METALCORD™

UNRIVALLED STEEL CARCASS CONSTRUCTION FOR OUTSTANDING IMPACT AND CUTTING RESISTANCE

PRODUCT SHEET

Metalcord™ is a metal shield which combines the flexibility of a fabric belt with the resistance of a steel cord belt.

THE CONCEPT

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.

BENEFITS OF METALCORD

- 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
- Option to use mechanical fasteners for emergency situations and fast repairs

HIGHLIGHTS

- Complex and unique belt construction
- Metal carcass with three layers of rubber embedded cords
- Two types of constructions in warp direction: M-cords for highest elasticity and E-cords for large centre distance applications
- Designed for harsh conditions

APPLICATIONS

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

COVERS

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

PRODUCT FEATURES

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 provides 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 provides 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.

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.

Metalcord with the highly elastic M warp cords

With a 4x7 design it offers a low elastic modulus and strong impact resistance 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

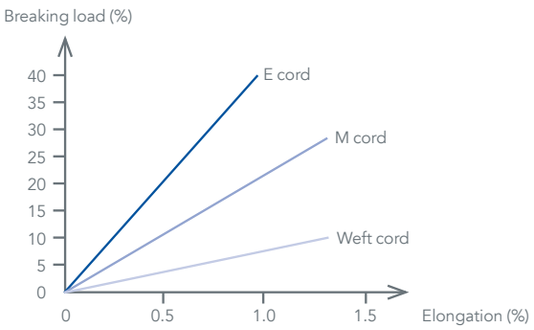
Metalcord with the low elongation E warp cord

With a 7x7 design it provides 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

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

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

Metalcord belts are produced in Bełchatów, Poland. Sempertrans Bełchatów is the largest conveyor belt production site in Europe and specialises in producing textile and heavy steel cord belts and technically complex belts for special use.

Sempertrans has its own unique process for producing Metalcord specialty belts. It is based on continuous dedication to supplying high quality products to customers. Through the integration of rigorous controls at all stages of development and manufacturing, we ensure that only products that have undergone extensive testing are delivered to our customers.

Sempertrans is the only conveyor belt manufacturer in the world producing customised and engineered belts Metalcord with M or E cords with special steel carcass constructions.

METALCORD BELTS ARE RECOMMENDED FOR CONVEYORS WITH:

- Harsh conditions of use
- High drop height and impact issues
- Vertical and horizontal curves
- Small pulley diameter
- Frequent stops and start-ups
- Low maintenance

TAILORED TECHNICAL CONSULTANCY

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.

These expert technicians and professionals will 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 there to support you.

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