT TO OIL AND GREASE

PRIMA grease-resistant rubber covers are used for the bulk transport of products characterized by varying degrees of greasiness at temperatures between -15°C and + 80°C. They have been specially developed in order to prevent belts becoming impregnated, swelling, and irreversibly deteriorating in contact with the greasy products transported.

Our **PRIMA grease-resistant** rubber covers are available in 2 levels of resistance to greasy substances:
Level 1 : **MOR**, also referred to as **GM**. SBR-based elastomer, with grease resistant protection. These compounds are particularly suited for resistance to vegetable and animal oils, and to oleaginous produce.
Level 2 : **OR**, also referred to as **G**. NBR-based elastomer (Nitrile). These compounds have been developed for resistance to mineral oils, hydrocarbons, and to certain solvents and acids.

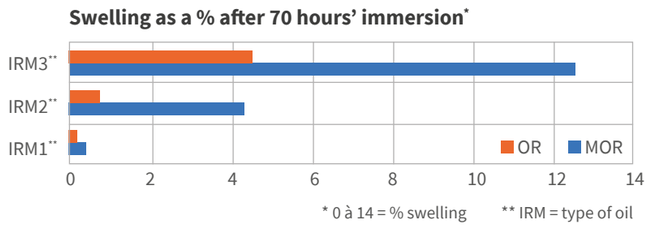
For certain applications where resistance to fatty or greasy products has to be combined with risks of fire or explosion such as grain silos, for example, **PRIMA grease-resistant** rubber covers are also **fire-retardant,** pursuant to ISO 340 **K** or **S**, and **antistatic**, pursuant to ISO 284.

RUBBER COVERS FOR OIL-RESISTANT BELTS

Designation	Main applications	Resistance to traction (Mpa)	Abrasion (mm^3)	Comments
GM / MOR	Resistant to vegetable and animal oils	★★	★★	
G / OR	High resistance to mineral oils and hydrocarbons	★★★	★★★	
GMK / MORK	Resistant to vegetable and animal oils, also fire-retardant	★★	★★	Antistatic, pursuant to ISO 284 – fire-retardant K, with compound pursuant to ISO 340
GMS / MORS	Resistant to vegetable and animal oils, also fire-retardant belt (compound and body)	★★★	★★★	Antistatic, pursuant to ISO 284 – fire-retardant S, with and without compound pursuant to ISO 340
GK / ORK	High resistance to mineral oils and hydrocarbons, also fire-retardant	★★	★★	Antistatic, pursuant to ISO 284 – fire-retardant K, with compound pursuant to ISO 340
GS / ORS	High resistance to mineral oils and hydrocarbons, also fire-retardant belt (compound and body)	★★★	★★★	Antistatic, pursuant to ISO 284 – fire-retardant S, with and without compound pursuant to ISO 340

CHARACTERISTICS OF THE COMPOUND PREPARATIONS

By way of indication, immersion tests to the ISO 1817 standard give the following swelling percentages (at ambient temperature):



➔ **PRIMA grease protection rubber covers can be used to cover textile bodies, as well as certain metal and special-use bodies.**

➔ **Our technical department is at your service should you require advice.**

FIRE-RETARDANT COMPOUNDS

PRIMA IGNIFUGE belts have been developed to avoid fires or their propagation in order to protect personnel and equipment. There are several levels of flame protection for conveyor belts, each of them tailored to specific, precise safety standards and applications. **Please consult our technical department should you have any doubts concerning the appropriate type.**

Designation	Main applications	Subject
ISO 340	Flammability characteristics	Test piece placed in in a gas flame then removed and the afterflame time recorded
ISO 284	Electric conductivity	A test piece is subjected to an electric current to measure its resistance to the current
EN 12882	Electrical and flammability safety protection requirements	Determines the different classes of protection based on tests carried out on belts not intended for use in underground mines
EN 12881-1	Fire simulation flammability testing	Test with propane gas burner on a 2 m length in a gallery
ISO 1554	Drum friction test	A belt is held onto a turning drum, simulating a jammed belt
EN 14973	Electrical and flammability safety requirements	Determines the different classes of protection based on tests carried out on belts intended for use in underground mines in flammable or non-flammable atmospheres

STANDARDISED MECHANICAL CHARACTERISTICS OF COVER COMPOUND

Designation	Standards	Resistance to traction (Mpa)	Elongation (%)	Abrasion (mm^3)	Characteristics
k	DIN 22131 and DIN 22102	Mini 20	Mini 400	Maxi 200	Fire-retardant with compound to ISO 340 and EN 12882
k	DIN EN ISO 15236-1	Mini 15	Mini 350	Maxi 200	Fire-retardant with compound to ISO 340 and EN 12882
s	DIN 22102	Mini 20	Mini 400	Maxi 200	Fire-retardant with and without compound to ISO 340 and EN 12882
TG-V	DIN EN ISO 15236-3	Mini 17	Mini 350	Maxi 175	Fire-retardant to EN 14973 and EN 12882

➔ **Different mechanical characteristics are available.**

➔ **Our technical department is at your disposal should you require advice.**

TEMPERATURE COMPOUNDS

The use of abrasive-resistant belts transporting a product with a temperature greater than 80°C renders rubber rigid and brittle (the phenomenon of “bakelization”). To avoid this phenomenon, we have developed specific preparations that take into account the temperature of the product and its particle size. A number of elastomers are used depending on the temperatures that will be encountered.

RUBBER COMPOUND FOR HEAT RESISTANT BELTS

Designation	Temperature resistance	Resistance to traction (Mpa)	Abrasion (mm^3)	Max continuous belt surface temperature	Comments
Class 1 / T120	★★	★★★	★★★	120	Good mechanical resistance
Class 2 / T150	★★★	★★	★★	150	Good resistance to chemical products
Class 3 / T200	★★★★	★★	★★★	200	Excellent resistance to continuous temperature and to temperature peaks

→ **Temperature peaks in excess of 200°C are admissible depending on operating conditions. our technical department is at available to provide any advice you may need.**

PULLEY DIAMETER

Minimum Pulley diameters depend upon the type of body (textile, metal) and the operating tensions applied (% rupture resistance of the belt) and vary according to the type of drum (motor, banking, tension, stress, and inflexion).

MINIMUM PULLEY DIAMETERS FOR EP TEXTILE BELT (MM)

% tension	>60%			from 30 to 60%			< 30%		
Belt	Drive	Tail and tension	Sub or bend	Drive	Tail and tension	Sub or bend	Drive	Tail and tension	Sub or bend
EP 250/2	250	200	160	250	200	160	200	160	160
EP 315/2	315	250	200	315	250	200	250	200	160
EP 400/3	315	250	200	315	250	200	250	200	160
EP 500/3	400	400	315	400	315	250	315	250	250
EP 630/3	500	400	315	400	315	250	400	250	250
EP 630/4 EP 800/3 EP 1000/3	630	500	400	500	400	315	400	315	315
EP 800/4 EP 800/5 EP 1000/4	800	630	500	630	500	400	500	400	315
EP 1000/5 EP 1250/3 EP 1250/4 EP1600/4	1000	800	630	800	630	500	630	500	400

MINIMUM PULLEY DIAMETERS FOR ST BELT (MM)

% tension	>60%			from 30 to 60%			< 30%		
Metal belt	Drive	Tail and tension	Sub or bend	Drive	Tail and tension	Sub or bend	Drive	Tail and tension	Sub or bend
Cord: 4x7 Tensile strength: 500 to 630	400	315	250	315	250	200	250	250	200
Cord: 4x7 Tensile strength: 800 to 1000	500	400	315	400	315	250	315	315	250
Cord: 4x7 Tensile strength: 1250 to 1400	630	500	400	500	400	315	400	315	250
Cord: 7x7 Tensile strength: 800 to 2250	800	630	500	630	500	400	500	400	315
Cord: 7x7 and 7x19 Tensile strength: 2500 to 3150	1250	1000	800	100	800	630	800	630	500
Cord: 7x19 Tensile strength: 3500 to 4000	1400	1250	1000	1250	1000	800	1000	800	630
Cord: 7x19 Tensile strength: 4500 to 5000	1600	1400	1250	1400	1250	1000	1250	100	800
Cord: 7x19 Tensile strength: 5400 and over	1800	1600	1250	1600	1250	1000	1250	1000	800

→ **For belts that do not appear in this table, please consult our technical department.**

QUALITY

Our quality commitment

PROVULCO has put in place a very stringent quality control protocol that enables us to guarantee an optimum level of quality in our products, allowing to consislenty meet the requirements of the various standards that govern our sector (DIN, ISO). All our belts are produced in accordance with ISO 9001 certification and incorporate the latest conveyor belt production technologies. Each manufacturing batch is systematically controlled and checked by our teams during production following very precise technical specifications. This allows us to retrace the history of each belt installed at any time. Each belt sold by PROVULCO is guaranteed for a minimum of 12 months.

LABORATORY

Quality control at your disposal

Thanks to PROVULCO, you can test the mechanical properties of any belts that you possess, whether new or already in use at our BRI (Belt Rubber Institute) conveyor belt lab.

Tests are carried out to check compliance with the current standards applicable on calibrated equipment, to textile, steel-cord-reinforced and metal conveyor belts as well as for a range of compounds and rubber covers.

In accordance with your requirements, these tests can be validated by an independent, certified control body.

TESTS ON TEXTILE BELTS	REFERENCE STANDARDS
Belt resistance and elongation	ISO 283
Adhesion between rubber covers and carcass and between plies	ISO 252
Abrasion	ISO 4649
Preparation rupture resistance	ISO 037
Hardness	ISO 868
Fire resistance	ISO 340
Electrical conductivity	ISO 284
Resistance to oils	ASTM

TESTS ON ST BELTS	REFERENCE STANDARDS
Belt resistance	ISO 7622/2
Adhesion strength of rubber covers	ISO 8094
Cord to compound bond test	ISO 7623
Abrasion	ISO 4649
Preparation rupture resistance	ISO 037
Hardness	ISO 868
Fire resistance	ISO 340
Electrical conductivity	ISO 284
Resistance to oils	ASTM

CONTACT

HEAD OFFICE :
Provulco France
CD6 – Quartier de la Sèbe
13320 Bouc-Bel-Air, France
Tel. (France) 04 42 22 69 57
Tel. (International) +33 (0)4 42 64 43 50
Email : contact@provulco.com

SALES :
EUROPE
Email : europe@provulco.com
Tel. (International) +33 (0)4 42 64 43 50

AFRICA
Email : africa@provulco.com
Tel. (International) +33 (0)4 42 64 43 50

MIDDLE EAST
Email : middleeast@provulco.com
Tel. (International) +973 322 34 329

NORTH AND SOUTH AMERICA
Email : americas@provulco.com
Tel. (International) +33 (0)4 42 64 43 50

ASIA AND PACIFIC REGION
Email : southeastasia@provulco.com
Tel. (International) +62 811 997 214

www.provulco.com