METALCORD

2 WEFTS

SEMPERTRANS® offers you an INCOMPARABLE and UNRIVALLED STRUCTURE: THE METALCORD RANGE More than 40 years of know-how

METALCORD belts are manufactured with two types of carcass (warp cords and weft cords):
- Carcass with elastic M warp cords (4x7 construction), strong impact resistance, particularly suitable for:
- conveyors with small pulley diameters
- curved conveyors with small radii
- severe conditions of use
- frequent stopping and starting

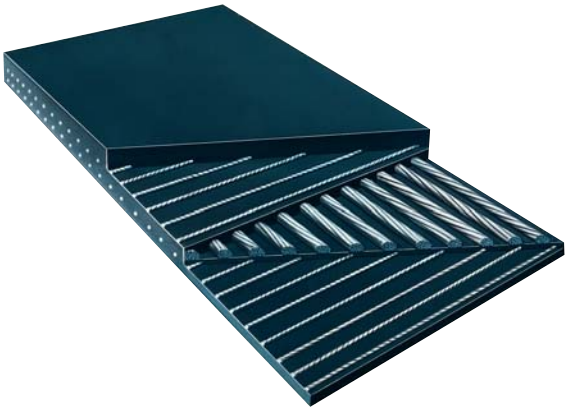
- Carcass with reduced-elasticity E warp cords (7x7 construction), high breaking strength, particularly suitable for applications with conveyors with large centre distances.

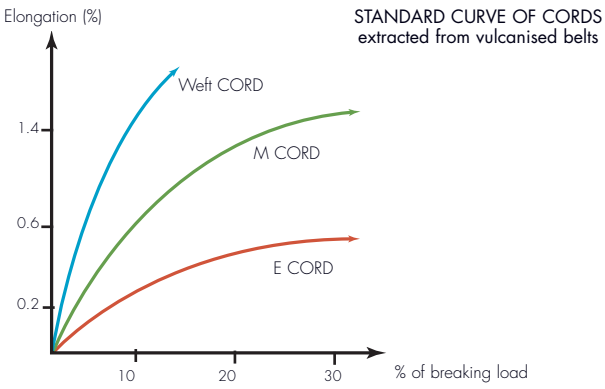
Our weft cords are specially designed (ten times more elastic than the warp cords) and enable very good troughing whatever the width of the belt.
Example: 35° trough, width 800 mm, type 2250 N/mm.

- Belt complying with standard EN ISO 15236

We guarantee excellent rubber penetration and high adhesion values.
Our open type cord design, our expertise in chemical adhesion between cords and rubber and our 40-bar vulcanisation process give the belt very high cord adhesion.

Only the METALCORD belt has its own carcass, with 3 layers of metal cords (cords of variable elasticity). This type of construction presents various advantages. These include:
- excellent cord/rubber adhesion
- resistance to repeated shocks
- resistance to penetration
- ability to eject foreign bodies
- limiting of longitudinal cuts and tears
- possibility of total wear of covers
- aptitude for winding on small pulley diameters
- aptitude for accepting small convex radii of curvature
- good efficiency at joint
- possibility of fastener jointing
- easy emergency repairs





STANDARD CURVE OF CORDS
extracted from vulcanised belts

Please note: Before using the product in new areas of application which are not covered by the product information a Sempertrans engineer MUST be asked 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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METALCORD WITH D GRADE COVER (superior quality anti-abrasive)

CARCASS

- ELASTIC CORDS M: construction 4x7
  elongation under reference load: 0.4 to 0.6 %

DESIGNATION	METALCORD M 2TA (2 steel wefts)								
Type (N/mm)	500	630	800	1000	1250	1400	1600	1800	2000
ø 2.85 mm									
ø 3.8 mm									

- MEDIUM ELASTIC CORDS E: construction 7x7, 7x19
  elongation under reference load: 0.2 to 0.3 %

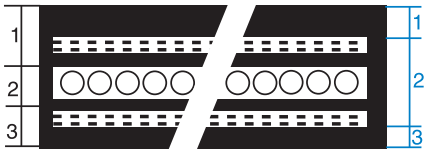
DESIGNATION	METALCORD E 2TA (2 steel wefts)												
Type (N/mm)	800	1000	1250	1400	1600	1800	2000	2250	2500	2800	3150	3500	4000
ø 3.1 mm													
ø 3.7 À 8.6 mm*													

* Diameter and pitch of cords as per customer request

POSSIBLE CONSTRUCTIONS OF WEFTS

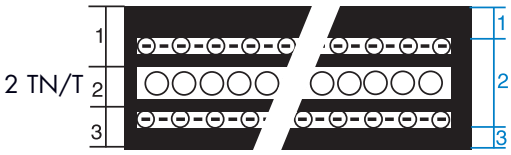
In accordance with your needs, our Design Office can offer you variants derived from the METALCORD range:

METALCORD 2 TA



2 TA 2 steel wefts, cover measured above the weft
2 TA/S 2 steel breakers included in the covers

METALCORD 2 TN



2 TN 2 polyamide wefts, cover measured above the weft
2 TN/T 2 polyamide breakers included in the covers

1: Top cover 2: Carcass 3: Bottom cover

COVER PAIRS (type, standard, as per customer request, min.)

Type (N/mm)	500	630	800	1000	1250	1400	1600	1800	2000	2250	2500	2800	3150	2500	4000
Standard	4+3, 6+3, 8+3, 10+4, 12+5														
As per request	Min. 4+3										Min. 4+4		Min. 5+5		

WIDTH

Possibility of supply in all widths, from 600 mm to 2000 mm.
For larger widths, consult us.

METALCORD

CARCASS

	METALCORD M 2TA (2 steel wefts)								
Type (N/mm)	500	630	800	1000	1250	1400	1600	1800	2000
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	10.7	11.6	12.5	12.8	13.1	15.9	16.5

Values given for information

	METALCORD E 2TA (2 steel wefts)											
Type (N/mm)	800	1000	1250	1400	1600	1800	2000	2500	2800	3150	3500	4000
Carcass thickness (mm)	6.6	6.6	6.6	6.6	6.6	6.6	6.6	8	9	9.5	10.8	11.8
Carcass weight (Kg/m²)	12.6	12.6	13	13.5	14.2	14.9	15.7	19.5	22	24.1	26.9	30

Values given for information

- For manufacturing with nylon wefts (2TN), take away approximately 1 kg/m² from METALCORD 2TA.

COVER

METALCORD belts can be produced in most of the cover grades of our standard range. See details of characteristics on pages 66 and 67.

DENSITY OF VARIOUS STANDARD COVERS

Cover	D	X	Y	W	J2/K	CR	TEA	TEB	CW	G	GM	JGM	JGF
Weight in Kg/m² for 1 mm of gum	1.15	1.11	1.12	1.12	1.20	1.33	1.12	1.07	1.20	1.15	1.13	1.21	1.27

Values given for information

CROWN OF PULLEYS.

M CORD BELT

On a trough type conveyor, M cord belts function correctly without a crown. However, on conveyors with a small centre distance, the crown is an effective element for the centring of a belt. It is in this case tolerated with the limits f<0.01 x pulley diameter.

E CORD BELT

Crown prohibited in all cases.

TECHNICAL SPECIFICATIONS (see page 66)

- Cover grade / resistance of covers to products conveyed
- Pulley diameter
- Tension travel
- Trough transition lengths
- Radius of curvature
- Turnover
- Idler spacing
- Roller skirt clearance
- Splicing

ADVANTAGES

Usually, all metal belts have a single layer of cords in the warp direction, but only METALCORD has its own carcass with three layers of rubber-core impregnated metal cords (cords of variable elasticity).
This type of construction presents various advantages. These include:

OUR PERFORMANCES

- excellent cord/rubber adhesion
- resistance to repeated shocks
- resistance to penetration
- ability to eject foreign bodies
- limiting of longitudinal cuts and tears
- possibility of total wear of covers
- aptitude for winding on small pulley diameters
- aptitude for accepting small convex radii of curvature
- good efficiency at joint
- possibility of stapling

YOUR INTERESTS

- long belt service life
- saving on maintenance
- better stability
- safe use
- quick repair
- increased productivity

SHOCK ENERGY (in Joules)

This criteria is always very difficult to evaluate, but the values shown below can be considered to be indicative.

ELASTIC CORDS M									
TYPE	M500	M630	M800	M1000	M1250	M1400	M1600	M1800	M2000
Metalcord 2TA 6+3	1200	1700	2000	2900	3700	4000	4500	5000	5500
Metalcord 2TA 8+3				4000	5000	6000			
Metalcord 2TA 12+5					6500	8000	9000	11000	12000
Metaltrans 1TA 6+3	800	900	1100	1500	2000	2500			

AVERAGELY ELASTIC CORDS E							
TYPE	E800	E1000	E1250	E1600	E2000	E2500	E2800
Metalcord 2TA 6+3	1200	1700	2000	2900	3700	4000	4500
Metaltrans 1TA 6+4	900	1200	1500	1700	2200	2500	3000

- Comparative test values with different cover pairs varying according to the types.
- Classification of materials: average hardness and surface irregularity, grain size 0-200 mm with shock absorbing device. The choice of the belt type and cover thickness is a compromise between the working tension and the operating conditions (loading frequency, product grain size, supply conditions, abrasiveness, etc.)