

# HIGH PERFORMANCE CONVEYOR BELTS

YOUR GUIDE



## SEMPERTRANS

**has been developing, manufacturing and installing conveyor belts for more than 50 years.**

Our know-how, our experience and the quality of our products make Sempertrans one of the world's leading companies in the conveyor belt industry.



## SEMPERIT AT A GLANCE

Almost two centuries of experience, a worldwide presence and a leading role in the rubber industry make Semperit your reliable partner.

Semperit AG Holding has been a worldwide leading supplier of natural rubber products for more than 190 years. We have achieved and maintained this position by focusing on high quality and reliability. Our partners appreciate these strengths, which have made Semperit a global player today.


Semperit products and services capitalise on global trends such as increasing health and hygiene requirements, and growing industrialisation in emerging markets, supporting our continuous and sustainable growth. Over 7,000 people are employed in our industrial and medical sectors worldwide. Our headquarters are in Vienna, Austria and the company is listed on the Vienna Stock Exchange. With

22 production plants and numerous subsidiaries and sales offices, the Semperit Group has a presence in Europe, Asia, Australia and America, with a diverse product portfolio that is equipped to face the constant changes in these markets.

### Our strategy in one word: excellence

Semperit aspires to be customers' first partner of choice by excelling in everything we do. We strive to provide customers around the world with an innovative and competitive range of products that create lasting value and enable new opportunities. We know that our business partners expect optimum quality and maximum efficiency. That is why time after time we are focusing on strengthening our core competencies, expanding our service

The business activities of Semperit are divided into two sectors: Medical and Industrial.

| SEMPERIT   |  |
|---|--|
| INDUSTRIAL SECTOR   | MEDICAL SECTOR   |
| <b>Sempertrans</b> Conveyor belts with textile or steel cord carcasses<br><b>Semperflex</b> Hydraulic and industrial hoses, rubber sheeting<br><b>Semperform</b> Escalator handrails, building construction profiles, cable car rings, rubber foils and railway superstructure products | <b>Sempermed</b> Examination, surgical and protective gloves |

offering and developing cost leadership in order to become and remain the leader in our target markets. For the greatest benefit of our customers, we also invest in the best technology and production sites in alignment with our sustainability strategy.

### A true global player

Semperit is already represented on all continents and further globalisation of the group will be driven by the continued expansion of existing sales channels and by consistently opening new markets.

### A top position in all business segments

Semperit is a leading global supplier of high quality rubber products. This has been achieved through outstanding know-how in product development, production and sales.

We succeed through quality, service and reliability and aim to achieve cost leadership through productivity gains and consistent cost management in all areas. This is the basis for the high level of acceptance of the Semperit brand by our customers.

### Innovation with tradition

The ongoing development of products and the continuing optimisation of production are of central importance for Semperit. All of our research & development centres, as well as our numerous R&D partners around the world, act as think-tanks for processes in all product areas, encouraging the constant exchange of experiences and ideas, which are fed back directly to our production areas

as well as the market. Through the innovations of today, Semperit is creating the foundation for tomorrow's success.

### Customer orientation

Uncompromising quality, fair pricing, close-to-market products and a global presence are expressions of the strong customer orientation at Semperit. We are also distinguished by our high reliability level, and customers from around the world rely on our top quality and outstanding service.

### We think ahead

Semperit is committed to sustainable growth and responsibility for future generations. Long-term success is only possible in harmony with the environment and society. Therefore, we have made sustainability a fundamental principle of our company strategy. Semperit defined key topics for the sustainability strategy and adopted directives in the following fields of action that are valid throughout the group: safety, health and environment, resource management, suppliers, innovation, employees and society.

### Sustainably responsible

We place great importance on fair working conditions, employee benefits and promotion of the local economy. However, corporate responsibility goes far beyond direct business activities, and Semperit supports a range of social projects in the locations where we are based, as well as a number of global aid agencies.



## SEMPERTRANS AT A GLANCE

Innovation, experience and know-how have made Sempertrans one of the world's leading suppliers in the conveyor belt industry. We offer a broad range of conveyor belts and services to help accelerate your unique conveyor operations. We provide solutions for the most demanding applications in the mining, cement and steel industries, as well as many others. From standard products such as textile belts to highest breaking strength steel cord belts, Sempertrans ensures safe, high-quality and highly efficient conveying even under extreme conditions.

Sempertrans has been developing, manufacturing and installing conveyor belts for more than 50 years. Our far reaching experience, state-of-the-art technologies and high production capacity, as well as our acute conveying know-how have made us one of the most reliable conveyor belt suppliers in the world, guaranteeing excellent quality in terms of products and services.

### We deliver value

Our ambition is to be a trusted partner for our customers and help enhance their business operations with innovative and reliable solutions. We place particular importance on the quality of our products and services, as well as creating long-term value to all our stakeholders by delivering excellence and effectiveness in anything we do. We strive to ensure that our customers achieve maximum operating life with the lowest cost of ownership achievable.

### We are committed to sustainable growth

Sempertrans constantly tries to increase its resource efficiency, aiming at reducing pollution whilst improving our products' competitiveness. Therefore, all raw materials and processes are thoroughly researched to assess their impact on the environment, ensuring that we incorporate only controlled and approved materials and

avoid the use of environmentally harmful raw materials during any material development or production process.

### Continuous innovation through R&D

Our conveyor belts are specifically engineered to meet the most demanding and stringent global customer specifications and, as a result, have earned a strong reputation across the globe for their established high performance level. We developed very unique products like the self-centring Autostable or the energy-saving TransEvo.

Our commitment to innovation is driven by a significant focus on research and development. In our decentralised product development centres and laboratories, our research experts are devoted to developing the optimum solutions to fulfill customers' current requirements and anticipate their future needs. Their efforts are directed towards the continuous improvement and development of materials, manufacturing processes and product quality for the benefit of our customers and the environment.

To reach the highest quality standards, our R&D and production units are furnished with state-of-the-art equipment. Most importantly, we make it a focal point to engage in all processes of manufacturing a conveyor

belt, from creating our own belt design to mixing our own compounds in-house and producing our own steel cords in our production site in Poland. This way we ensure continuous know-how transfer and exchange of experience among the individual business areas, thereby achieving greater efficiency.

### We develop innovative compounds

To help advance the cause of sustainable development around the world and protect the global environment, Sempertrans developed a lead free compound which lays the first stone to a new generation of rubber compound. This innovative core compound uses a formulation bare of any trace of lead while maintaining all its

integral properties. It also has the added value of being more environmentally-friendly.

Thanks to this lead free compound the bonding force between the rubber and steel cords which go into the composition of our products are significantly higher than the requirements posed by the ISO 15231 and the DIN 22131 international standards. The dynamic performance of the resulting new steel cord belts was corroborated in rig tests applied to many different servicing applications. Combined with other cover compounds with which the lead free compound has an excellent compatibility, our conveyor belts enable higher efficiency for the transport of all kinds of materials.

## SOLUTIONS & SERVICES

Sempertrans stands out in the conveyor belt industry not only thanks to a vast range of high-quality products but also through our unique and exhaustive offer. This inclusive approach comprises various services dedicated to meeting our customers' specific conveying needs by following through your projects every step of the way.

### CUSTOMER FOCUS

Our customers choose us for our technologically-advanced products and business efficiency. But the success of our partnership would not be possible without the close relationship we strive to establish with our customers, OEMs as well as service and distribution partners.

Sempertrans has the expertise to optimally identify your needs and provide you with advice far in advance of the actual production process. In this regard, an international network of specialists and expert partners are always

at your disposal at any time and anywhere you are to guarantee diligent project development and follow-up.

Our global reach is supported by mobile and multilingual sales representatives and distribution partners whose physical proximity to your business locations allows for more effective project handling. Through their deep understanding of the drivers and challenges of your industry they are able to help you bring value to your conveying installations and maximise your investment.

### GLOBAL APPLICATION ENGINEERING

Our Global Application Engineering team are expert technicians and professionals who cater to your needs at all stages of your project. Their mission is to provide the right technical solution for your specific conveying belting applications – from consulting services such as the tailored design and configuration of your conveyor belts, to local engineering support functions in case of technical conveyor issues. Whether your business requires a brand new conveyor belt or process improvements the Sempertrans Global Application Engineering team is your best point of contact.



## FIELD SERVICE

Sempertrans believes that Field Service is a critical factor for creating and delivering added value to your conveying operations. With the help of our international network of highly competent technicians and professionals, we are greatly qualified to deliver outstanding services, including the installation, commissioning, splicing and maintenance of conveyor belting.

### Splicing

Sempertrans maintains an extensive service network of local partners to support you wherever you are

located. Additionally, our Field Service teams based in France and Poland are at your disposal and will support you with any of our belts.

### Installation and maintenance

Sempertrans offers you both the training as well as the supervision of your team, ensuring an independent continuation of your project.

## PRODUCT PORTFOLIO

Sempertrans is one of the largest and most technologically-advanced conveyor belt manufacturers in the world. With production facilities in Poland, France, China and India, we are close to our customers' operations ensuring secured supply and offering short lead and transport times. Our desire to fulfill your needs and expectations has led us to develop a complete range of belts to adapt to the most extreme conditions of use.

The Sempertrans product range comprises both textile and steel cord conveyor belts with a maximum belt width of 3,200 mm, perfectly fitting all requirements of their respective fields of application. Their core product characteristics include high resistance to abrasion, fire, heat, oil and cold, coupled with excellent belt breaking strength. On customer request we also install Rip Detection Systems from third-party suppliers on your conveyor.

Sempertrans developed and successfully launched an innovative, energy saving conveyor belt. TransEvo features a new rubber mixture enabling a considerable reduction in roll resistance and thus achieving energy savings of up to 25% compared with conventional conveyor belt solutions as well as allowing investment savings for new conveyor systems.

### Quality commitment

Sempertrans is fully prepared and equipped to get the best out of your project for your maximum satisfaction. We are ISO 9001, ISO 14001 and OHSAS 18001 certified and guarantee our customers high-quality products and services meeting worldwide standards. Therefore, the constant execution of checks and tests in laboratories and external institutes during the manufacturing process ensures that those standards are maintained.



### STEEL CORD CONVEYOR BELTS

Sempertrans steel cord conveyor belts are characterised by their high level of operational safety and their long life span. They ensure exceptional stability.

### TEXTILE CONVEYOR BELTS

Sempertrans textile conveyor belts are known for their high performance and flexibility. For conveying raw materials used in various processing industries, they guarantee optimal operation.

## MAIN AREAS OF APPLICATION



### Mining

Sempertrans has been active in the mining industry for more than 50 years. During that period, we have been able to acquire great experience concerning coal, copper and iron ore mining, as well as other fields of mineral resource extraction. Our expertise and reliability have long convinced major players in the mining industry all over the world to work with us.



### Cement

As a supplier of high-quality and performance conveyor belts for cement works for more than 50 years, Sempertrans has built a high number of partnerships with multinational and local players in the cement industry.



### Steel

Sempertrans has also conquered a top position among the leading suppliers to steel works thanks to its expertise and experience. Over the years, Sempertrans has succeeded in establishing real partnerships with leaders in the steel sector worldwide.

### General Industry / Other Applications

As one of the world's leading manufacturers of conveyor belts, Sempertrans does not only operate in the major industries listed above but also in other areas of applications for bulk conveying such as ports, thermal power plants, fertilisers, foundries and glassworks, quarries and sandpits, etc.

## CONVEYOR BELT SELECTION CHART

Let us assist you to select the appropriate belt to suit your project needs, taking into account different contexts and environments with specific properties and their typical requirements. For special demands our Sales as well as our Global Application Engineering team will assist in finding the optimised solution for your application.







|  |  | CONVEYOR BELT TYPES |           |            |           |            |                      |           |         |          |           |              |          |           | COVERS     |                           |                             |                          |                             |                          |                            |
|--|--|---------------------|-----------|------------|-----------|------------|----------------------|-----------|---------|----------|-----------|--------------|----------|-----------|------------|---------------------------|-----------------------------|--------------------------|-----------------------------|--------------------------|----------------------------|
|  |  | GENERAL SOLUTIONS   |           |            |           |            | ENGINEERED SOLUTIONS |           |         |          |           |              |          |           |            |                           |                             |                          |                             |                          |                            |
|  |  | Multitrans          | Flextrans | Sempercord | Metalcord | Metaltrans | Autostable           | Transpipe | Ripstop | Translev | Transunit | Transprofile | Biathlon | Transglis | Transrigid | Transdura (anti-abrasive) | Transflam (flame retardant) | Transoil (oil resistant) | Transtherm (heat resistant) | TransEvo (energy saving) | Transcold (cold resistant) |

| APPLICATIONS                      | MINING                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------------------|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|                                   | Hard rock mining          | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
|                                   | Lignite mining            | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
|                                   | Open-pit mining           | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
|                                   | Underground mining        | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
|                                   | HEAVY INDUSTRY            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|                                   | Mineral processing plants | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
|                                   | Port operations           | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
|                                   | Power and heating plants  | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
|                                   | Steel industry            | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| GENERAL INDUSTRY                  |                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Aggregates                        | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Cement industry                   | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Chemical industry and fertilisers | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Grain and sugar industries        | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Overland conveyors                | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Packing industry                  | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Paper and wood industries         | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Recycling industry                | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Salt industry                     | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| COVERS                            |                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Transdura (anti-abrasive)         | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Transflam (flame retardant)       | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Transoil (oil resistant)          | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Transtherm (heat resistant)       | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| TransEvo (energy saving)          | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |
| Transcold (cold resistant)        | ■                         | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |   |

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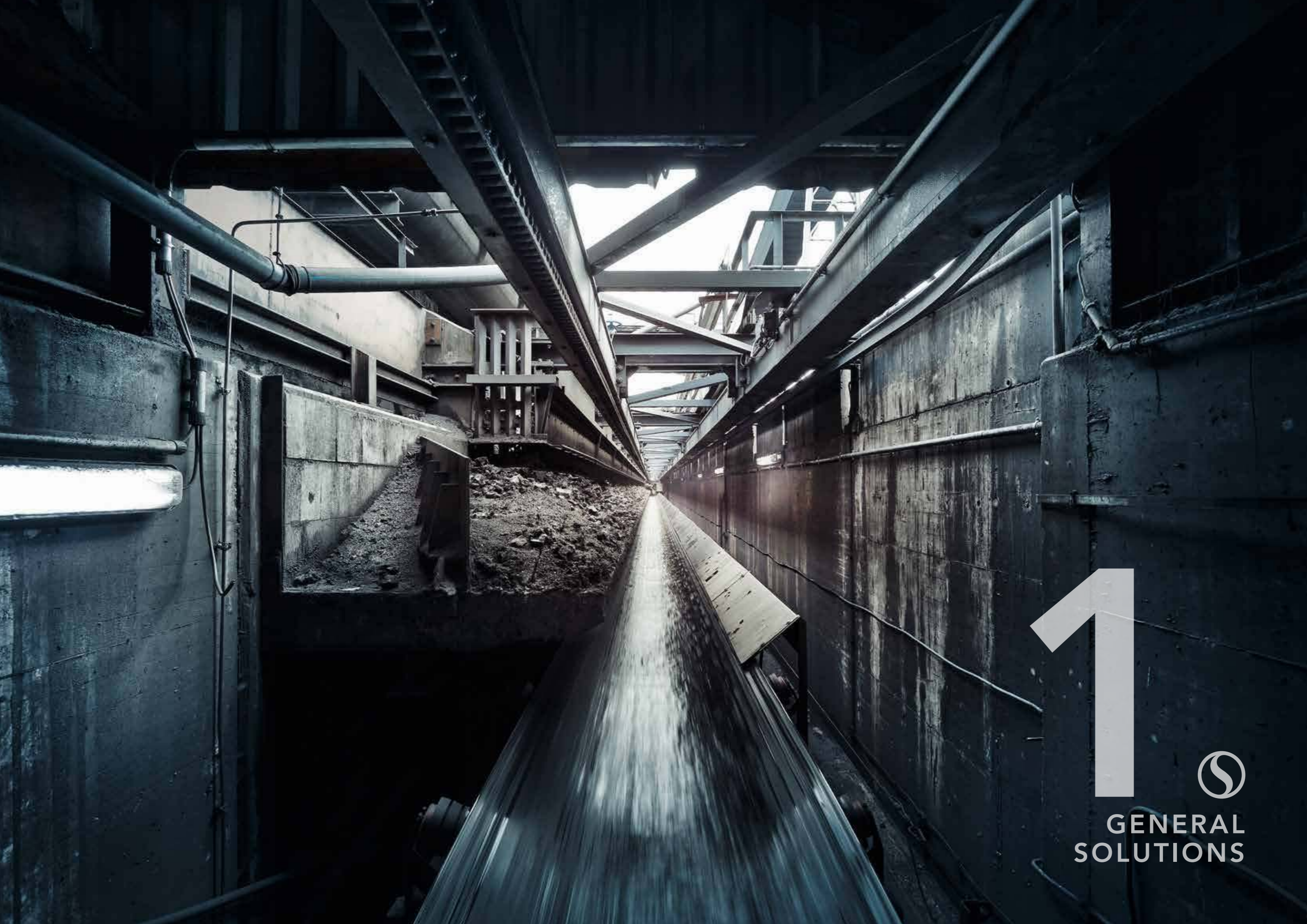
### GLOSSARY OF ICONS

-  High nominal belt strength
-  Self-centring belt
-  High impact resistance
-  Environmentally friendly
-  High cutting / tear resistance
-  High rigidity
-  Ability to accept curves

**Important Notice:** This brochure has been prepared carefully to advise our customers. The information stated therein is state-of-the-art and the results of different tests carried out over several years. Individual operating conditions affect any product, which means that a product can only offer the safety that can be expected on the basis of the data provided in our product information. In the event that the product is used otherwise than in conformity with the given specifications, such safety may not be assumed. Our responsibility is limited exclusively to the delivery of the conveyor belt in accordance with the specifications. All transactions shall be exclusively subject to our general terms and conditions.

**Please note:** Before using the product in new areas of application which are not covered by the product information, a Sempertrans Application Engineer MUST be consulted for advice. Stocking, care and maintenance of all our products must be performed according to our stocking, care and maintenance guidelines and according to ISO 5285 standard.

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GENERAL  
SOLUTIONS

# MULTITRANS™



The multi-purpose textile belt for general to highly demanding applications.

Multitrans conveyor belts are widely used by the mining and processing industries for transporting bulk or lumpy materials such as aggregates, sand, clinker, ore, chemicals, coke, crops, construction materials and much more.

Multitrans is a textile belt construction consisting of two to six EP or PP fabric plies (EP – polyester warp and polyamide weft or PP – polyamide in weft and warp). Multitrans can be supplied either with cut or moulded edges.



## APPLICATIONS

- Open-pit and underground mining
- Lignite and hard rock mining
- Aggregates
- Cement industry
- Chemical industry and fertilisers
- Grain and sugar industries
- Mineral processing plants
- Packing industry
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Salt industry
- Steel industry

## COVERS

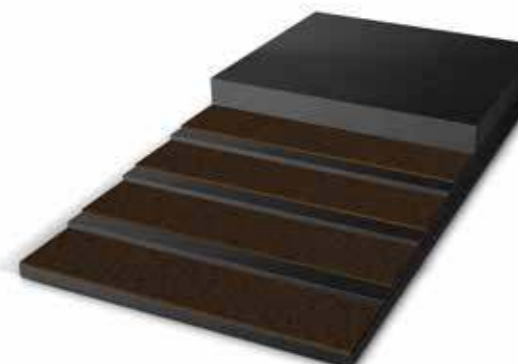
- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- Transcold (cold resistant)

## TECHNICAL DETAILS

Multitrans conveyor belts can be produced in multiple nominal belt strength classes, guaranteeing high longitudinal and transverse breaking strength while providing transversal flexibility for excellent troughing and ply adhesion.

Multitrans can be combined with any type of cover grade to make it a perfect match to almost any application. This allows Multitrans to convey basically any type of product in any environment, from fine powders to large lumps, from dry to greasy materials, from extremely cold to very hot conditions.

Multitrans fulfills almost all relevant national and international conveyor belt standards.



### Multitrans

#### EP belts (polyester warp/polyamide weft):

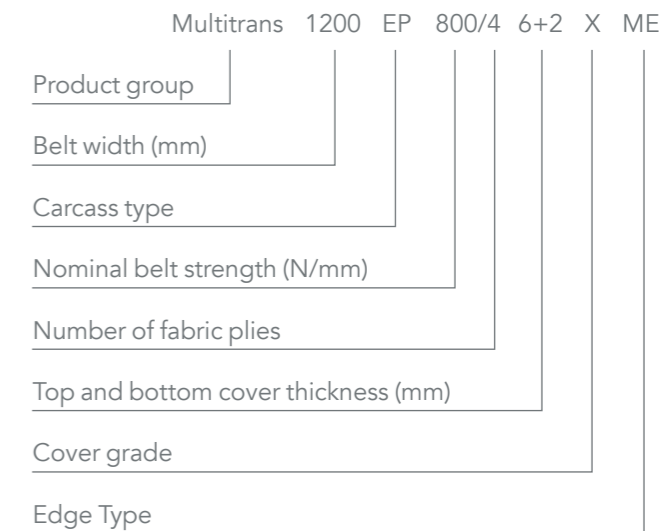
- Low elongation
- Short take-up lengths
- Full resistance to mildew, moisture and rotting
- Good flexibility and troughability

#### PP belts (polyamide warp/polyamide weft):

- Excellent elasticity
- High impact resistance
- Full resistance to mildew, moisture and rotting
- Good flexibility and troughability

### DESIGNATION EXAMPLES

| Product    | Designation       | Cover | Edge Type |
|------------|-------------------|-------|-----------|
| Multitrans | 1200 EP 800/4 6+2 | X     | ME        |
| Multitrans | 1200 PP 800/4 6+2 | X     | CE        |



DATA

Multitrans standard range (other types, strengths and dimensions are available on request)

**Belt width:** 500 mm to 2600 mm  
**Nominal belt strength:** 250 N/mm to 3500 N/mm

| Number of plies | Nominal belt strength [N/mm] |     |     |     |     |     |      |      |      |      |      |      |      |
|-----------------|------------------------------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
|                 | 250                          | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 3500 |
| 2               | X                            | X   | X   | -   | -   | -   | -    | -    | -    | -    | -    | -    | -    |
| 3               | -                            | -   | X   | X   | X   | X   | X    | X    | -    | -    | -    | -    | -    |
| 4               | -                            | -   | -   | X   | X   | X   | X    | X    | X    | X    | X    | -    | -    |
| 5               | -                            | -   | -   | -   | -   | X   | X    | X    | X    | X    | X    | X    | X    |



# FLEXTRANS™



The straight warp textile belt providing cut and rip resistance for demanding applications.

Flextrans is a single- or double-ply belt featuring a special straight warp fabric that ensures excellent impact and cutting resistance which is often associated with primary crushers and feeder belt applications.

The fabric in the warp direction lies straight and therefore enables very low elongation, significantly reducing the required take-up length. The high concentration of weft yarns ensures that the belt can be easily spliced with mechanical fasteners at the highest pull-out strengths. Hot vulcanised splicing is also possible.

## APPLICATIONS

- Mining
- Aggregates
- Cement industry
- Chemical industry
- Steel industry

## COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- Transcold (cold resistant)

## TECHNICAL DETAILS



The special carcass of Flextrans ensures excellent impact resistance and makes the use of mechanical fasteners a convenient and reliable option. Therefore, Flextrans provides very high nominal belt strength and impact resistance, allowing very short downtime for maintenance purposes.

Flextrans offers the following advantages:

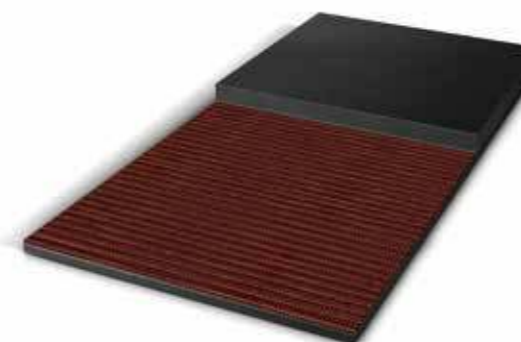
- Very low elongation
- Very high impact and cutting resistance
- Easy splicing with mechanical fasteners

### DESIGNATION EXAMPLE

| Product   | Designation        | Cover |
|-----------|--------------------|-------|
| Flextrans | 1000 EPP 800/1 8+4 | W     |

### DATA

**Belt width:** 400 to 1800 mm  
**Nominal belt strength:** 315 to 1250 N/mm with single-ply  
630 to 2000 N/mm with double-ply



Flextrans



# SEMPERCORD™



The Sempertrans steel cord belt with the highest strength and longest service life.



Sempercord high strength steel cord belts are a combination of both, ultimate breaking strength of the carcass and lowest elongation. The Sempercord belts ensure reliable transport at the highest capacities and supply ultimate service life and utilisation. They are widely used in heavy duty mining applications, as well as industrial environments where reliable performance and availability are key. Thus, Sempercord steel cord belts comply with all major international standards as much as they can be specified for meeting individually exceeding requirements of high end users.

### Sempercord is the best choice in case of:

- Heavy duty conditions
- Highest transport capacities
- Long centre distances
- High nominal belt strength requirements

Sempertrans steel cord belts can also be supplied with embedded sensor loops which work with industry standard rip detection systems. Special solutions are available on request.

### APPLICATIONS

- Open-pit and underground mining
- Lignite and hard rock mining
- Aggregates
- Cement industry
- Mineral processing plants
- Overland conveyors
- Port operations
- Power and heating plants
- Salt industry
- Steel industry

### COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- TransEvo (energy saving)
- Transcold (cold resistant)

## TECHNICAL DETAILS



Sempertrans has an in-house production of high strength steel cords and proprietary mixing facilities for high-tech rubber compounds. This ensures the highest flexibility in belt design and construction, as well as complete control over the technology and the entire production chain.

Sempertrans also continuously develops state-of-the-art splicing material and tailor-made splicing kits, as well as detailed splicing instructions. As a result, Sempercord belts achieve the highest possible dynamic splice efficiency. This enables lower safety factors, higher utilisation, reduced capital investments and operating costs.

- Highest nominal belt strengths available for our belts (8000 N/mm and above)
- Lowest belt elongation in operation, allowing long single flight conveyors with short take-up lengths
- High transverse elasticity, providing excellent troughability
- High dynamic splice strength and durability
- Highest durability for heavy duty operations such as hard rock mining
- Longest carcass service life



Sempercord

## SEMPERCORD WITH BREAKERS

Sempercord belts can be equipped with textile or steel breakers to provide efficient protection. These breakers can be included in either the top or both the top and bottom cover. They guarantee extra impact and rip

protection for the belt and potentially allow smaller pulley diameters, serving as the basis for a longer service life and a lower risk of severe damage.



Sempercord with textile breakers



Sempercord with steel breakers

## TECHNICAL DETAILS

### Sempercord with breakers offers a broad range of advantages:

- Choice of several breaker types, either steel or textile, perfectly tailored to the specific application
- High elasticity in transversal direction provides high impact resistance while maintaining an excellent troughability
- Increased carcass protection against longitudinal cuts and punctures
- Improved absorption and distribution of the impact energy over the full belt width
- Higher protection against penetration by foreign objects
- Enhanced load distribution on the drive pulley and therefore more room for optimisation of pulley diameters

### APPLICATIONS

- Heavy duty handling of sharp and abrasive bulk materials
- Installations with severe belt stresses
- Highly demanding operating conditions

### Three types of breakers are available:

**F** – Fabric breaker as woven textile breaker provides higher impact, cut and especially puncture resistance

**T** – Textile breaker as high strength single-cord-breaker provides excellent carcass protection and transversal elasticity

**S** – Breaker made of single steel cords in a transversal direction offers higher strength with high or super high elongation for high elasticity and enhanced protection against rips

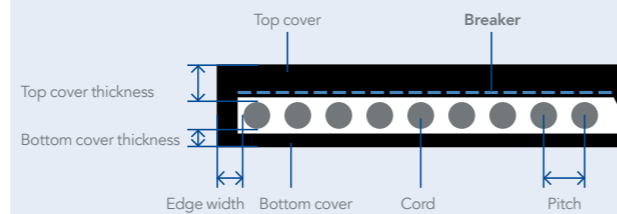
### DESIGNATION EXAMPLES

| Product    | Designation        | Cover |
|------------|--------------------|-------|
| Sempercord | 1800 ST 4500 14T+7 | X     |
| Sempercord | 1800 ST 4500 14S+7 | X     |

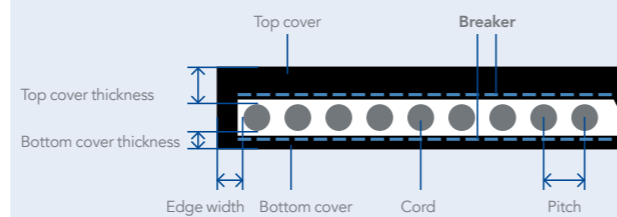
  

|                                       |      |    |      |       |   |
|---------------------------------------|------|----|------|-------|---|
| Sempercord                            | 1800 | ST | 4500 | 14T+7 | X |
| Product group                         |      |    |      |       |   |
| Belt width (mm)                       |      |    |      |       |   |
| Carcass type                          |      |    |      |       |   |
| Nominal belt strength (N/mm)          |      |    |      |       |   |
| Top and bottom cover thickness (mm)   |      |    |      |       |   |
| Breaker type (T = Textile, S = Steel) |      |    |      |       |   |
| Cover grade                           |      |    |      |       |   |

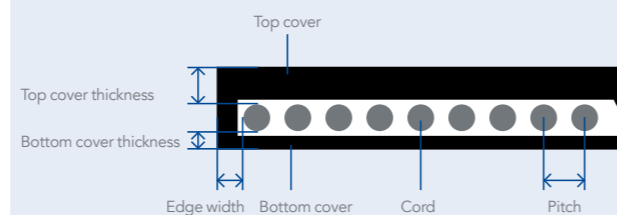
### BREAKER IN TOP COVER



### BREAKER IN TOP AND BOTTOM COVERS



### STANDARD (NO BREAKER)



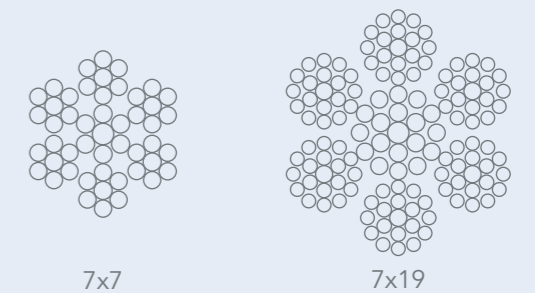
### SEMPERCORD STEEL CORDS

Sempertrans has its own steel cord production unit which is specialised in the design and production of steel cords for Sempertrans conveyor belts. The consequent short lead times enable us to react with increased flexibility to our customers' requirements.

The steel cords as embedded in our high-tech rubber comprise the crucial components enabling high nominal strength. The cords used in Sempercord belts are designed in "open construction". This allows the rubber to penetrate each individual cord during the production process, ensuring high pull-out strength and protection against corrosion.

All our steel cords are either zinc or brass coated for special applications, providing the highest protection against corrosion and the highest adhesion to the rubber matrix, as well as additional protection against corrosion. This extends the service life of Sempercord belts.

### CONSTRUCTION OF SEMPERTRANS CORDS



### Sempercord steel cords offer the following advantages:

- Produced using high strength steel wire
- Open construction for thorough rubber penetration between wires in order to achieve excellent adhesion
- Extensive protection against corrosion for extended belt service life

DATA

Sempercord standard range (other strengths and dimensions are available on request)

| Nominal belt strength (N/mm) | Maximum nominal cord diameter [mm] | Recommended min cover [mm] | Approx. weight of carcass [kg/m <sup>2</sup> ] | 500 | 650 | 800 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 | 2250 | 2400 | 2600 | 2800 | 3000 | 3200 |
|------------------------------|------------------------------------|----------------------------|--|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| ST 630                       | 3.2                                | 4.0                        | 6.3  | x   | x   | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 800                       | 3.7                                | 4.0                        | 7.5  | x   | x   | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 1000                      | 4.2                                | 4.0                        | 8.4  | x   | x   | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 1250                      | 4.9                                | 4.0                        | 10.3   | x   | x   | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 1400                      | 5.0                                | 4.0                        | 12.4   |     | x   | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 1600                      | 5.6                                | 4.0                        | 13.0   |     | x   | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 1800                      | 5.6                                | 4.0                        | 14.2   |     |     | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 2000                      | 5.6                                | 4.0                        | 15.2   |     |     | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 2250                      | 5.6                                | 5.0                        | 15.6   |     |     | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 2500                      | 7.2                                | 5.0                        | 16.6   |     |     | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 2800                      | 7.2                                | 6.0                        | 19.8   |     |     | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 3150                      | 8.1                                | 6.0                        | 22.5   |     |     | x   | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 3500                      | 8.6                                | 6.0                        | 24.0   |     |     |     | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 4000                      | 8.9                                | 7.0                        | 29.2   |     |     |     | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 4500                      | 9.7                                | 7.0                        | 30.2   |     |     |     | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 5000                      | 10.9                               | 8.0                        | 36.2   |     |     |     | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |
| ST 5400                      | 11.3                               | 8.0                        | 39.5   |     |     |     |      | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    | x    |

Sempertrans specifications comply with DIN 22131, ISO 15236 and AS 1333. Belt construction according to other standards is available on request.

The cover types and thicknesses are selected according to belt service conditions, taking the following factors into consideration:

- Loading conditions
- Number of working cycles
- Belt service life under continuous operation
- Material lump size
- Material abrasiveness
- Fire resistance
- Temperature conditions
- Resistance to chemicals

| Recommended minimum cover thickness for Sempercord belts                |                                     |                |                   |
|---|-------------------------------------|----------------|-------------------|
| Application   | Carried material                    | Top cover (mm) | Bottom cover (mm) |
| Underground and surface conveyors                                       | Coal, gravel, overburden            | 6.0-8.0        | 4.0-6.0           |
| Underground and surface conveyors, reloading conveyors, short conveyors | Unsize coal, ores, stone overburden | 8.0-10.0       | 5.0-6.0           |
| Excavator and dumping conveyors, reloading stations                     | Lump coal, stone ores               | 12.0-18.0      | 6.0-10.0          |

Sempertrans provides full support regarding belt selection and belt design. Our Global Application Engineering team will assist in finding the optimised solution for your application.



# METALCORD™



Special belt design with outstanding impact and cutting resistance: a unique and unrivalled steel carcass construction.

Metalcord conveyor belts consist of a carcass construction of three layers of rubber embedded cords. Two different constructions are available, both offering unique properties perfectly suited to your application.

Metalcord belts with M-cords in the warp direction offer the highest elasticity. This allows the belt to go around the tightest curves or smallest pulley diameters. Metalcord belts with E-cords in the warp direction provide low elongation for applications with long centre distances.

Both carcass types are equipped with super high elastic cords in a weft direction. Only the Sempertrans construction offers this advantage providing the highest service life. These tightly pitched cords are located above and below the cords in a longitudinal direction. Metalcord ensures outstanding impact and cutting resistance while exceptional troughability is maintained.

Metalcord belts comply with the ISO 15236.

## APPLICATIONS

- Lignite and hard rock mining
- Aggregates
- Cement industry
- Grain and sugar industries
- Mineral processing plants
- Overland conveyors
- Port operations
- Power and heating plants
- Recycling industry
- Salt industry
- Steel industry

## COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- TransEvo (energy saving)
- Transcold (cold resistant)





## TECHNICAL DETAILS



Metalcord has its own, unique carcass design consisting of three layers of steel cords, one in the warp direction and two in the weft direction. Designed for harsh conditions, the Metalcord construction offers several advantages:

- Excellent cord/rubber adhesion even under tough working conditions
- Exceptional resistance to repeated impact
- Outstanding resistance to penetration limiting longitudinal cuts and tears
- Weft cords included in the carcass increase service life since the full cover thickness can be used
- The option to use mechanical fasteners for emergency situations and fast repairs

The Metalcord construction with the highly elastic M warp cords (4x7 design) offers a low elastic modulus and strong impact resistance. It combines the advantages of steel carcasses with the superior impact resistance of textile belts and is particularly suitable for:

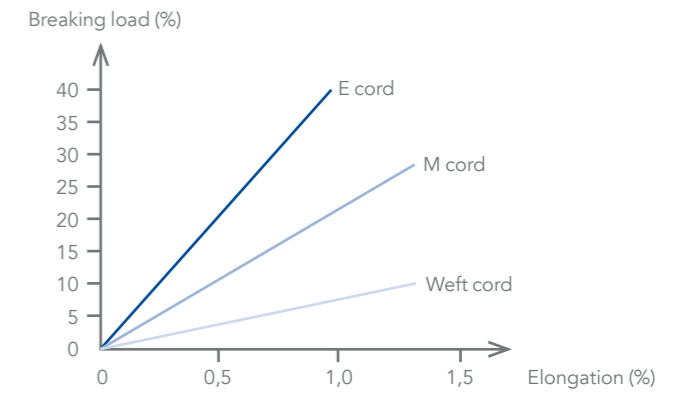
- Installations with repeated impacts and a high risk of cuts and tears
- Small pulley diameters
- Very small radii for horizontal and vertical curves
- The option to use crowned pulleys for centring on short conveyors
- Replacing textile belts by steel carcass constructions without any significant change in the conveyor system

The Metalcord construction with the low elongation E warp cord (7x7 design) offers high nominal belt strength and is particularly suitable for:

- Large centre distances with repeated impacts and a high risk of cuts and tears
- Installations where low belt elongation is requested

The Metalcord's super high elastic weft cords have been especially designed for Sempertrans:

They are ten times more elastic than warp cords. This ensures an exceptional troughing capability regardless of the belt width.



Comparison of elongation of weft reinforcement and M- as well as E-cords at certain percentages of breaking load

## DESIGNATION EXAMPLES

| Product                  | Designation         | Cover |
|--------------------------|---------------------|-------|
| Metalcord (with M-cords) | 1000 MCM 1250 S6+S3 | X     |
| Metalcord (with E-cords) | 800 MCE 1250 S8+S4  | X     |



Metalcord

## DATA

Metalcord standard range (other strengths and dimensions are available on request)

|                              | Metalcord M with two steel wefts                            |      |      |      |      |      |      |      |      |
|------------------------------|---|------|------|------|------|------|------|------|------|
|                              | Warp cord 4x7 – elongation under reference load 0.4 to 0.6% |      |      |      |      |      |      |      |      |
| Nominal belt strength (N/mm) | 500   | 630  | 800  | 1000 | 1250 | 1400 | 1600 | 1800 | 2000 |
| Diameter of warp cord (mm)   | 2.85  | 2.85 | 2.85 | 2.85 | 2.85 | 2.85 | 2.85 | 3.8  | 3.8  |
| Carcass thickness (mm)       | 5.6   | 5.6  | 5.6  | 5.6  | 5.6  | 5.6  | 5.6  | 7.4  | 7.4  |
| Carcass weight (kg/m²)       | 9.5   | 10.0 | 10.7 | 11.6 | 12.5 | 12.8 | 13.1 | 15.9 | 16.5 |

|                              | Metalcord E with two steel wefts                            |      |      |      |      |      |      |      |            |      |      |      |      |
|------------------------------|---|------|------|------|------|------|------|------|------------|------|------|------|------|
|                              | Warp cord 7x7 – elongation under reference load 0.2 to 0.3% |      |      |      |      |      |      |      |            |      |      |      |      |
| Nominal belt strength (N/mm) | 800   | 1000 | 1250 | 1400 | 1600 | 1800 | 2000 | 2250 | 2500       | 2800 | 3150 | 3500 | 4000 |
| Diameter of warp cord (mm)   | 3.1   | 3.1  | 3.1  | 3.1  | 3.1  | 3.1  | 3.1  | 3.1  | 3.7 to 8.6 |      |      |      |      |
| Carcass thickness (mm)       | 6.6   | 6.6  | 6.6  | 6.6  | 6.6  | 6.6  | 6.6  | 6.6  | 8.0        | 9.0  | 9.5  | 10.8 | 11.8 |
| Carcass weight (kg/m²)       | 12.4  | 12.6 | 13   | 13.5 | 14.2 | 14.9 | 15.7 | 16.5 | 19.5       | 22.0 | 24.1 | 26.9 | 30.0 |

# METALTRANS™



The special metal belt with a unique steel carcass construction for enhanced impact and tear resistance.

Metaltrans conveyor belts consist of an assembly of two layers of rubber embedded cords. Two different constructions are available, both offering unique properties perfectly suited for your application.

Metaltrans with M-cords in the warp direction provides the highest elasticity. This allows the belt to go around the tightest curves or smallest pulley diameters. Metaltrans with E-cords in the warp direction provides low elongation for applications with long centre distances.

Both carcass types are equipped with the super elastic cord in the weft direction. These special weft cords featuring a narrow pitch above and below the cords in the running direction. This provides exceptional impact and tear resistance.

Metaltrans complies with the ISO 15236.



## APPLICATIONS

- Lignite and hard rock mining
- Aggregates
- Cement industry
- Grain and sugar industries
- Mineral processing plants
- Overland conveyors
- Port operations
- Power and heating plants
- Recycling industry
- Salt industry
- Steel industry

## COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- TransEvo (energy saving)
- Transcold (cold resistant)

## TECHNICAL DETAILS



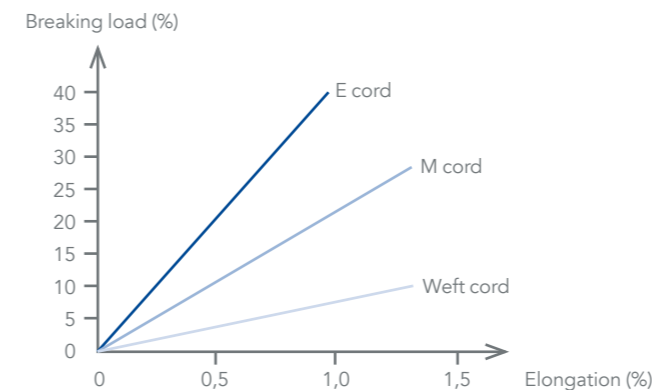
The unique carcass type provided by Metaltrans can be produced with two kinds of warp cords: M and E. The highly elastic M-cords allow for transportation around tight horizontal and vertical curves and short transition lengths, whereas the E-cords provide lower elongation. The weft cords, which are used in cross direction, protect the warp cords and are resistant to strong impact due to their super high elasticity.

**This kind of construction offers several advantages, in particular:**

- Excellent cord/rubber adhesion under tough working conditions
- Exceptional resistance to repeated shocks
- High resistance to penetration limiting longitudinal cuts and tears

The Metaltrans construction with the highly elastic M warp cords (4x7 design) offers a low elastic modulus and strong impact resistance and is particularly suitable for:

- Installations with highly dynamic specifications
- Short installations with repeated impacts and risk of cuts
- Small pulley diameters
- Very small radii for horizontal and vertical curves
- Crowned pulleys for centring on short conveyors



Comparison of elongation of weft reinforcement and M-cords as well as E-cords at certain percentages of breaking load

The Metaltrans construction with the low elongation E warp cord (7x7 design) provides high breaking strength and is particularly suitable for:

- Long centre distances with repeated impacts and high risk of cuts and tears
- Installations where low belt elongation is requested

The Metaltrans super high elastic weft cords have been especially designed for Sempertrans. They are about ten times more elastic than warp cords. This ensures an exceptional troughing capability regardless of the belt width. This special cord construction creates enhanced impact resistance compared to standard constructions significantly limiting cord breakages.

## DESIGNATION EXAMPLE

| Product    | Designation        | Cover |
|------------|--------------------|-------|
| Metaltrans | 1000 MTE 1600 6+S3 | X     |



Metaltrans

## DATA

Metaltrans standard range (other strengths and dimensions are available on request)

|                              | Metaltrans M with one steel weft                            |      |      |      |      |      |      |      |      |
|------------------------------|---|------|------|------|------|------|------|------|------|
|                              | Warp cord 4x7 - elongation under reference load 0.4 to 0.6% |      |      |      |      |      |      |      |      |
| Nominal belt strength (N/mm) | 500   | 630  | 800  | 1000 | 1250 | 1400 | 1600 | 1800 | 2000 |
| Diameter of warp cord (mm)   | 2.85  | 2.85 | 2.85 | 2.85 | 2.85 | 2.85 | 2.85 | 3.8  | 3.8  |
| Carcass thickness (mm)       | 4.0   | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  | 4.0  |

|                              | Metaltrans E with one steel weft                            |      |      |      |      |      |      |      |      |      |            |      |      |
|------------------------------|---|------|------|------|------|------|------|------|------|------|------------|------|------|
|                              | Warp cord 7x7 - elongation under reference load 0.2 to 0.3% |      |      |      |      |      |      |      |      |      |            |      |      |
| Nominal belt strength (N/mm) | 800   | 1000 | 1250 | 1400 | 1600 | 1800 | 2000 | 2250 | 2500 | 2800 | 3150       | 3500 | 4000 |
| Diameter of warp cord (mm)   | 3.1   | 3.1  | 3.1  | 3.1  | 3.1  | 3.1  | 3.1  | 3.1  |      |      | 3.7 to 8.6 |      |      |
| Carcass thickness (mm)       | 5.0   | 5.0  | 5.0  | 5.0  | 5.0  | 5.0  | 5.0  | 5.0  | 6.5  | 7.5  | 8.5        | 9.4  | 10.4 |
| Carcass weight (kg/m²)       | 9.6   | 9.7  | 10.1 | 10.6 | 11.3 | 12   | 12.8 | 13.6 | 16.6 | 19.1 | 21.2       | 24   | 27.1 |



2



ENGINEERED  
SOLUTIONS

# AUTOSTABLE™



## The troubleshooter for belt running off-track: Autostable, our unique self-centring belt.

Sempertrans developed the original Autostable belt more than 30 years ago and has continuously improved this very unique belt since then. The special carcass construction of the Autostable belt provides a self-centring effect without any accessory or modification of the conveyor system. Due to the Autostable cross rigid

centre, it provides a form locking shape which allows no transversal movement of the belt, avoiding all mistracking-related damages to the belt or the conveyor structure. This solves all tracking problems of standard belts. Autostable increases the lifetime of conveyor belts and reduces the total cost of ownership.

### APPLICATIONS

- Open-pit mining
- Lignite and hard rock mining
- Aggregates
- Cement industry
- Chemical industry and fertilisers
- Mineral processing plants
- Overland conveyors
- Port operations
- Power and heating plants
- Salt industry
- Steel industry

### COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- Transcold (cold resistant)

## TECHNICAL DETAILS



One of the main problems encountered in the use of conveyor belts is off-centring and therefore mistracking. This phenomenon may be caused by various factors which may lead to clogging, reduction of output, deterioration and/or damaging of the belt edges and a noticeable shortening of the service life of the belt itself.

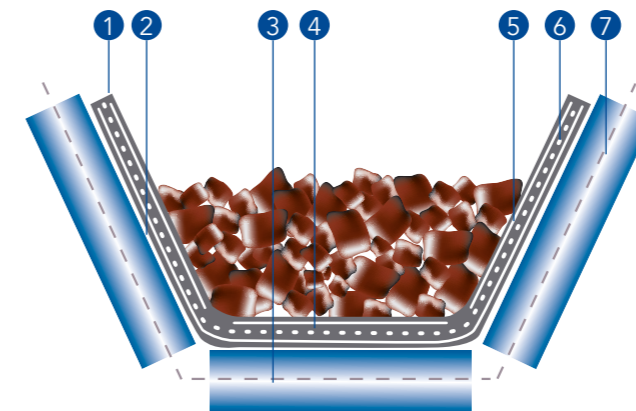
Sempertrans developed the Autostable belt, which centres itself without additional equipment on the conveyor. It reduces the risks of off-centring and consequently of deterioration of the moulded edges. The constructive difference in rigidity between the centre area and the sides ensures the self-centring effect of the belt. As the more rigid central part cannot adapt to the troughing angle as formed by the idlers, the belt tends to return to its natural troughed position, thus favouring its stability along its entire length.

### The distinct advantages of Autostable are:

- Less edge damages
- Significant extension of belt service life especially for installations with idler adjustment issues
- Possibility to significantly raise the installation output by increasing the troughing angle
- Possibility to increase the installation output by replacing the standard belt with a wider Autostable belt
- Less mistracking allows for tighter tolerances. Thus wider belts are possible on the same conveyor
- Possibility to go around tight horizontal curves as form locking keeps the belt in position
- Excellent tracking for reversible conveyors

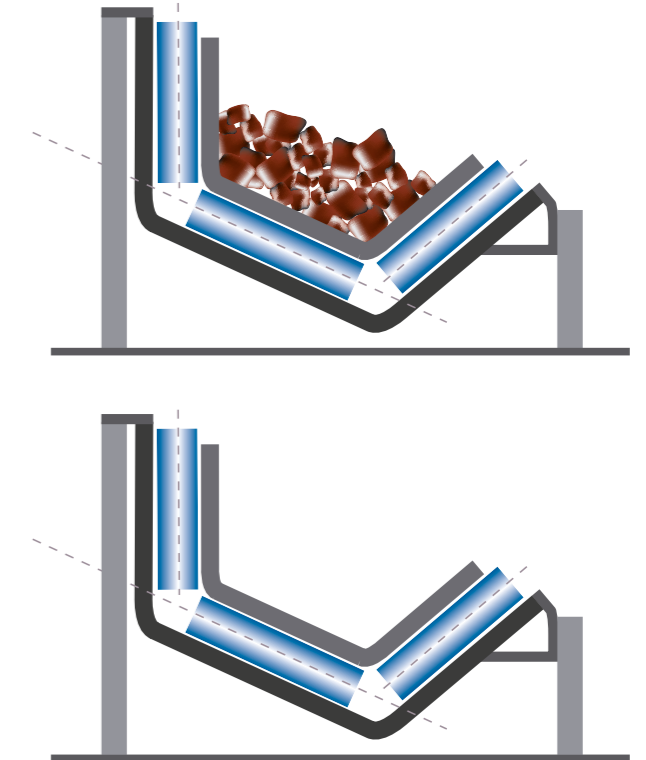
### Main application areas:

- Reversible installations where standard belts are hard to track
- Installations with a poorly centred load (e.g. bucket wheel excavators)
- Belts running with high speed and short centre distances
- Existing overland conveyors with mistracking problems



- |   |                        |
|---|------------------------|
| 1. Top cover  | 4. Cross reinforcement |
| 2. Bottom cover   | 5. Reinforcement       |
| 3. Centre idler<br>(length to be specified<br>at the time of order) | 6. Tension member      |
|   | 7. Idler               |

the outputs and tensions required. Sempertrans' Global Application Engineering team will perform this calculation for you.



### SPECIAL APPLICATIONS FOR CONVEYORS WITH CURVES IN THE HORIZONTAL PLANE

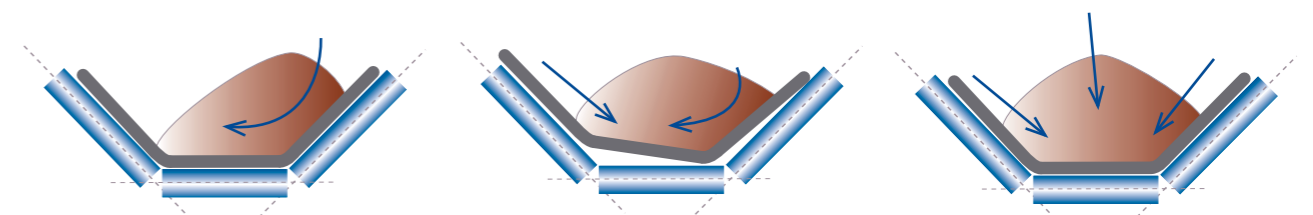
This configuration enables the belt to be kept stable in the curve by opposing the natural movement of the belt in a curve on its support. The acceptable force limits must be calculated on a case-by-case basis in accordance with

### Advantages:

- Automatic load centring (elimination of off-centring)
- Elimination of spillage
- Elimination of edge damages
- A wider belt in the standard conveyor construction upgrades the capacity

### COMPARISON OF CENTRING FORCES

Depending on the troughing angle, the centring force provided by an Autostable belt is five to eight times higher than the one provided by a normal belt.



Self-centring mechanism

## AUTOSTABLE™ M

### The self-centring metal belt.

The Autostable M is a combination of an Autostable belt benefitting from all advantages of a metal carcass. Depending on the application, either special 4x7 or 7x7 steel cords from our Metalcord belt range are used in the longitudinal direction. For high nominal belt strengths or extreme widths, either 7x7 or 7x19 steel cords from our Sempercord range are used.

#### Autostable M advantages:

- High nominal belt strength, flexibility of Metalcord
- Small pulley diameters
- Tight horizontal and vertical curves
- Excellent cord/rubber adhesion

#### COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- Transcold (cold resistant)

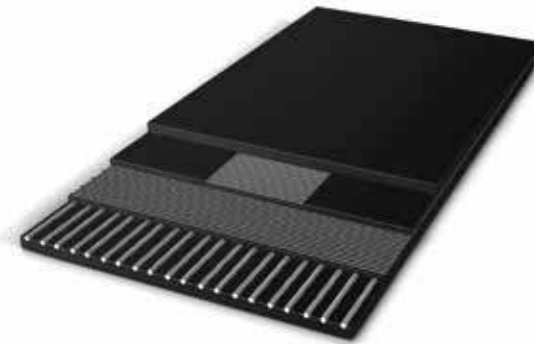
#### DATA

**Autostable M standard range (other strengths and dimensions are available on request)**

**Belt width:** 800 mm to 3200 mm  
**Nominal belt strength:** 500 N/mm to 4500 N/mm

#### DESIGNATION EXAMPLES

| Product    | Designation        | Cover |
|------------|--------------------|-------|
| Autostable | 1000 MASE 1000 6+3 | W     |
| Autostable | 1000 MASM 1000 6+3 | W     |



Autostable M

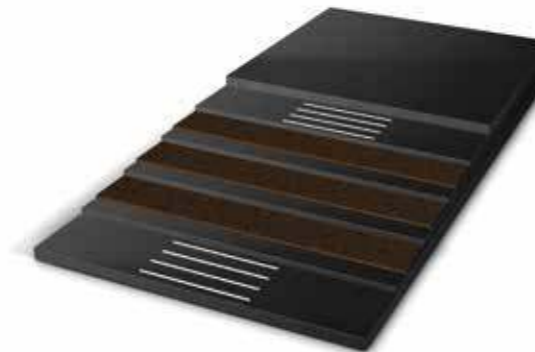
## AUTOSTABLE™ T

### The self-centring textile belt for standard applications with mistracking issues.

This Autostable belt is a textile/steel weft construction. It uses the Multitrans EP carcass as well as two layers of highly rigid steel wefts on the top and bottom side of the textile carcass.

#### Autostable T advantages:

- Splicing as easy as standard textile belts
- Warp elongation of a textile belt



Autostable T

#### COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- Transcold (cold resistant)

#### DATA

**Autostable T standard range (other strengths and dimensions are available on request)**

**Belt width:** 800 mm to 2400 mm  
**Nominal belt strength:** 250 N/mm with 2 plies  
Up to 3500 N/mm with 5 plies

#### DESIGNATION EXAMPLE

| Product    | Designation         | Cover |
|------------|---------------------|-------|
| Autostable | 1000 EPAS 630/3 6+3 | W     |





# TRANSPIPE™



The engineered solution to protect the transported material and the environment.

Transpipe allows enclosed material transport whilst providing several other advantages over conventional conveyor belt systems.

The principle of an enclosed conveying system is to load the Transpipe belt like a regular conveyor belt and then form it into a pipe shape along the conveying route. Multiple loading and unloading sections are possible. As the return strand is also shaped like a pipe, spillage will be avoided in the return strand.

## APPLICATIONS

- Cement industry
- Chemical industry and fertilisers
- Grain and sugar industries
- Mineral processing plants
- Overland conveyors
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Steel industry

## COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transtherm (heat resistant)
- TransEvo (energy saving)
- Transoil (oil resistant)

## TECHNICAL DETAILS



### The main benefits of Transpipe belts are:

- Reduction of maintenance and cleaning costs due to avoiding spillage and loss of material along the conveyor
- Protection of the conveyed material from external influences like dust, rain or wind
- Protection of the environment from pollution by the conveyed material

side of the Transpipe offers more contact surface to the conveyed material compared to a regular conveyor belt.

These advantages can only be realised by a Transpipe belt, of which design is specifically adapted to the individual application. Sempertrans' Global Application Engineering team will support in selecting the right carcass construction in combination with the right cover grade to fulfill the requirements of each application.

### Besides the benefits of enclosed transportation, Transpipe conveyors offer even more advantages:

- A Transpipe belt can be guided through tight horizontal and vertical curves as it is supported by a set of 6 idlers. This results in the reduction of transfer points and an improved adaption to the existing topology of terrain or existing factory buildings.
- Higher inclination angles can be achieved as the inner

### The main focus areas for the selection of Transpipe are:

- The correct cross rigidity: Transpipe offers a long-lasting rigidity due to a special carcass construction which is especially adapted to each individual application. The design decisions are based on the Transpipe nominal belt diameter and the conveyor routing. Transpipe's cross rigidity will be adapted to each application individually in order to optimise both the power consumption and the stability of the belt.

- Highest ozone protection: Transpipe comes with optimised cover grades, which are developed to provide superior resistance to ozone. By nature the outside rubber cover of the Transpipe is under constant tension as it is formed into a pipe shape. Therefore, it has a higher exposure to aggressive ozone and UV-light. The special Transpipe covers provide high protection against ozone.

## DESIGNATION EXAMPLES

| Product   | Designation       | Cover |
|-----------|-------------------|-------|
| Transpipe | 1200 ST 1250 8+6  | X-P   |
| Transpipe | 1200 EP 630/3 6+2 | X-P   |



As Transpipe is a tailor-made engineered solution, Sempertrans' Global Application Engineering team will analyse each application to provide a superior and long lasting product.

## DATA

### Transpipe

| Special Transpipe cover grade | Comparable cover for flat belts | Description                             | Lowest possible temperature (Celsius) | Maximum possible temperature (Celsius) | Maximum allowable peak temperature (Celsius) |
|-------------------------------|---------------------------------|---|---------------------------------------|--|--|
| X-P                           | X                               | Wear resistant, heavy duty applications | -35 °C                                | 60 °C                                  | 60 °C  |
| Y-P                           | Y                               | Wear resistant, standard applications   | -35 °C                                | 60 °C                                  | 60 °C  |
| W-P                           | W                               | Extremely wear resistant                | -45 °C                                | 60 °C                                  | 60 °C  |
| GM/Y-P                        | G                               | Resistant to vegetable oils and greases | -15 °C                                | 60 °C                                  | 60 °C  |
| TEA-P                         | TEA                             | Wear and heat resistant                 | -35 °C                                | 100 °C                                 | 130 °C                                       |
| TEB-P                         | TEB                             | Wear and heat resistant                 | -30 °C                                | 120 °C                                 | 140 °C                                       |
| TEC-P                         | TEC                             | Wear and heat resistant                 | -30 °C                                | 150 °C                                 | 170 °C                                       |
| K-P                           | K                               | Flame retardant with covers             | -30 °C                                | 60 °C                                  | 60 °C  |
| S-P                           | S                               | Flame retardant with and without covers | -30 °C                                | 60 °C                                  | 60 °C  |

### Transpipe standard range (other strengths and dimensions are available on request)

| Nominal pipe diameter | Belt width | Nominal belt strength |                  |             |               |
|-----------------------|------------|-----------------------|------------------|-------------|---------------|
|                       |            | Textile belts         | Steel cord belts | Metal belts | Aramide belts |
| mm                    | mm         | N/mm                  | N/mm             | N/mm        | N/mm          |
| 125                   | 500        | 250-315               |                  |             |               |
| 150                   | 600        | 250-400               | 630-1000         | 500-1000    |               |
| 200                   | 800        | 250-500               | 630-1250         | 500-1250    | 630-1000      |
| 250                   | 1000       | 250-630               | 630-1600         | 500-1600    | 630-1250      |
| 275                   | 1100       | 400-1000              | 800-2800         | 500-1600    | 630-1600      |
| 300                   | 1200       | 500-1000              | 800-2800         | 500-1600    | 630-1600      |
| 325                   | 1300       | 630-1250              | 1000-4000        | 500-1600    | 630-2000      |
| 350                   | 1400       | 800-1600              | 1000-4000        | 500-1600    | 630-2500      |
| 400                   | 1600       | 1000-2500             | 1000-4000        | 500-1600    | 630-3150      |
| 450                   | 1800       | 1250-2500             | 1000-4500        |             | 630-3150      |
| 500                   | 2000       | 1250-3150             | 1000-4500        |             | 630-3150      |
| 550                   | 2200       | 1600-3150             | 1000-4500        |             | 630-3150      |
| 600                   | 2400       | 1600-3150             | 1000-4500        |             | 630-3150      |

# RIPSTOP™



Ripstop is the unbeaten reference in terms of impact protection. It encompasses a textile and a metal option.



The Ripstop range encompasses several options enabling a tailor-made protection of your belt against impact and punctures. Ripstop belts are based on the Multitrans or Sempercord steel carcass.

## APPLICATIONS

- Open-pit and underground mining
- Lignite and hard rock mining
- Aggregates
- Cement industry
- Chemical industry and fertilisers
- Grain and sugar industries
- Mineral processing plants
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Steel industry

## COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- TransEvo (energy saving)
- Transcold (cold resistant)

# RIPSTOP™ T



Ripstop T combines the convenience of a textile belt with the strength of steel. The multiply carcass structure combined with a super high elastic steel cross reinforcement provides the highest impact protection.

**DATA**  
Ripstop T standard range (other strengths and dimensions are available on request)

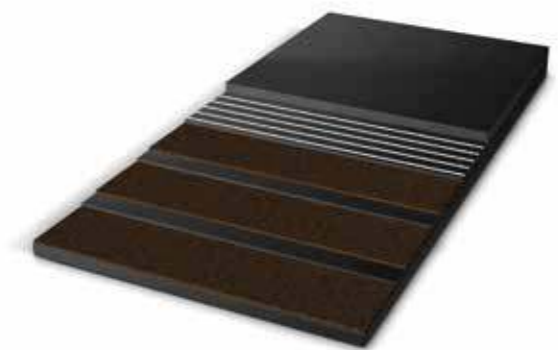
**Belt width:** 400 mm to 2600 mm  
**Nominal belt strength:** 400 N/m with 3 plies  
Up to 3150 N/mm with 5 plies

## Ripstop T advantages:

- Outstanding tear resistance
- Increased fastener retention
- Improved distribution of shocks and thus higher carcass protection

## DESIGNATION EXAMPLE

| Product | Designation         | Cover |
|---------|---------------------|-------|
| Ripstop | 1000 EP 630/4 10S+3 | Y     |



Ripstop T

## RIPSTOP™ M



Ripstop M is designed for the toughest applications. It has its own carcass design with three layers of steel, each one embedded in core rubber. The strength comes from cords with higher elasticity, compared to standard steel cord belts. This allows for smaller pulley diameters and provides higher impact protection already. To further increase the impact protection, two cross reinforcements, one above and one below the longitudinal cords, are placed in the carcass. This high amount of super elastic steel cords in cross direction provides the highest rip and puncture resistance possible while keeping excellent troughability values.

### Ripstop M advantages:

- Improved distribution of shocks and carcass protection. Providing impact resistance up to twice as much or more as compared to a normal steel belt
- Highest anti-tear resistance
- Can be used in combination with small pulley diameters

### DESIGNATION EXAMPLE

| Product | Designation        | Cover |
|---------|--------------------|-------|
| Ripstop | 1000 MCIM 1250 8+4 | W     |

### DATA

**Ripstop M standard range (other strengths and dimensions are available on request)**

|                               |  |
|-------------------------------|--|
| <b>Belt width:</b>            | 600 mm to 1829 mm  |
| <b>Nominal belt strength:</b> | 500 to 2250 N/mm   |
|                               | Warp elongation from 500 to 1600 N/mm less 0.6%, from 1800 to 2250 N/mm less 0.3%. Both depending on the utilised cords. |

## TRANSLEV™



The reference for elevator belts, available with a textile or steel construction.

## TRANSLEV™ M

The Translev M has a full steel carcass design. Steel cords in longitudinal direction provide high nominal belt strength at low elongation, as well as two layers of steel wefts in cross direction. This construction provides the highest bolt pull-out values combined with the highest possible puncture resistance.

### APPLICATIONS

- Open-pit mining
- Lignite and hard rock mining
- Chemical industry and fertilisers
- Grain and sugar industries
- Mineral processing plants
- Paper and wood industries
- Recycling industry
- Port operations
- Power and heating plants
- Salt industry
- Steel industry

### COVERS

- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)

**The special steel carcass with specially designed steel cords provides the following outstanding features:**

- Excellent bucket attachment and bolting
- Outstanding cord adhesion which is of particular importance for high temperature applications
- Full rubber penetration and high cord adhesion values due to optimised rubber compound in combination with the open steel cord design
- Small longitudinal cord diameters allow smaller pulley diameters
- TEA cover for material up to 80 °C (130 °C peaks)
- TEB cover for material up to 100 °C (150 °C peaks)
- TEC cover for material up to 130 °C (200 °C peaks)

### DESIGNATION EXAMPLE

| Product    | Designation       | Cover |
|------------|-------------------|-------|
| Translev M | 1000 M 1250 S6+S6 | TEB   |

### DATA

**Translev M standard range (other strengths and dimensions are available on request)**

**Belt width:** 300 mm to 1800 mm  
**Nominal belt strength:** 1000 N/mm to 2250 N/mm

| Translev M standard range    |      |      |      |      |      |
|------------------------------|------|------|------|------|------|
| Nominal belt strength (N/mm) | 1000 | 1250 | 1600 | 2000 | 2250 |
| Thickness (mm)               | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 |



Translev M

## TRANSLEV™ T

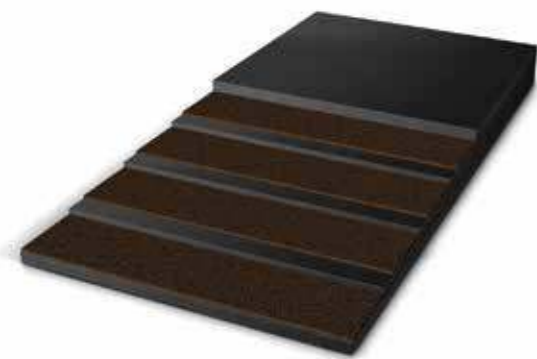
The elevator belt for light applications such as the transport of grains and similar light materials offers a low elongation fabric carcass with high bolt pull-out strength. Its thin carcass allows for very small pulley diameters. Translev T can be used in almost any application in combination with different cover types.

### APPLICATIONS

- Mineral processing plants
- Chemical industry and fertilisers
- Grain and sugar industry
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Salt industry
- Steel industry

### COVERS

- Transflam (flame retardant and anti-static)
- Transflam oil (flame retardant, anti-static and oil resistant in GMK and GMS)
- Transoil (oil resistant)
- Transtherm (heat resistant)



Translev T

Besides the standard anti-abrasive grades, special cover grades meeting special application requirements are also possible. One example is the GMS belt construction which has been specially developed for Translev T to respond to the two major challenges involved in the handling of grains:

- Swelling due to contact with oily/greasy substances (wood chips, grains, seeds, etc)
- Risk of explosion/propagation of fire

### DESIGNATION EXAMPLE

| Product    | Designation           | Cover |
|------------|-----------------------|-------|
| Translev T | 800 EPL 500/3 1.5+2.5 | GMK   |

### DATA

Translev T standard range (other strengths and dimensions are available on request)

Belt width: Up to 1690 mm  
Nominal belt strength: 400 N/mm to 1600 N/mm

| Translev T with GMS cover standard range |         |         |         |         |       |       |
|--|---------|---------|---------|---------|-------|-------|
| Cover thickness (mm)                     | 1.5+2.5 | 1.5+2.5 | 1.5+2.5 | 1.5+2.5 | 1.5+3 | 1.5+3 |
| Nominal belt strength (N/mm)             | 400     | 500     | 630     | 800     | 1000  | 1250  |
| Number of plies                          | 3       | 3       | 4       | 4       | 4     | 4     |

## TRANSLEV™ TR

Translev TR is the textile elevator belt with additional reinforcements for medium to heavy applications. Translev TR is an upgrade of the standard version, providing two additional textile cross reinforcements, one in the top, and one in the bottom cover. The benefits are a higher bolt pull-out strength for outstanding bucket attachment and enhanced carcass protection. Translev TR offers a very low elongation and accepts small pulley diameters.

### APPLICATIONS

- Chemical industry and fertilisers
- Grain and sugar industries
- Mineral processing plants
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Salt industry
- Steel industry

### COVERS

- Transflam (flame retardant Grades K and S)
- Transflam oil (GMK, GMS)
- Transoil (oil resistant)
- Transtherm (heat resistant)

Translev TR is a belt with a textile carcass (polyester warp, polyamide weft) inserted between two strong transverse textile reinforcements and covers. It presents remarkable bucket attachment values owing to its multi-layer structure. Fabrics with stabilised elongation are protected by two transverse reinforcements from cuts and punctures. Small pulley diameters are possible.

- TEA cover for material up to 80 °C (130 °C peaks)
- TEB cover for material up to 100 °C (150 °C peaks)
- TEC cover for material up to 130 °C (200 °C peaks)

### DESIGNATION EXAMPLE

| Product     | Designation          | Cover |
|-------------|----------------------|-------|
| Translev TR | 1000 EPL 630/4 T2+T2 | TEA   |

### DATA

Translev TR standard range (other strengths and dimensions are available on request)

Belt width: 300 mm to 1650 mm  
Nominal belt strength: 500 N/mm to 1250 N/mm

| Translev TR standard range   |         |         |           |         |
|------------------------------|---------|---------|-----------|---------|
| Cover thickness (mm)         | 2.0+2.0 | 2.0+2.0 | 2.5 + 2.5 | 3.0+3.0 |
| Nominal belt strength (N/mm) | 630/4   | 800/4   | 1000/5    | 1250/6  |
| Number of plies              | 4(+2)   | 4(+2)   | 5(+2)     | 6(+2)   |

# TRANSUNIT™



The conveyor belt for cargo and piece goods transportation.

Transunit belts are used for horizontal or inclined conveying of unit loads on roller or slider supports. The rougtop pattern on the top side of the belt enables transport even on steep inclinations.

## APPLICATIONS

- Cement industry
- Chemical industry and fertilisers
- Packing industry
- Recycling industry
- Salt industry

## TECHNICAL DETAILS

The rougtop cover pattern provides grip to the goods transported. It is equipped with a slider- or bare-back.

Also the support of the belt on rollers or slider beds is possible.

|                                   |      | Transunit standard range |        |
|-----------------------------------|------|--------------------------|--------|
|                                   |      | 250/2                    | 500/3  |
| Thickness Top side                |      | 3.4 mm                   | 3.4 mm |
| Bottom Cover side                 |      | Without cover            |        |
| Total thickness (mm)              |      | 5.6                      | 5.9    |
| Total weight (kg/m <sup>2</sup> ) |      | 5.2                      | 5.8    |
| Width (mm)                        | Min. | 500                      |        |
|                                   | Max. | 1400                     |        |



Transunit

# TRANSPROFILE™



The Chevron belt for high inclination.

The Chevron profile consists of cleats of up to 25 mm height which are seamlessly integrated in the top cover of the belt. Chevron belts allow for the transport of material in inclined applications at angles of 20° and above.

## APPLICATIONS

- Aggregates
- Cement industry
- Chemical industry and fertilisers
- Grain and sugar industries
- Mineral processing plants
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Salt industry

## COVERS

- Transdura (anti-abrasive)
- Transoil (oil resistant)

## TECHNICAL DETAILS

Transprofile is a Chevron belt specially designed to meet the specific requirements of steep inclination angles.

### DATA

**Transprofile standard range (other strengths and dimensions are available on request)**

- Transprofile 250/2:** With Chevron height of 15 mm
- Transprofile 400/3:** With Chevron height of 15 mm or 25 mm or 35 mm

# BIATHLON™



The light belt with high impact resistance.

Biathlon has the unique feature of being a light belt offering the high impact resistance of a heavier belt. The Biathlon belts consist of two textile plies (polyester warp and polyamide weft) and a layer of high elasticity rubber distributing the force between the plies and providing superior ply adhesion.

## APPLICATIONS

- Aggregates
- Cement industry
- Chemical industry and fertilisers
- Grain and sugar industries
- Mineral processing plants
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Salt industry
- Steel industry

## COVERS

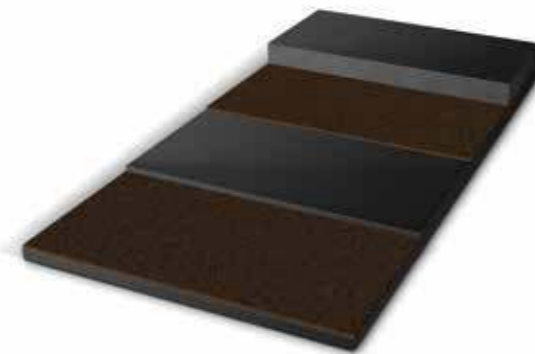
- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- Transcold (cold resistant)

## TECHNICAL DETAILS

Biathlon belts combine both advantages of performing like light belts for the installation and benefitting from the impact protection of heavy belts. Biathlon has a very specific construction. A highly elastic rubber layer is placed in the centre of the belt between the two fabric plies. This additional layer improves the impact resistance level and thus increases the service life of the belt.

**DATA**  
Biathlon standard range (other types and dimensions are available on request)

**Belt width:** 400 to 1829 mm  
**Nominal belt strength:** 250/2 to 1600/2 N/mm



### Typical installations for Biathlon belts are:

- Conveying of materials of large lump size on long centre distances
- Applications requiring impact and tear resistance
- Installations with small pulley diameters

### DESIGNATION EXAMPLE

| Product  | Designation          | Cover |
|----------|----------------------|-------|
| Biathlon | 1600 EPBI 1600/2 6+3 | X     |

Biathlon

# TRANSGLIS™



The textile belt with sliding surface for the recycling and waste industries.

Transglis belts are the optimal solution if the application does not allow idlers or empty spaces under the loaded belt. On the loaded portion of the installation, the full width and length of the belt glides on a flat surface, allowing a smooth transfer of the unevenly distributed loads. Different cover grades are available for the Transglis belt depending on the type of use and the material conveyed.

## APPLICATIONS

- Chemical industry and fertilisers
- Packing industry
- Recycling industry

## COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)
- Transcold (cold resistant)

## TECHNICAL DETAILS

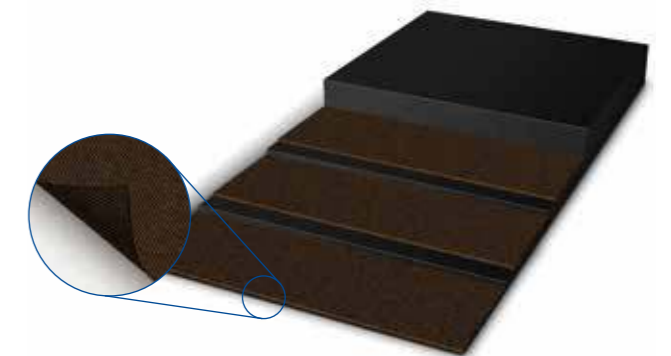
- Two textile plies (polyester warp/polyamide weft), including one sliding (bottom) side
- Rot proof carcass and slide layer
- Splicing possible also with mechanical fasteners

### DESIGNATION EXAMPLE

| Product   | Designation      | Cover |
|-----------|------------------|-------|
| Transglis | 650 EP 400/2 3+0 | GM    |

**DATA**  
Transglis standard range (other strengths and dimensions are available on request)

**Belt width:** 400 to 1600 mm  
**Nominal belt strength:** 250/2 to 630/4 N/mm



Transglis

# TRANSRIGID™



## The cross-stabilised belt.

Transrigid is a belt with high transverse rigidity specifically designed for flat use. Its main purpose is to be the base for belts with corrugated side walls and cleats. These belts are used for conveyors with steep inclination and

specific geometries. Transrigid is also widely used as a cover belt for the safe protection of channels and gutters. It is available with either a textile or steel carcass construction.

### APPLICATIONS

- Cement industry
- Chemical industry and fertilisers
- Grain and sugar industries
- Hard rock mining
- Mineral processing plants
- Open-pit mining
- Port operations
- Power and heating plants
- Steel industry

### COVERS

- Transdura (anti-abrasive)
- Transflam (flame retardant)
- Transoil (oil resistant)
- Transtherm (heat resistant)

## TECHNICAL DETAILS



Transrigid belts are equipped with a special cross reinforcement making the belt self-supporting. They can be designed to be load bearing. Typical applications are cover belts and base belts for side wall belts.

Transrigid belts can be equipped with all standard types of sidewalls and cleats available on the market.

### DATA

**Transrigid standard range (other strengths and dimensions are available on request)**

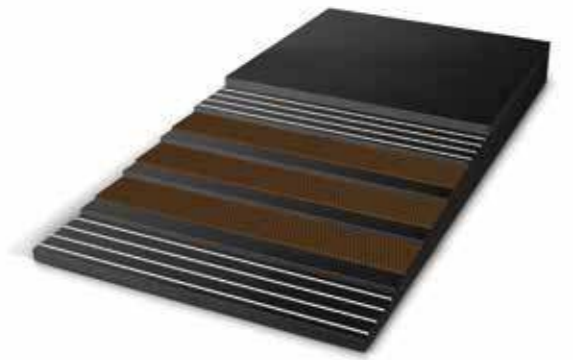
**Belt width:** 500 mm to 1829 mm

### DESIGNATION EXAMPLE

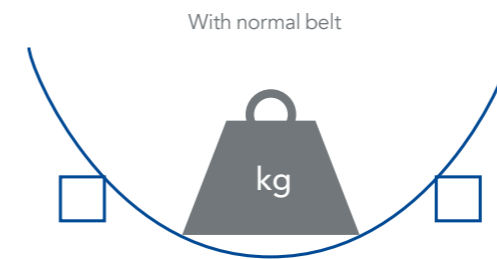
| Product    | Designation        | Cover |
|------------|--------------------|-------|
| Transrigid | 1000 EPR 500/3 4+3 | Y     |



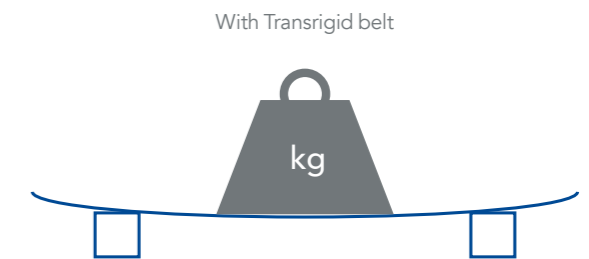
Transrigid with steel carcass



Transrigid with textile carcass



With normal belt



With Transrigid belt



3



SEMPERTRANS  
COVERS



# TRANSDURA



The anti-abrasive and cut & gouge resistant cover: the long life solution for both steel cord and textile conveyor belts.



Everything is about wear and tear when conveyed materials do not involve chemicals, extreme temperatures or fire hazards. Transdura, the Sempertrans anti-abrasive covers are the best choice for superior wear and tear as well as cut & gouge resistance.

Transdura covers do more than just fulfill local and international standards. They also set benchmarks in the industry. No matter which application is required, Sempertrans offers the optimal cover meeting wear and tear requirements for every type of material without losing focus on the need to be economical and the total cost of ownership.

## APPLICATIONS

- Open-pit mining
- Lignite and hard rock mining
- Aggregates
- Cement industry
- Mineral processing plants
- Overland conveyors
- Port operations
- Power and heating plants
- Salt industry
- Steel industry

## AVAILABLE FOR THE FOLLOWING BELT TYPES

- Multitrans
- Sempercord
- Metalcord
- Metaltrans
- Autostable
- Transpipe
- Ripstop
- Translev
- Transprofile
- Biathlon
- Transglis

## TECHNICAL DETAILS

Sempertrans has developed a complete range of specifically adapted covers. These cover grades exceed standards for the most part, ensuring an extended service life and higher productivity in customer operations.

Some of our top anti-abrasive special covers include:

### • X+ – Exceeding standards

Customers who are satisfied with our X cover grade will be excited about X+ which outperforms the standard values according to DIN X. Made especially for hard rock mining and heavy duty installations, this compound ensures extra service life and protection for your belts.

### • D50 – The hard rock cover

Especially designed for the specific requirements of hard rock mining. It is the perfect fit for highly abrasive ores. It provides high cut & gouge resistance with a very low abrasion, maximising the lifetime of your belts.

### • D30 – The iron cover

Sempertrans' newly developed cover with rock bottom abrasion values has been especially designed for the transportation of small sized, but highly abrasive materials such as iron ore.

### Mechanical characteristics of Transdura special covers

| Cover grades | Description   | Tensile strength | Elongation at break | Abrasion resistance |
|--------------|---|------------------|---------------------|---------------------|
| X+           | Abrasion and cut & gouge resistant cover for sharp-edged and large sized materials, heavy duty operations | +++              | +++                 | +                   |
| D50          | Excellent impact resistant properties while providing very low abrasion                                   | ++               | +++                 | ++                  |
| D30          | Highly anti-abrasive cover for small size materials   | +                | ++                  | +++                 |

## DATA

### Mechanical characteristics of Transdura standard covers

| Cover grades acc. to DIN, ISO, US and AS standards | Standards | Characteristics   | Tensile strength (MPa) | Elongation at break (%) | Abrasion (mm <sup>3</sup> ) | Cut & gouge resistance | Sharp edged material | Lump size | Impact |
|--|-----------|---|------------------------|-------------------------|-----------------------------|------------------------|----------------------|-----------|--------|
| X  | DIN       | Abrasion and cut resistant cover for sharp-edged or lumpy material, highest requirements for heavy duty operation | ≥ 25                   | ≥ 450                   | ≤ 120                       | Good                   | Yes                  | Large     | Heavy  |
| W  | DIN       | Anti-abrasive cover with excellent mechanical properties for smaller sized lumps with abrasive properties         | ≥ 18                   | ≥ 400                   | ≤ 90                        | Fair                   | No                   | Small     | Normal |
| Y  | DIN       | Cover with good mechanical properties for standard applications   | ≥ 20                   | ≥ 400                   | ≤ 150                       | Fair                   | No                   | Small     | Normal |
| H  | ISO       | Abrasion and cut resistant cover for sharp-edged or lumpy material, highest requirements for heavy duty operation | ≥ 24                   | ≥ 450                   | ≤ 120                       | Good                   | Yes                  | Large     | Heavy  |
| D  | ISO       | Anti-abrasive cover with excellent mechanical properties for smaller sized lumps with abrasive properties         | ≥ 18                   | ≥ 400                   | ≤ 100                       | Fair                   | No                   | Small     | Normal |
| L  | ISO       | Cover for light applications without special requirements   | ≥ 15                   | ≥ 350                   | ≤ 200                       | Fair                   | No                   | Small     | Light  |
| M  | AS        | Abrasion and cut resistant cover for sharp-edged or lumpy material, highest requirements for heavy duty operation | ≥ 24                   | ≥ 450                   | ≤ 125                       | Good                   | Yes                  | Large     | Heavy  |
| A  | AS        | Anti-abrasive cover with excellent mechanical properties for smaller sized lumps with abrasive properties         | ≥ 17                   | ≥ 400                   | ≤ 70                        | Fair                   | No                   | Small     | Normal |
| N  | AS        | Cover for light applications without special requirements   | ≥ 17                   | ≥ 400                   | ≤ 200                       | Fair                   | No                   | Small     | Light  |
| RMA-I / RMA  |           | Cover with good mechanical properties for standard applications   | ≥ 17                   | ≥ 400                   | ≤ 125                       | Fair                   | No                   | Small     | Normal |
| RMA-II / RMA                                       |           | Cover for light applications without special requirements   | ≥ 14                   | ≥ 400                   | ≥ 175                       | Fair                   | No                   | Small     | Light  |

# TRANSFLAM



The flame retardant cover range ensures uncompromising safety in underground applications, power generation and tunnelling.



**S:** Flame retardant cover and carcass according to ISO 340, anti-static according to ISO 284. For general use with electrical and fire safety requirements in line with EN 12882 as well as the former German grade S as defined in DIN 22102.

**TG-V:** Flame retardant cover for underground use with electrical and fire safety requirements to EN 14973 and for general use with electrical and fire safety requirements in line with EN 12882.

## APPLICATIONS

- Underground mining
- Hard rock mining
- Cement industry
- Grain and sugar industries
- Mineral processing plants
- Overland conveyors
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Steel industry
- Tunnelling

## AVAILABLE FOR THE FOLLOWING BELT TYPES

- Multitrans
- Sempercord
- Metalcord
- Metaltrans
- Autostable
- Transpipe
- Ripstop
- Translev
- Biathlon
- Transglis

Transflam is especially designed to prevent the propagation of an accidental fire and guard against the risk of explosion due to its improved static conductivity.

Sempertrans belts with the Transflam cover fulfill the highest safety requirements according to EN 14937 Class A, B2 and C2, EN 12882 and ISO 340, but also various other international standards such as Australian FRAS-S and FRAS-F or the American MSHA.

**Our Transflam range includes conventional K, S and V grades, but also complies with additional specific international and national standards:**

**K:** Flame retardant cover according to ISO 340 and anti-static properties according to ISO 284. For general use with electrical and fire safety requirements in line with EN 12882 as well as the former German grade K as defined in DIN 22131 and DIN 22102.

## TECHNICAL DETAILS

### DATA

Extract from the Transflam cover standard range

| Cover grades | Defined in              | Characteristics  | Tensile strength (MPa) | Elongation at break (%) | Abrasion resistance [mm <sup>3</sup> ] |
|--------------|-------------------------|--|------------------------|-------------------------|--|
| K            | DIN 22131 and DIN 22102 | Flame retardant with cover according to ISO 340 and EN 12882             | ≥ 20                   | ≥ 400                   | 150                                    |
| K            | DIN EN ISO 15236-1      | Flame retardant with cover according to ISO 340 and EN 12882             | ≥ 15                   | ≥ 350                   | 150                                    |
| S            | DIN 22102               | Flame retardant with and without cover according to ISO 340 and EN 12882 | ≥ 20                   | ≥ 400                   | ≤ 200                                  |
| TG-V         | DIN EN ISO 15236-3      | Flame retardant according to EN 14973 and EN 12882                       | ≥ 17                   | ≥ 350                   | ≤ 175                                  |

| Category acc. EN 1288-2 | Application   | Electrical conductivity acc. ISO 284 | Flammability acc. ISO 340 | Propane burner tests acc. EN 12881-1 Method A   | Drum friction test acc. ISO 1554 |       |              |        |      |
|-------------------------|---|--------------------------------------|---------------------------|---|----------------------------------|-------|--------------|--------|------|
|                         |   |                                      |                           |   | Method                           | Flame | Glowing      | Load   | Time |
| 1                       | General use   | < 300 MΩ                             | Not required              | Not required  |                                  |       |              |        |      |
| 2A                      | Same as category 1, additional risk of small, open flame on the cover                       | < 300 MΩ                             | Yes                       | Not required  |                                  |       |              |        |      |
| 2B                      | Same as category 2A, additional risk of smaller, open flame on the carcass                  | < 300 MΩ                             | Yes                       | Not required  |                                  |       |              |        |      |
| 3A                      | Same as category 2A, additional risk of local heating due to friction                       | < 300 MΩ                             | Yes                       | Not required  | A1                               | No    | Not required | 343 N  | 1h   |
| 3B                      | Same as category 3A, additional risk of small, open flame on the carcass                    | < 300 MΩ                             | Yes                       | Not required  | A1                               | No    | Not required | 343 N  | 1h   |
| 4A                      | Same as category 1, additional risk of fire spreading caused by additional fire sources     | < 300 MΩ                             | Not required              | After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt |                                  |       |              |        |      |
| 4B                      | Same as category 4A, additional risk of local heating due to friction                       | < 300 MΩ                             | Not required              | After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt | A1                               | No    | Not required | 343 N  | 1h   |
| 5A                      | Same as category 4B, additional increased risk of local heating due to friction             | < 300 MΩ                             | Not required              | After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt | A2                               | No    | Not required | 1715 N | 2.5h |
| 5B                      | Same as category 5A, additional risk of glowing   | < 300 MΩ                             | Not required              | After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt | A2                               | No    | No           | 1715 N | 2.5h |
| 5C                      | Same as category 5B, additional risk when operating in a potentially combustible atmosphere | < 300 MΩ                             | Not required              | After the end of the test there shall be a piece of undamaged conveyor belting not less than 100 mm wide across the whole width of the belt | A2                               | No    | No           | 1715 N | 2.5h |



| Class acc. EN 14973 | Application   | Electrical conductivity acc. ISO 284 | Flammability acc. ISO 340 | Propane burner tests acc. ISO 12881-1 Method A                              | Drum friction test acc. ISO 1554 Method B2 |       |           |             |      |
|---------------------|---|--------------------------------------|---------------------------|---|--|-------|-----------|-------------|------|
|                     |   |                                      |                           |   | Method                                     | Flame | Glowing   | Temperature | Time |
| A                   | General use, only hazards being limited access and means of escape  | < 300 MΩ                             | Yes                       | DIN EN 12881-1 Method A. If incomplete ignition achieved, use Method B or C | A1   | No    | Permitted | 343 °C      | 1h   |
| B1                  | Same as Class A plus potentially flammable atmosphere. Without secondary devices                                | < 300 MΩ                             | Yes                       | DIN EN 12881-1 Method A. If incomplete ignition achieved, use Method B or C | B2   | No    | No        | 450 °C      | 1h   |
| B2                  | Same as Class A plus potentially flammable atmosphere. With secondary devices                                   | < 300 MΩ                             | Yes                       | DIN EN 12881-1 Method A. If incomplete ignition achieved, use Method B or C | B2   | No    | Permitted | No limit    | 1h   |
| C1                  | Same as Class B1 plus combustible dust or material conveyed. Without secondary devices                          | < 300 MΩ                             | Yes                       | DIN EN 12881-1, Method B or C   | B2   | No    | No        | 325 °C      | 2.5h |
| C2                  | Same as Class B1 plus combustible dust or material conveyed and additional fuel sources. With secondary devices | < 300 MΩ                             | Not required              | DIN EN 12881-2  | A2   | No    | Permitted | No limit    | 2.5h |

## TRANSFLAM SPECIAL COVERS

Besides the conventional covers referring to specific standards, Sempertrans has developed a range of special covers exceeding these standards. In addition to their exceptional mechanical properties, these special covers always fulfill safety regulations according to ISO 340 and anti-static requirements according to ISO 284, as well as fire safety requirements.

The benefit for our customers is an increased operating life for the belts without compromising on safety.

### DATA

#### Mechanical characteristics of Transflam covers

| Cover grades | Tensile strength | Elongation at break | Abrasion resistance |
|--------------|------------------|---------------------|---------------------|
| K            | +++              | ++                  | +                   |
| K+           | +++              | +++                 | ++                  |
| FH           | +++              | +++                 | +++                 |

### Transflam T

Transflam T is a cover grade specially developed for tunnel applications. It complies with the prevailing safety standards for tunnelling, especially with:

- EN 14973, Class A
- Electrical conductivity test ISO 284
- Laboratory scale flammability test ISO 340
- Drum friction test EN 1554
- Fire test according to EN ISO 12881, methods A, B or C

### FRAS-S, FRAS-F and MSHA

Part of the Transflam range comprises the flame retardant covers according to the North-American standards (MSHA and CAN-CSA) as well as to the Australian standards (FRAS-S and FRAS-F).

# TRANSOIL

Our belt protection against chemicals, grease, vegetable and mineral oils or fats.

The Transoil compound range has been especially designed for conveying oily or greasy products. This also includes solvents, diluted acids, or products impregnated with hydrocarbons.

The Transoil cover types provide the perfect oil resistant solution for most textile and steel belt applications. For specific safety requirements, Transoil is also available with flame retardant properties to ensure safer operation.

## APPLICATIONS

- Chemical industry and fertilisers
- Grain and sugar industries
- Mineral processing plants
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry

## AVAILABLE FOR THE FOLLOWING BELT TYPES

- Multitrans
- Sempercord
- Metalcord
- Metaltrans
- Autostable
- Transpipe
- Ripstop
- Translev
- Biathlon
- Transglis

### DATA

There are six types of Transoil covers available for most textile and steel cord belt applications:

**G:** Highly resistant to mineral oils and standard hydrocarbons.

**GM:** Resistant to vegetable and animal oils and oleaginous products.

**GMK:** Resistant to vegetable and animal oils and oleaginous products. Flame retardant as per EN ISO 340 (with covers) and anti-static. This grade is particularly well suited for grain silo applications.

**GMS:** Resistant to vegetable and animal oils and oleaginous products. Flame retardant as per DIN EN ISO 340 (with and without covers) and anti-static.

**GS:** Highly resistant to mineral oils and standard hydrocarbons. Flame retardant as per EN ISO 340 (with and without covers) and anti-static.

**GK:** Highly resistant to mineral oils and standard hydrocarbons. Flame retardant as per EN ISO 340 (with covers) and anti-static.

### Mechanical characteristics of Transoil covers

| Cover Grade | Oil Resistance | Anti-static | Flame Retardance                |
|-------------|----------------|-------------|---------------------------------|
| G           | ++++           | Yes         | -                               |
| GK          | +++            | Yes         | ISO 340 with covers             |
| GS          | +++            | Yes         | ISO 340 with and without covers |
| GM          | ++             | Yes         | -                               |
| GMK         | ++             | Yes         | ISO 340 with covers             |
| GMS         | ++             | Yes         | ISO 340 with and without covers |

# TRANSTHERM



## The cover for high temperatures ensuring the longest belt life.

Transtherm covers are the right choice whenever hot materials need to be conveyed. Select the best technical option among our range of Transtherm covers to achieve the maximum belt lifetime.

### APPLICATIONS

- Cement industry
- Grain and sugar industries
- Overland conveyors
- Paper and wood industries
- Port operations
- Power and heating plants
- Recycling industry
- Steel industry

### AVAILABLE FOR THE FOLLOWING BELT TYPES

- Multitrans
- Sempercord
- Metalcord
- Metaltrans
- Autostable
- Transpipe
- Ripstop
- Translev
- Biathlon
- Transglis

## TECHNICAL DETAILS

### The standard types of Transtherm covers are:

**CW:** The cover grade especially designed for the transportation of coke warf, providing medium heat resistance combined with flame retardant properties according to DIN EN ISO 340.

**TEA:** The cover grade with excellent mechanical properties, providing heat resistance for medium temperatures. In specific markets TEA is also known as HR.

**TEB:** The cover grade for high heat resistance and special applications such as transporting asphalt. In specific markets TEB is also known as SHR.

**UHR:** The efficient cover grade providing heat resistance for high temperatures.

**TEC:** The cover grade for extremely high temperatures up to 400 °C short term peaks.

### Recommendations

There is a major difference between the temperature of the product conveyed and the temperature transmitted to the cover by the materials conveyed. This difference between the surface temperature of the belt and the temperature of the product conveyed may vary according to various parameters:

- Particle size of material
- Belt speed
- Length of conveyor (cooling on return strand)
- Ambient temperature
- Ventilation or possible watering

## DATA

### Mechanical characteristics of Transtherm covers

| Cover grade          |                     | Tensile strength | Elongation at break | Abrasion resistance | Temperature resistance |
|----------------------|---------------------|------------------|---------------------|---------------------|------------------------|
| CW (flame retardant) | SBR compound        | +++              | +++                 | ++                  | +                      |
| TEA                  | SBR compound        | +++              | +++                 | +++                 | ++                     |
| TEB                  | BUTYL/EPDM compound | ++               | +++                 | +                   | +++                    |
| TEC                  | EPM compound        | ++               | +++                 | +++                 | ++++                   |
| UHR                  |                     | ++               | +++                 | ++                  | +++                    |

### Temperature ranges

|   | CW     | TEA    | TEB    | UHR    | TEC    |
|---|--------|--------|--------|--------|--------|
| 1. Maximum continuous allowable surface temperature     | 110 °C | 120 °C | 150 °C | 160 °C | 200 °C |
| 2. Average material temperature fine goods              | 120 °C | 130 °C | 160 °C | 170 °C | 210 °C |
| 3. Maximum allowable local peak temperature fine goods  |        | 150 °C | 180 °C | 190 °C | 230 °C |
| 4. Average material temperature large lumps             | 130 °C | 140 °C | 200 °C | 210 °C | 250 °C |
| 5. Maximum allowable local peak temperature lumpy goods |        | 160 °C | 250 °C | 260 °C | 400 °C |

Large lumps: materials with large particle size and high abrasiveness such as pitch, iron and steel industry, coke or pellets. Fine goods: fine materials such as cement, calcium calcinates (CaO), clinker and foundry sand.

Sempertrans' Global Application Engineering team will support you in finding the suitable cover grade for your application.

# TRANSEVO



The cover grade which saves up to 25% energy and reduces operating costs.



TransEvo covers are based on a special rubber compound which significantly reduces rolling resistance due to indentation losses while the belt is running over the idlers. TransEvo achieves energy savings of up to 25% compared to conventional conveyor belts, proven by both external testing facilities and field tests at several installations at Sempertrans customers' sites.

### Characteristics for existing installations with standard belts when compared to TransEvo:

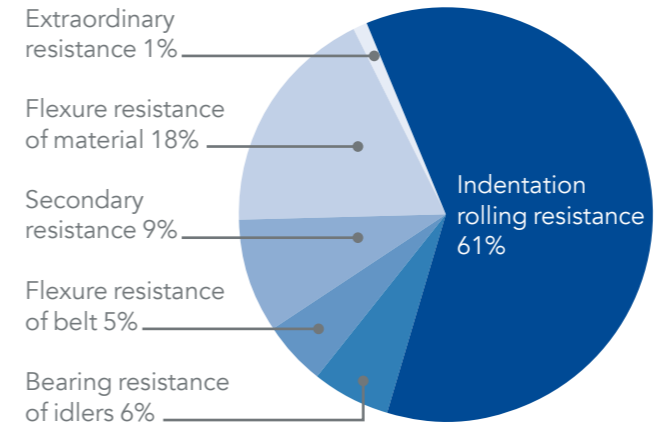
- Reduced energy consumption and thus lower operating costs
- Depending on the installation, reduction of belt strength is possible in the design phase, due to lower tension forces in the belt and thus lower belt costs

### Benefits of new installations with TransEvo:

- Reduced energy costs and thus lower operating costs
- Reduction of conveyor drive nominal power due to lower indentation rolling resistance
- Lower belt forces requires a lower nominal strength and thus lighter belt constructions and thinner carcasses along with higher splice efficiency
- Thinner carcasses lead to reduced pulley diameters and therefore smaller gear boxes and drives
- As a result, TransEvo belting allows significant savings in both operational as well as capital cost of a conveyor belt installation

TransEvo covers focus on decreasing the indentation rolling resistance which comprises the biggest share of total energy consumption in a conveyor installation. The result is a reduction of total required energy and costs without compromising on the belt service life.

### Typical split of running resistances on long horizontal conveyors of 1000 m and above



Source: Hintz, A.: Einfluss des Gurtaufbaus auf den Energieverbrauch von Gurtförderanlagen. Dissertation University of Hannover 1993

### APPLICATIONS

- Overland conveyors
- Open-pit and underground mining
- Lignite and hard rock mining
- Cement industry
- Port operations
- Yard conveyors

### AVAILABLE FOR THE FOLLOWING BELT TYPES

- Sempercord
- Autostable
- Transpipe
- Ripstop

### TECHNICAL DETAILS



The TransEvo range has been extended from the initial application in open-pit lignite mines to applications with sharp, lumpy and abrasive materials as well as to underground tunnel applications. In addition to its power reducing ability, TransEvo-X matches the X-Cover of DIN 22131 (ISO 15236 "H" also possible) while the TransEvo-V fulfills EN 14973 and EN 12881.

### ENERGY-SAVING EXAMPLE

#### Conveyor data:

|                  |                      |
|------------------|----------------------|
| Capacity:        | 25,000 t/h           |
| Length:          | 1,205 m (horizontal) |
| Conveying speed: | 6.0 m/s              |
| Work time:       | 24 h at 350 days     |

#### Standard-X cover:

|                 |                      |
|-----------------|----------------------|
| Conveyor belt:  | 2250 ST 3150 14T+7 X |
| Power required: | ~1,250 kW            |

#### TransEvo-X cover:

|                 |                               |
|-----------------|-------------------------------|
| Conveyor belt:  | 2250 ST 3150 14T+7 TransEvo-X |
| Power required: | ~1,020 kW                     |

- Energy savings: 1.9 million kWh per year
- Cost savings: EUR 170,000 per year\*

### DATA

#### Mechanical characteristics of TransEvo covers

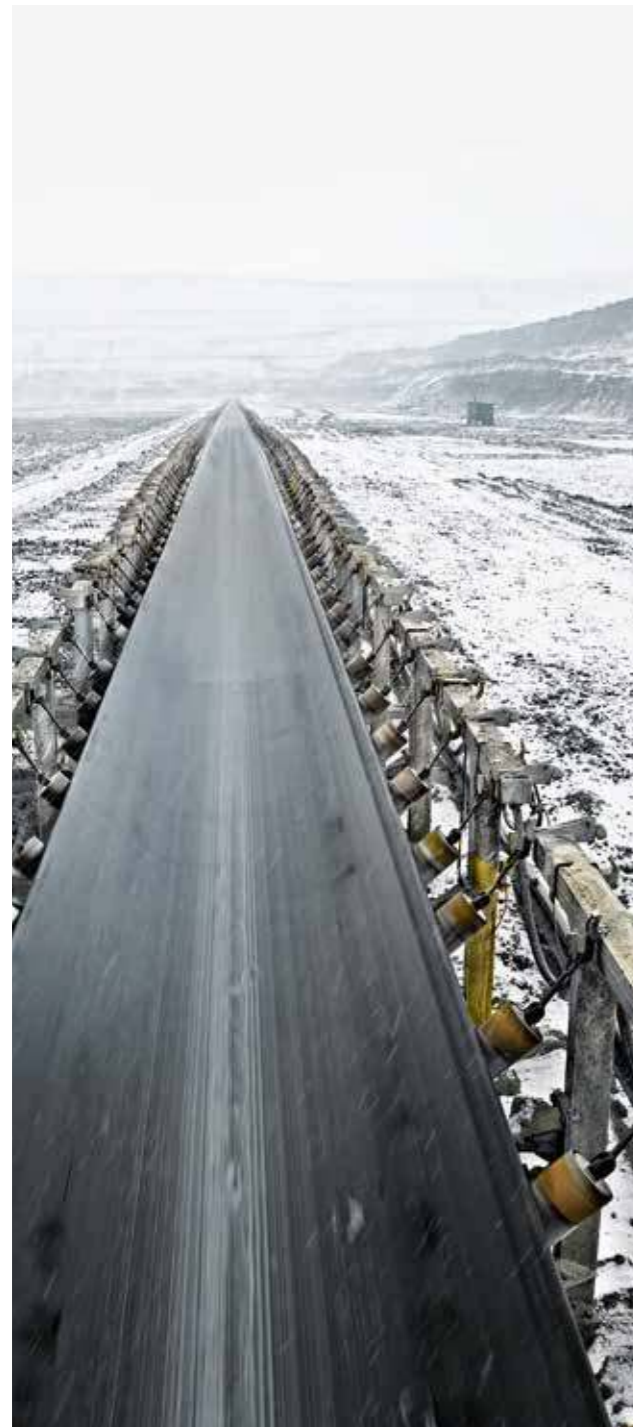
| Cover Grades   | Energy-saving | Impact resistance | Abrasion resistance | Underground usage |
|----------------|---------------|-------------------|---------------------|-------------------|
| TransEvo Ultra | ++++          | +++               | +++                 | -                 |
| TransEvo-V     | +++           | ++                | +                   | Yes               |
| TransEvo-K     | +++           | ++                | ++                  | -                 |
| TransEvo-X     | +++           | ++++              | +++                 | -                 |
| TransEvo-D50   | +++           | +++               | ++++                | -                 |

\* Taking into account an energy price of EUR 0.08682 per kWh. Price for one kWh in December 2014 for Poland <http://de.statista.com/statistik/daten/studie/13020/umfrage/strompreise-in-ausgewaehlten-laendern>

# TRANSCOLD



The cover grade beating the cold to ensure belt flexibility even at the lowest temperatures down to -50 °C.



In some regions, conveyor belts are exposed to extremely large temperature ranges. The belt structure can get brittle and be subject to cracks at temperatures below -30 °C.

Transcold covers have been especially designed by our engineers to keep their flexibility until -50 °C, enabling a maximum belt lifetime under such harsh climate conditions.

## APPLICATIONS

- Open-pit mining
- Lignite and hard rock mining
- Aggregates
- Overland conveyors
- Mineral processing plants
- Port operations
- Power and heating plants

## AVAILABLE FOR THE FOLLOWING BELT TYPES

- Multitrans
- Sempercord
- Metalcord
- Metaltrans
- Autostable
- Ripstop

## TECHNICAL DETAILS

Sempertrans has designed a full range of Transcold covers to match the distinct needs of our customers under the most extreme environmental conditions.

### The main features of Transcold covers are:

- Exceptional cold resistance
- High elasticity kept at low temperature

- Excellent shock resistance
- All properties maintained down to -50 °C as the basis for efficient performance
- Suitable for conveying various types of materials under extreme temperatures
- Available in a flame retardant version
- Available in an oil resistant version
- Available in a special anti-abrasive version

## DATA

### Mechanical characteristics of Transcold covers

| Cover grades |  | Resistance to very low temperatures | Tensile strength | Elongation at break | Abrasion resistance | Flame retardant according to DIN EN ISO 340 |
|--------------|--|-------------------------------------|------------------|---------------------|---------------------|---|
| R            | Anti-abrasive cover with excellent mechanical properties and resistance to extremely low temperatures down to -50 °C | +++                                 | +                | +                   | ++                  | -   |
| KR           | Flame retardant according to ISO 340 (with covers), anti-static and low temperature resistant down to -45 °C         | ++                                  | ++               | +                   | +                   | ++  |
| GMR          | Oil resistant, anti-static and low temperature resistant down to -45 °C  | ++                                  | +                | +                   | ++                  | -   |



VIA  
DE EVACUACION

4



TECHNICAL  
SPECIFICATIONS

# TECHNICAL SPECIFICATIONS

|                             |    |
|-----------------------------|----|
| Cover grades                | 63 |
| Minimum diameter of pulleys | 65 |
| Tension travel              | 68 |
| Turnover                    | 70 |
| Field Service               | 71 |
| International Standards     | 72 |

## COVER GRADES

|                                | Cover grade                 | Main relevant standard (other standards may apply)                            | Characteristics   | Main applications  | Temperature min   | Maximum permanent surface Temperature | Temperature short time peak |
|--------------------------------|-----------------------------|---|---|--|---|---------------------------------------|-----------------------------|
| Transdura (abrasion resistant) | X+                          | Exceeding Standards   | Good abrasion resistance, top cut and gouge resistance            | Abrasive material, large lumps with sharp edges e.g. hard rock mining          | -35°C   | 60°C                                  | 80°C                        |
|                                | D50                         | Exceeding Standards   | Excellent abrasion resistance, very good cut and gouge resistance | Very high abrasive material with sharp edges e.g. ore and hard rock mining     | -35°C   | 60°C                                  | 80°C                        |
|                                | D30                         | Exceeding Standards   | Excellent abrasion resistance, good cut and gouge resistance      | Absolute high abrasive material with small lump sizes e.g. ore processing      | -35°C   | 60°C                                  | 80°C                        |
|                                | D                           | Exceeding Standards   | Wear resistant cover for standard applications                    | Standard application: e.g. broken gravel                                       | -35°C   | 60°C                                  | 80°C                        |
|                                | H                           | EN ISO 15236 ISO 14890  | Standardised cover, flame retardant                               | Tunneling  | -35°C   | 60°C                                  | 80°C                        |
|                                | DI                          | EN ISO 15236 ISO 14890  | Standardised cover, cut and gouge resistant, abrasion resistant   | Heavy duty application, large lump sizes e.g. hard rock mining.                | -35°C   | 60°C                                  | 80°C                        |
|                                | L                           | EN ISO 15236 ISO 14890  | Very good abrasion resistance, good cut and gouge resistance      | Abrasive material with small lump sizes e.g. ore preparation                   | -35°C   | 60°C                                  | 80°C                        |
|                                | X                           | DIN 22131 / DIN 22102   | Standardised cover, cut and gouge resistant, abrasion resistant   | Abrasive material with sharp edges e.g. ore preparation                        | -35°C   | 60°C                                  | 80°C                        |
|                                | Y                           | DIN 22131 / DIN 22102   | Standardised cover, good abrasion resistance                      | Abrasive material with small lump sizes e.g. ore preparation                   | -35°C   | 60°C                                  | 80°C                        |
|                                | W                           | DIN 22131 / DIN 22102   | Very good abrasion resistance, good cut and gouge resistance      | Very abrasive material with small lump sizes e.g. ore preparation              | -35°C   | 60°C                                  | 80°C                        |
|                                | RMA-I                       | CEMA  | Standardised cover, good abrasion and wear resistance             | Standard application e.g. broken gravel  | -35°C   | 60°C                                  | 80°C                        |
|                                | RMA-II                      | CEMA  | Standardised cover for standard applications                      | Standard application e.g. sand and gravel                                      | -35°C   | 60°C                                  | 80°C                        |
|                                | AS-M                        | AS 1332 / AS 1333   | Standardised cover, cut and gouge resistant, abrasion resistant   | Abrasive material with sharp edges e.g. ore preparation                        | -35°C   | 60°C                                  | 80°C                        |
|                                | AS-N                        | AS 1332 / AS 1333   | Standardised cover for standard applications                      | Standard application e.g. sand and gravel                                      | -35°C   | 60°C                                  | 80°C                        |
|                                | AS-A                        | AS 1332 / AS 1333   | Standardised cover, very good abrasion resistance                 | Very high abrasive material with small lump sizes e.g. ore preparation         | -35°C   | 60°C                                  | 80°C                        |
|                                | Transflam (flame retardant) | M24   | IS 1891   | Good abrasion resistance, good cut and gouge resistance                        | Abrasive material with sharp edges e.g. ore preparation | 30°C                                  | 60°C                        |
| M20                            |                             | IS 1891   | Good abrasion resistance, cut and gouge resistant                 | Abrasive material with sharp edges e.g. broken rocks                           | -35°C   | 60°C                                  | 80°C                        |
| N17                            |                             | IS 1891   | Standardised cover  | Standard application e.g. sand and gravel                                      | -35°C   | 60°C                                  | 80°C                        |
| K                              |                             | DIN 22131 EN ISO 15236 ISO 340  | Standardised cover, flame retardant                               | Standard application e.g. conveying coal on the surface                        | -30°C   | 60°C                                  | 80°C                        |
| K+                             |                             | Exceeding Standards   | Flame retardant, improved abrasion resistance                     | Standard application e.g. conveying hard coal on the surface                   | -30°C   | 60°C                                  | 80°C                        |
| S                              |                             | DIN 22102 ISO 340   | Standardised cover, flame retardant                               | Standard application e.g. conveying coal on the surface, with or without cover | -30°C   | 60°C                                  | 80°C                        |
| T                              |                             | EN 14973  | Standardised cover, flame retardant                               | Tunneling  | -25°C   | 60°C                                  | 80°C                        |
| TG(V)                          |                             | EN 14973 EN 12882   | Standardised cover, flame retardant                               | Underground mining   | -25°C   | 60°C                                  | 80°C                        |
| FRAS-F                         |                             | AS 4606   | Standardised cover, flame retardant                               | Standard application e.g. conveying coal on the surface                        | -25°C   | 60°C                                  | 80°C                        |
| FRAS-S                         |                             | AS 4606   | Standardised cover, flame retardant                               | Underground mining   | -25°C   | 60°C                                  | 80°C                        |
| MSHA                           |                             | MSHA 2G   | Standardised cover, flame retardant                               | Standard application e.g. conveying coal on the surface                        | -30°C   | 60°C                                  | 80°C                        |
| FH                             |                             | Exceeding Standards   | Flame retardant, good abrasion resistance                         | Standard application e.g. conveying hard coal on the surface                   | -35°C   | 60°C                                  | 80°C                        |
| FR                             | IS 1891                     | Standardised cover, flame retardant   | Standard application e.g. conveying coal on the surface           | -15°C  | 60°C  | 80°C                                  |                             |
| FX                             | Exceeding Standards         | Flame retardant, good abrasion resistance, very good cut and gouge resistance | Standard application e.g. conveying hard coal on the surface      | -35°C  | 60°C  | 80°C                                  |                             |



|                                     | Cover grade    | Main relevant standard (other standards may apply) | Characteristics   | Main applications   | Temperature min | Maximum permanent surface Temperature | Temperature short time peak |
|-------------------------------------|----------------|--|---|---|-----------------|---------------------------------------|-----------------------------|
| Transflam (flame retardant)         | CW             | ISO 284 / ISO 340                                  | Flame retardant, heat resistant, good abrasion resistance                                 | Coke transport  | -30°C           | 110°C                                 | 120°C                       |
|                                     | TEA            | Exceeding Standards                                | Heat resistant, good abrasion resistance  | Transport of hot and abrasive material  | -35°C           | 120°C                                 | 160°C                       |
|                                     | TEB            | Exceeding Standards                                | Heat resistant  | Transport of hot material   | -35°C           | 150°C                                 | 250°C                       |
|                                     | UHR            | Exceeding Standards                                | Heat resistant  | Transport of hot material   | -30°C           | 160°C                                 | 260°C                       |
|                                     | TEC            | Exceeding Standards                                | Heat resistant, good abrasion resistance  | Transport of hot and abrasive material  | -40°C           | 200°C                                 | 400°C                       |
| Transoil (oil and grease resistant) | G              | Exceeding Standards                                | Oil resistant, good abrasion resistance   | Transport of abrasive material with high percentage of mineral oil and standard hydrocarbons                  | -15°C           | 60°C                                  | 80°C                        |
|                                     | GM             | Exceeding Standards                                | Oil resistant   | Transport of material with vegetable and animal oils and oleaginous products e.g. recycling                   | -15°C           | 100°C                                 | 110°C                       |
|                                     | GMK            | ISO 284 / ISO 340                                  | Oil resistant, flame retardant  | Transport of material with vegetable and animal oils and oleaginous products                                  | -15°C           | 100°C                                 | 110°C                       |
|                                     | GMS            | ISO 284 / ISO 340                                  | Oil resistant, flame retardant  | resistance to vegetable and animal oils and to oleaginous products, with or without cover                     | -15°C           | 100°C                                 | 110°C                       |
|                                     | GK             | ISO 284 / ISO 340                                  | Oil resistant, flame retardant  | Transport of abrasive material with high percentage of mineral oil and standard hydrocarbons                  | -15°C           | 100°C                                 | 110°C                       |
|                                     | GS             | ISO 284 / ISO 340                                  | Oil resistant, flame retardant  | Transport of abrasive material with high percentage of mineral oil and standard hydrocarbons                  | -15°C           | 100°C                                 | 110°C                       |
|                                     | OR             | Exceeding Standards                                | Oil resistant   | Transport of material with high percentage of mineral oil and standard hydrocarbons                           | -15°C           | 60°C                                  | 80°C                        |
| TransEvo (energy saving)            | TransEvo-Ultra | Exceeding Standards                                | Excellent low rolling resistance  | Conveyor lengths > 1000 m e.g. open pit mining  | -35°C           | 60°C                                  | 80°C                        |
|                                     | TransEvo-X     | DIN 22131 / DIN 22102 SANS M                       | Low rolling resistance, good abrasion resistance, excellent cut and gouge resistance      | Conveyor lengths > 1000 m e.g. hard rock mining   | -35°C           | 60°C                                  | 80°C                        |
|                                     | TransEvo-D50   | Exceeding Standards                                | Low rolling resistance, excellent abrasion resistance, very good cut and gouge resistance | Conveyor lengths > 1000 m, very high abrasive material with sharp edges e.g. ore mining                       | -35°C           | 60°C                                  | 80°C                        |
|                                     | TransEvo-K     | ISO 284 / ISO 340                                  | Low rolling resistance, flame retardant   | Conveyor lengths > 1000 m e.g. power plants   | -25°C           | 60°C                                  | 80°C                        |
|                                     | TransEvo-V     | EN 14973 EN 12882                                  | Low rolling resistance, flame retardant   | Conveyor lengths > 1000 m e.g. underground mining   | -25°C           | 60°C                                  | 80°C                        |
| Transcold (cold resistant)          | R              | Exceeding Standards                                | Cold resistant, very good abrasion resistance   | Cold environmental conditions   | -50°C           | 60°C                                  | 80°C                        |
|                                     | KR             | ISO 284 / ISO 340                                  | Cold resistant, flame retardant   | Transport of coal in cold environmental conditions  | -45°C           | 60°C                                  | 80°C                        |
|                                     | GMR            | Exceeding Standards                                | Cold resistant, oil resistant   | Transport of material with vegetable and animal oils and oleaginous products in cold environmental conditions | -45°C           | 80°C                                  | 100°C                       |

## MINIMUM DIAMETER OF PULLEYS

The minimum diameters of the pulleys of belt conveyors are determined by taking into account the construction of the belt, its weight and the type of splicing.

### Three types of pulleys are distinguished:

**Pulley Group A:** Drive pulleys and other pulleys located in the area of highest tension of the belt.

**Pulley Group B:** Tail or tension pulleys and other pulleys located in the area of lowest tension of the belt.

**Pulley Group C:** Snub or bend pulleys which do not change the direction of the belt by more than 30°. The minimum diameter of a pulley also varies according to the tension in the belt.

For belts not indicated in this table, please consult our Global Application Engineering team.

| Multitrans Construction | Polyamide / Polyamide | Recommended pulley diameter in mm, related to utilization in % of belt strength (safety factor 8 - 10) |      |     |              |     |     |              |     |     |
|-------------------------|-----------------------|--|------|-----|--------------|-----|-----|--------------|-----|-----|
|                         |                       | 61% - 100 %  |      |     | 30% - 60 %   |     |     | < 30%        |     |     |
|                         |                       | Pulley Group   |      |     | Pulley Group |     |     | Pulley Group |     |     |
|                         |                       | A  | B    | C   | A            | B   | C   | A            | B   | C   |
| PP                      | 630/3                 | 630/3  | 315  | 250 | 315          | 250 | 200 | 250          | 250 | 200 |
| PP                      | 800/3                 | 800/3  | 400  | 315 | 400          | 315 | 250 | 315          | 315 | 250 |
| PP                      | 800/4                 | 800/4  | 500  | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| PP                      | 1000/3                | 1000/3   | 400  | 315 | 400          | 315 | 250 | 315          | 315 | 250 |
| PP                      | 1000/4                | 1000/4   | 500  | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| PP                      | 1000/5                | 1000/5   | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| PP                      | 1250/3                | 1250/3   | 400  | 315 | 400          | 315 | 250 | 315          | 315 | 250 |
| PP                      | 1250/4                | 1250/4   | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| PP                      | 1250/5                | 1250/5   | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| PP                      | 1600/4                | 1600/4   | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| PP                      | 1600/5                | 1600/5   | 800  | 630 | 800          | 630 | 500 | 630          | 630 | 500 |
| PP                      | 2000/4                | 2000/4   | 800  | 630 | 800          | 630 | 500 | 630          | 630 | 500 |
| PP                      | 2000/5                | 2000/5   | 800  | 630 | 800          | 630 | 500 | 630          | 630 | 500 |
| PP                      | 2500/4                | 2500/4   | 800  | 630 | 800          | 630 | 500 | 630          | 630 | 500 |
| PP                      | 2500/5                | 2500/5   | 1000 | 800 | 1000         | 800 | 630 | 800          | 800 | 630 |
| PP                      | 3150/5                | 3150/5   | 1000 | 800 | 1000         | 800 | 630 | 800          | 800 | 630 |

- For standard belts with Transdura covers.
- Smaller pulley diameters available on special request.
- Special belts may require other pulley diameters, please contact us.

| Multitrans Construction | Polyester / Polyamide | Recommended pulley diameter in mm, related to utilization in % of belt strength (safety factor 8 - 10) |     |     |              |     |     |              |     |     |
|-------------------------|-----------------------|--|-----|-----|--------------|-----|-----|--------------|-----|-----|
|                         |                       | 61% - 100 %  |     |     | 30% - 60 %   |     |     | < 30%        |     |     |
|                         |                       | Pulley Group   |     |     | Pulley Group |     |     | Pulley Group |     |     |
|                         |                       | A  | B   | C   | A            | B   | C   | A            | B   | C   |
| EP                      | 250/2                 | 250  | 200 | 160 | 200          | 160 | 125 | 160          | 160 | 125 |
| EP                      | 315/2                 | 315  | 250 | 200 | 250          | 200 | 160 | 200          | 200 | 160 |
| EP                      | 400/3                 | 315  | 250 | 200 | 250          | 200 | 160 | 200          | 200 | 160 |
| EP                      | 500/3                 | 400  | 315 | 250 | 315          | 250 | 200 | 250          | 250 | 200 |
| EP                      | 630/3                 | 500  | 400 | 315 | 400          | 315 | 250 | 315          | 315 | 250 |
| EP                      | 630/4                 | 630  | 500 | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| EP                      | 800/3                 | 500  | 400 | 315 | 400          | 315 | 250 | 315          | 315 | 250 |
| EP                      | 800/4                 | 630  | 500 | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| EP                      | 800/5                 | 800  | 630 | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| EP                      | 1000/3                | 630  | 500 | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| EP                      | 1000/4                | 800  | 630 | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| EP                      | 1000/5                | 800  | 630 | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| EP                      | 1250/3                | 800  | 630 | 500 | 630          | 500 | 400 | 500          | 500 | 400 |

| Multitrans Construction<br>Polyester / Polyamide |        | Recommended pulley diameter in mm, related to utilization in % of belt strength (safety factor 8 - 10) |      |      |              |      |      |              |      |      |
|--|--------|--|------|------|--------------|------|------|--------------|------|------|
|  |        | 61% - 100 %  |      |      | 30 % - 60 %  |      |      | < 30%        |      |      |
|  |        | Pulley Group   |      |      | Pulley Group |      |      | Pulley Group |      |      |
|  |        | A  | B    | C    | A            | B    | C    | A            | B    | C    |
| EP   | 1250/4 | 800  | 630  | 500  | 630          | 500  | 400  | 500          | 500  | 400  |
| EP   | 1250/5 | 1000   | 800  | 630  | 800          | 630  | 500  | 630          | 630  | 500  |
| EP   | 1600/4 | 1000   | 800  | 630  | 800          | 630  | 500  | 630          | 630  | 500  |
| EP   | 1600/5 | 1000   | 800  | 630  | 800          | 630  | 500  | 630          | 630  | 500  |
| EP   | 2000/4 | 1250   | 1000 | 800  | 1000         | 800  | 630  | 800          | 800  | 630  |
| EP   | 2000/5 | 1250   | 1000 | 800  | 1000         | 800  | 630  | 800          | 800  | 630  |
| EP   | 2500/4 | 1250   | 1000 | 800  | 1000         | 800  | 630  | 800          | 800  | 630  |
| EP   | 2500/5 | 1400   | 1250 | 1000 | 1250         | 1000 | 800  | 1000         | 1000 | 800  |
| EP   | 3150/5 | 1600   | 1400 | 1250 | 1400         | 1250 | 1000 | 1250         | 1250 | 1000 |

- For standard belts with Transdura covers.
- Smaller pulley diameters available on special request.
- Special belts may require other pulley diameters, please contact us.

| Metalcord or Metaltrans with M-Cords |      | Recommended pulley diameter in mm, related to utilization in % of belt strength (safety factor 8 - 10) |     |     |              |     |     |              |     |     |
|--------------------------------------|------|--|-----|-----|--------------|-----|-----|--------------|-----|-----|
|                                      |      | 61% - 100 %  |     |     | 30 % - 60 %  |     |     | < 30%        |     |     |
|                                      |      | Pulley Group   |     |     | Pulley Group |     |     | Pulley Group |     |     |
|                                      |      | A  | B   | C   | A            | B   | C   | A            | B   | C   |
| MCM / MTM                            | 500  | 400  | 315 | 250 | 315          | 250 | 200 | 250          | 250 | 200 |
| MCM / MTM                            | 630  | 400  | 315 | 250 | 315          | 250 | 200 | 250          | 250 | 200 |
| MCM / MTM                            | 800  | 500  | 400 | 315 | 400          | 315 | 250 | 315          | 315 | 250 |
| MCM / MTM                            | 1000 | 500  | 400 | 315 | 400          | 315 | 250 | 315          | 315 | 250 |
| MCM / MTM                            | 1250 | 630  | 500 | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| MCM / MTM                            | 1400 | 630  | 500 | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| MCM / MTM                            | 1600 | 630  | 500 | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| MCM / MTM                            | 1800 | 800  | 630 | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| MCM / MTM                            | 2000 | 800  | 630 | 500 | 630          | 500 | 400 | 500          | 500 | 400 |

- For standard belts with Transdura covers.
- Smaller pulley diameters available on special request.
- Special belts may require other pulley diameters, please contact us.

| Metalcord or Metaltrans with E-Cords |      | Recommended pulley diameter in mm, related to utilization in % of belt strength (safety factor 8 - 10) |      |     |              |     |     |              |     |     |
|--------------------------------------|------|--|------|-----|--------------|-----|-----|--------------|-----|-----|
|                                      |      | 61% - 100 %  |      |     | 30 % - 60 %  |     |     | < 30%        |     |     |
|                                      |      | Pulley Group   |      |     | Pulley Group |     |     | Pulley Group |     |     |
|                                      |      | A  | B    | C   | A            | B   | C   | A            | B   | C   |
| MCE / MTE                            | 800  | 630  | 500  | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| MCE / MTE                            | 1000 | 630  | 500  | 400 | 500          | 400 | 315 | 400          | 400 | 315 |
| MCE / MTE                            | 1250 | 800  | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| MCE / MTE                            | 1400 | 800  | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| MCE / MTE                            | 1600 | 800  | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| MCE / MTE                            | 1800 | 800  | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| MCE / MTE                            | 2000 | 800  | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| MCE / MTE                            | 2250 | 800  | 630  | 500 | 630          | 500 | 400 | 500          | 500 | 400 |
| MCE / MTE                            | 2500 | 1000   | 800  | 630 | 800          | 630 | 500 | 630          | 630 | 500 |
| MCE / MTE                            | 2800 | 1000   | 800  | 630 | 800          | 630 | 500 | 630          | 630 | 500 |
| MCE / MTE                            | 3150 | 1250   | 1000 | 800 | 1000         | 800 | 630 | 800          | 800 | 630 |
| MCE / MTE                            | 3500 | 1250   | 1000 | 800 | 1000         | 800 | 630 | 800          | 800 | 630 |

- For standard belts with Transdura covers.
- Smaller pulley diameters available on special request.
- Special belts may require other pulley diameters, please contact us.

| Sempercord (DIN-Construction) |      | Recommended pulley diameter in mm, related to utilization in % of belt strength (safety factor 6,7 - 8) |      |      |              |      |      |              |      |      |
|-------------------------------|------|---|------|------|--------------|------|------|--------------|------|------|
|                               |      | 61% - 100 %   |      |      | 30 % - 60 %  |      |      | < 30%        |      |      |
|                               |      | Pulley Group  |      |      | Pulley Group |      |      | Pulley Group |      |      |
|                               |      | A   | B    | C    | A            | B    | C    | A            | B    | C    |
| ST                            | 630  | 500   | 400  | 315  | 400          | 315  | 250  | 315          | 315  | 250  |
| ST                            | 800  | 630   | 500  | 400  | 500          | 400  | 315  | 400          | 400  | 315  |
| ST                            | 1000 | 630   | 500  | 400  | 500          | 400  | 315  | 400          | 400  | 315  |
| ST                            | 1250 | 800   | 630  | 500  | 630          | 500  | 400  | 500          | 500  | 400  |
| ST                            | 1600 | 800   | 630  | 500  | 630          | 500  | 400  | 500          | 500  | 400  |
| ST                            | 2000 | 800   | 630  | 500  | 630          | 500  | 400  | 500          | 500  | 400  |
| ST                            | 2500 | 1000  | 800  | 630  | 800          | 630  | 500  | 630          | 630  | 500  |
| ST                            | 3150 | 1250  | 1000 | 800  | 1000         | 800  | 630  | 800          | 800  | 630  |
| ST                            | 3500 | 1250  | 1000 | 800  | 1000         | 800  | 630  | 800          | 800  | 630  |
| ST                            | 4000 | 1400  | 1250 | 1000 | 1250         | 1000 | 800  | 1000         | 1000 | 800  |
| ST                            | 4500 | 1400  | 1250 | 1000 | 1250         | 1000 | 800  | 1000         | 1000 | 800  |
| ST                            | 5000 | 1600  | 1400 | 1250 | 1400         | 1250 | 1000 | 1250         | 1250 | 1000 |
| ST                            | 5400 | 1800  | 1600 | 1400 | 1600         | 1400 | 1250 | 1400         | 1400 | 1250 |

- For standard belts with Transdura covers.
- Smaller pulley diameters available on special request.
- Special belts may require other pulley diameters, please contact us.

## TENSION TRAVEL NECESSARY FOR CONVEYOR BELTS

### The adjustment of the tension travel depends on:

- The center distance of the conveyor and its working tension
- The conveyor starting and stopping system
- The position of the tension system
- The carcass of the belt

For steel cord belts the elongation consists of approximately 20% permanent elongation and 80% elastic elongation. Tension travel to be provided according to the conveyor belt.

On conveyors with small center distances, it is necessary to allow a minimum tension travel in order to be able to place the belt in endless configuration.

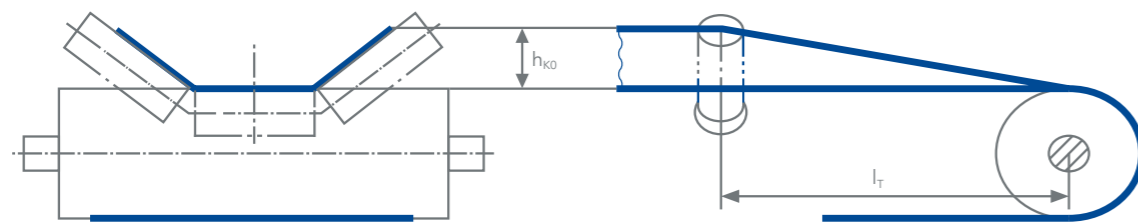
### In certain cases it is possible to reduce the tension travel by complying with certain procedures:

- Either during manufacturing
- Or during placing of the belt in endless configuration on the operating site.

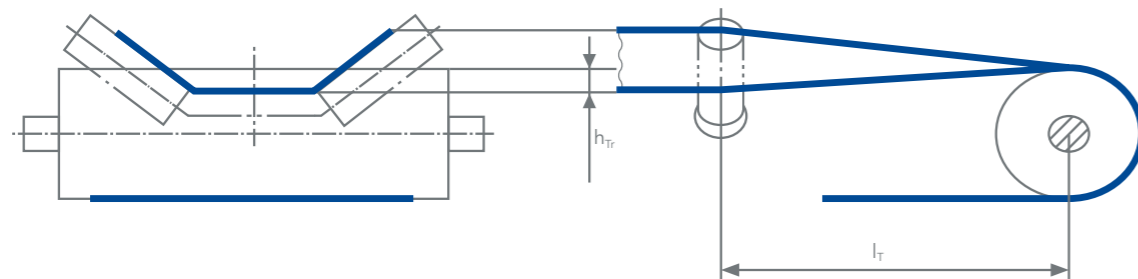
### TROUGH TRANSITION LENGTH

The distance  $l_T$  between the first full trough station and the drive pulley or the tail pulley must be adjusted to avoid an excess tension of the edges in the transition area or compression of the central part if the tension is weak. There are two trough transition length possibilities depending if the pulley is elevated or not.

#### 1. No pulley elevation: Pulley surface on the same height as the center idler surface.



#### 2. With pulley elevation $h_{Tr}$ : Pulley surface higher than the surface of the center idler (example $h_{Tr} = 1/3^{rd}$ of $h_{K0}$ ).



### Sempercord / Metaltrans E / Metalcord E

| Troughing Angle | Minimum Transition Length |                       |
|-----------------|---------------------------|-----------------------|
|                 | Pulley Elevation          |                       |
|                 | $h_{Tr} = 0$              | $h_{Tr} = 1/3 h_{K0}$ |
| 20°             | 1,5 x B                   | 1,0 x B               |
| 25°             | 1,8 x B                   | 1,3 x B               |
| 30°             | 2,2 x B                   | 1,5 x B               |
| 35°             | 2,5 x B                   | 1,8 x B               |
| 45°             | 3,0 x B                   | 2,3 x B               |

### Metaltrans M / Metalcord M

| Troughing Angle | Minimum Transition Length |                       |
|-----------------|---------------------------|-----------------------|
|                 | Pulley Elevation          |                       |
|                 | $h_{Tr} = 0$              | $h_{Tr} = 1/3 h_{K0}$ |
| 20°             | 1,3 x B                   | 0,9 x B               |
| 25°             | 1,6 x B                   | 1,2 x B               |
| 30°             | 1,9 x B                   | 1,3 x B               |
| 35°             | 2,2 x B                   | 1,6 x B               |
| 45°             | 2,6 x B                   | 2,0 x B               |

### Multitrans (EP Carcass)

| Troughing Angle | Minimum Transition Length |                       |
|-----------------|---------------------------|-----------------------|
|                 | Pulley Elevation          |                       |
|                 | $h_{Tr} = 0$              | $h_{Tr} = 1/3 h_{K0}$ |
| 20°             | 0,9 x B                   | 0,7 x B               |
| 25°             | 1,1 x B                   | 0,8 x B               |
| 30°             | 1,3 x B                   | 0,9 x B               |
| 35°             | 1,5 x B                   | 1,0 x B               |
| 45°             | 1,9 x B                   | 1,3 x B               |

Contact us if shorter transition lengths are required.

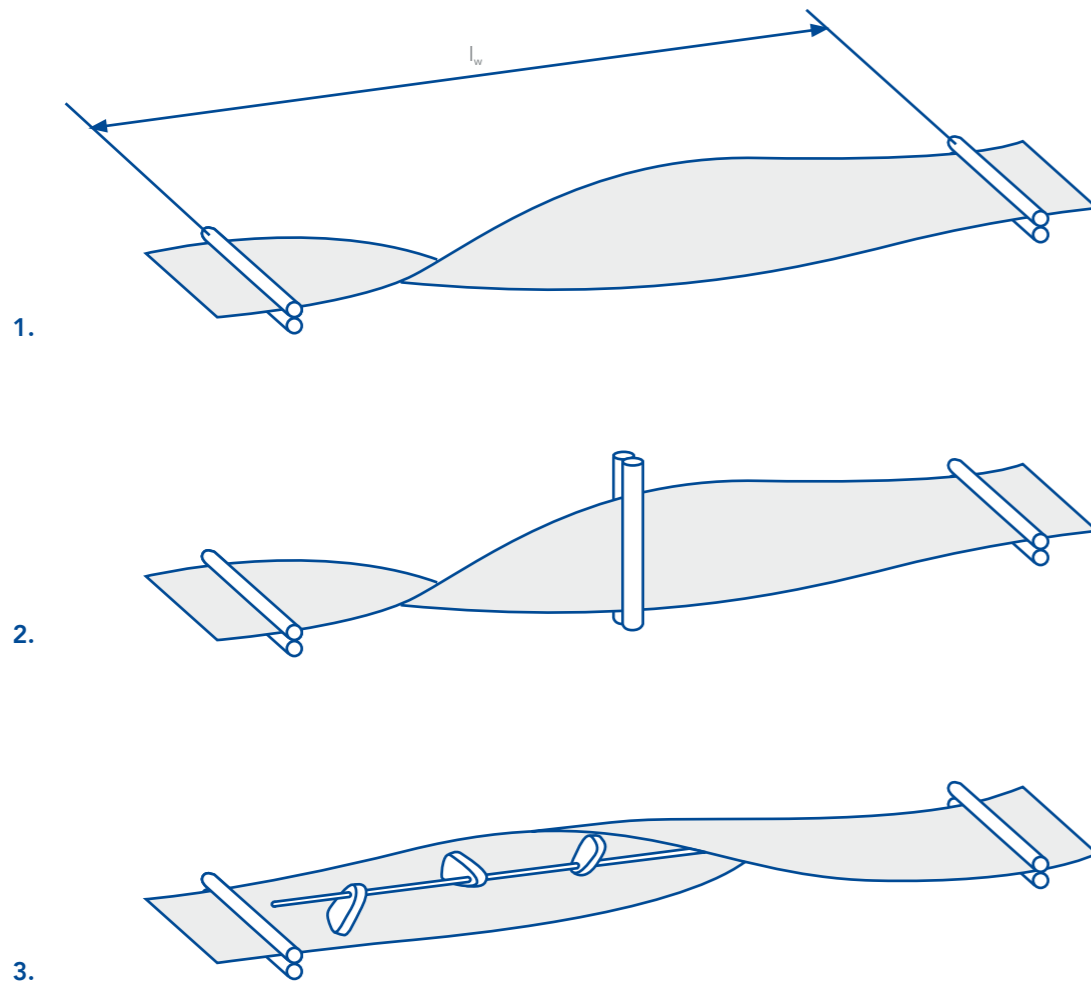
## TURNOVER

For some conveying systems it is necessary to turn the belt in order to have the top cover up also in the return strand. Certain minimum lengths for a belt turnover must be kept as otherwise this procedure can lead to increased

tensions in the edges and/or compression in the belt center. The following values are to be seen as guideline, but can vary for specific applications.

|   | Type of Turnover | Maximum belt width in mm | Guiding values for Minimum Length of Belt Turning ( $l_w$ ), related to belt width (B) |                             |                             |            |
|---|------------------|--------------------------|--|-----------------------------|-----------------------------|------------|
|   |                  |                          | Multitrans   | Metalcord M<br>Metaltrans M | Metalcord E<br>Metaltrans E | Sempercord |
| 1 | free             | 1200                     | 630  | 500                         | 400                         | 500        |
| 2 | guided           | 1600                     | 630  | 500                         | 400                         | 500        |
| 3 | supported        | 2400                     | 800  | 630                         | 500                         | 630        |

Contact us if you require different lengths or belt dimensions.



## FIELD SERVICE

After the product has been manufactured and shipped there will often be a need for Field Service support. The Sempertrans Field Service team is able to assist as and where our customers require, be it supervision of local service partners or total project management. All we have learnt over the years is that after putting so much effort into making a high quality conveyor belt product, there has to be the same attention to detail to ensure that they are joined together correctly. Two essential aspects to achieving that are the use of correct Sempertrans materials and following Sempertrans splicing procedures.

### Sempertrans Field Service cover the following:

- Splicing material (kits) production & delivery
- Support during belts installation
- Splice supervision (QA) of local service partners
- Belt repairs
- Theoretical and practical training in splicing
- Conveyor audit & inspections



### SPLICING MATERIALS/KITS

For the hot vulcanization of any Sempertrans conveyor belt we recommend the use of our own approved Splicing Materials & Splicing Procedures.

#### Components of a splicing kit for steel cord belts (depending on the type of the conveyor belt):

1. Core (Bonder) Rubber in sheet form
2. Cover Rubber in sheet form
3. Intercord rubber in strips or noodles
4. Hot vulcanizing rubber solution
5. Release fabric and silicon paper
6. Textile or Steel reinforcement (Breaker) for belts with marking STB or STW

#### Components of a splicing kit for textile belts (depending on the type of the conveyor belt):

1. Skim (adhesive) rubber in sheet form – quantity, thickness and type depends on type of the belt;
2. Strip of cover rubber – quantity, thickness and type depends on type of the belt;
3. Hot vulcanizing Solution – quantity and type depends on type of the belt;

## INTERNATIONAL STANDARDS

Extract of common standards fulfilled by Sempertrans conveyor belts, many other standards available:

| Standard     | Description                                    | Content   |
|--------------|--|---|
| AS 1332      | Australian Standard                            | Conveyor belts – textile reinforcements   |
| AS 1333      | Australian Standard                            | Conveyor belts – steel reinforcements   |
| AS 4606      | Australian Standard                            | Grade S flame retardant and anti-static requirement for conveyor belts and conveyor accessories       |
| CEMA         | Conveyor equipment manufacturers association   |   |
| DIN 22102    | German Institution for Standardisation         | Conveyor belts with textile plies   |
| DIN 22131    | German Institution for Standardisation         | Steel cord conveyor belts   |
| DIN 22721    | German Institution for Standardisation         | Conveyor belts of textile construction for underground  |
| DIN 22110    | German Institution for Standardisation         | Conveyor belt splices   |
| DIN 22123    | German Institution for Standardisation         | Indentation Rolling Resistance  |
| EN 12882     | European Standard                              | Conveyor belts for general purpose use – electrical and flammability safety requirements              |
| EN 14973     | European Standard                              | Conveyor belts for use in underground installations – electrical and flammability safety requirements |
| EN ISO 15236 | European Standard                              | Steel cord conveyor belts   |
| EN ISO 14890 | European Standard                              | Textile conveyor belts  |
| IS 1891      | Indian Standard                                | Conveyor and elevator textile belts – specification   |
| ISO 284      | International Organisation for Standardisation | Conveyor belts – electrical conductivity – specification and test method                              |
| ISO 340      | International Organisation for Standardisation | Conveyor belts – laboratory scale flammability characteristics – requirements and test method         |
| MSHA         | Mine safety and health organisation            |   |
| SANS 1366    | South Africa National Standard                 | Steel cord conveyor belts   |
| SANS 1173    | South Africa National Standard                 | Textile Conveyor Belts  |
| SANS 971     | South Africa National Standard                 | Flame retardant conveyor belts  |
| MT668        | Chinese Standard                               | Conveyor Belts for underground coal applications  |

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