

SEMPERCORD™

STEEL CORD BELT WITH THE HIGHEST STRENGTH AND LONGEST SERVICE LIFE

PRODUCT SHEET



The Sempercord™ belts ensure reliable transport at the highest capacities and supply ultimate service life and utilisation.

THE CONCEPT

Sempercord high strength steel cord belts combine the ultimate breaking strength of the carcass and the lowest elongation. The Sempercord belts are widely used in heavy duty mining applications, as well as industrial environments where reliable performance and availability are key. Thus, they 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

HIGHLIGHTS

- Made with high strength steel cords and high-tech rubber compounds produced in-house
- Can be equipped with textile or steel breakers for extra impact and rip protection
- Provides extensive protection against corrosion and the longest carcass service life
- Highest durability for heavy duty operations (e.g. hard rock mining)
- Nominal belt strengths up to 8000 N/mm and above

APPLICATIONS

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

COVERS

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



BENEFITS OF SEMPERCORD™

- 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 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.



SPlicing WITH SEMPERTRANS SUPERVISION

Sempertrans' Field Service specialists are at your disposal for splicing supervision and training, making sure your Sempercord belt is ready for optimum performance.

Sempertrans also continuously develops state-of-the-art splicing material and tailor-made splicing kits, as well as detailed splicing instructions which are specifically adapted to Sempercord belts.

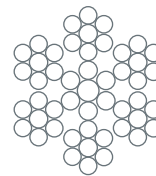


NEED A BELT MONITORING SYSTEM?

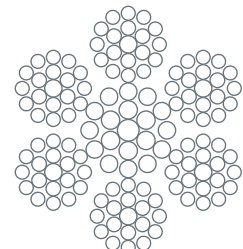
Sempertrans steel cord belts can also be supplied with embedded sensors or loops which work with industry standard rip detection systems.

Special solutions are available on request.

CONSTRUCTION OF SEMPERCORD STEEL CORDS



7x7



7x19

ADVANTAGES OF SEMPERCORD STEEL CORDS

- 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

Highest possible dynamic splice efficiency

Lower safety factors

Higher utilisation

Reduced capital investments and operating costs



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.

Advantages of Sempercord with breakers

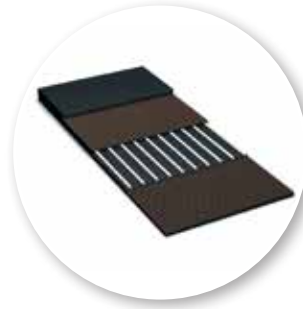
- Choice of several breaker types, either steel or textile, perfectly tailored to the specific application
- High elasticity in transversal direction provides high impact resistance while maintaining an excellent troughability
- Increased carcass protection against longitudinal cuts and punctures
- Improved 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

Three types of breakers are available:

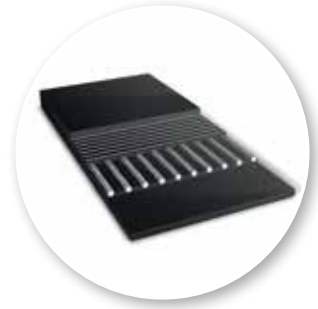
F – Fabric breaker as woven textile breaker provides higher impact, cut and especially puncture resistance

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



Sempercord with textile breakers

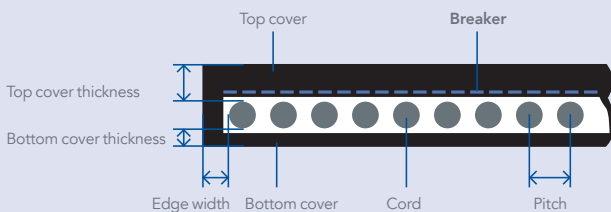


Sempercord with steel breakers

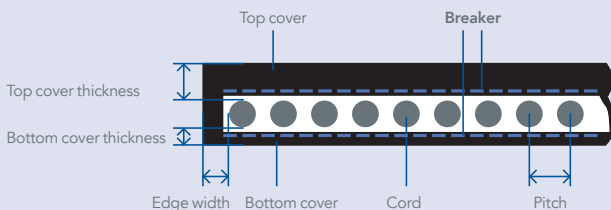
APPLICATIONS

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

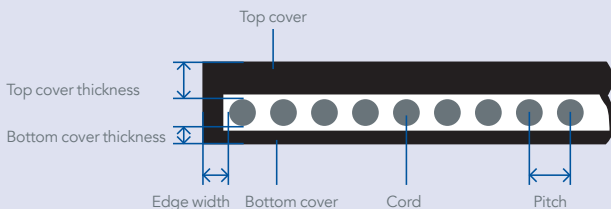
BREAKER IN TOP COVER



BREAKER IN TOP AND BOTTOM COVERS



STANDARD (NO BREAKER)



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 ²]	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



TAILORED TECHNICAL CONSULTING

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.

