



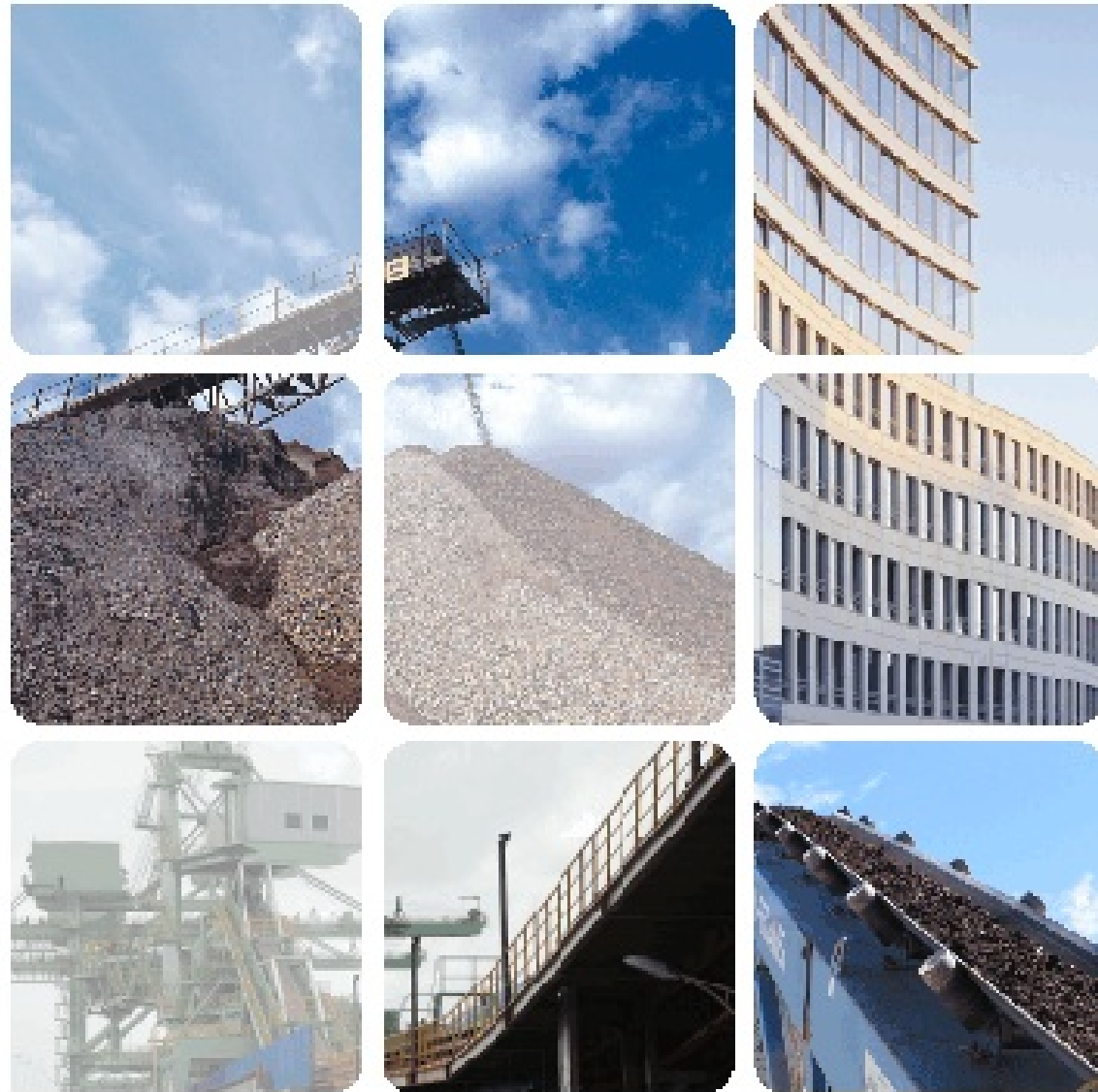
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Conveyor Belt

The world standard in quality and reliability



Conveyor Belt

AGS-TECH supplies conveyor belts tailored to individual customer wishes.





Conveyor belts of extremely varied types have proved their suitability for use in all forms of moving goods and materials. Careful selection of suitable materials and fittings ensured a long service life and economic operation of the conveyor belt involved.

We can recommend the relevant suitable form of conveyor belt for each individual application in the handling of granulated and bulk materials whether in mining, in the chemicals or plastics industries, for loading and unloading vehicles, or to move earth and stone.

Depending on the requirements and intended application concerned, we can offer conveyor belts with fabric or steel cable inserts in a great variety of grades, degrees of finishing and surface properties.

Since we keep a suitable quantity of current types of conveyor belts in stock, we can ensure a high level of availability of conveyor belts for our customers as well as short delivery times.

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SUMMARY

Conveyor belt is the equipment to transport the materials at some distance continuously and has the most convenient and economical merits in the material transportation. Recently, conveyor belt is used in various fields from the escalator in a department store and subway to all kinds of industries such as the transportation of coal and ore, the transportation process of raw material of cement and half finished goods and the unloading work in harbor, railroad station and warehouse.

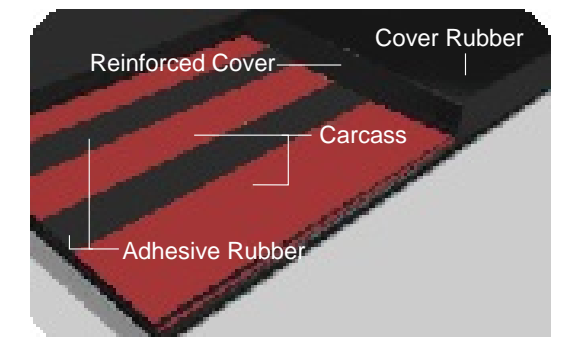
AGS-TECH has the various products as classified by the types of carcass, cover rubber, application and structure to provide the best conveyor belt suitable to these industries and tries to satisfy the customers.

Structure

Conveyor belt generally consists of cover rubber, carcass, reinforced fabric and adhesive rubber.

►Cover Rubber

Cover rubber consists of the main raw materials such natural or synthetic rubber and protects the carcass. It has the properties resistant to abrasion, heat, oil, chemical, static and fire, depends on the condition of use.



►Carcass

Carcass keep the tension of belt and supports the handling materials, and uses the covered fabric, nylon, polyester, steel cord and aramid as the good adhesive rubber.

►Adhesive Rubber

Adhesive rubber keeps the adhesive strength between all layers of carcass and the cover rubber against the sustaining flexibility to belt and uses rubber of low fatigue to stress.

►Reinforced Cover

It is good for protecting the carcass to insert the reinforced cover between carcass and the layers of cover rubber in cast that the materials has large tear or big and belt is greatly shocked in bad condition of falling.

Material

Conveyor belt consists of the carcass to keep the tension and the rubber with appropriate quality to protect the carcass from the handling materials and the surrounding environment.

● Character of Rubber

Features		Type	NR	SBR	NBR	CR	BR	IIR	EPR
Tensile Strength			A	B	B	A	B	C	B
Abrasion Resistance			B	A-B	A-B	A-B	A	C	B
Heat Resistance			C	B	B	B	C	A	A
Ozone Resistance			C-D	C-D	B-C	B	C-D	B	A
Weather Resistance			C	C	B-C	A-B	C	A-B	A
Chemical Resistance	High Density		C	C	B	B	C	A	B
	Low Density		B	B	B	A	B	A	A
Cold Resistance			A	A-B	B-C	B-C	A	A-B	A-B
Oil Resistance			D	D	A	B	D	D	D
Tear Resistance			A	B-C	B-C	B	C	B-C	C
Aging Resistance			B	B	B	A	B	A	A

A : Excellent, B : Good, C : Availability, D : Unavailability(Above character can be improve by adding the special chemicals)



● Material Character of Rubber

▶ NR(Natural Rubber)

NR is gathered from rubber tree and has been widely used as most common rubber for a long time. It is used as cover rubber of general and high tensile conveyor belt.

Feature : Reinstitution elasticity, flexibility, cold resistance, tear resistance and tension.

▶ SBR(Styrene Butadiene Rubber)

SBR is a copolymer of styrene and butadiene as the most common synthetic rubber. It is used as cover rubber of general, abrasion resistant and heat resistant conveyor belt.

Feature : Abrasion resistance, heat resistance.

▶ NBR(Nitrile Butadiene Rubber)

NBR is a copolymer of acrylonitrile and butadiene. It is used as cover rubber of oil resistant conveyor belt due to superior oil resistance. Cold resistance is not good.

Feature : Oil resistance, abrasion resistance, suitability to food transportation

▶ CR(Chloprene Rubber)

CR is a copolymer of chloroprene and generally called as neoprene. It is used as cover rubber of the conveyor for the special and complex use due to various properties.

Feature : Weather resistance, fire resistance, chemical resistance, oil resistance, heat resistance, superiority in mechanical property.

▶ BR(Butadiene Rubber)

BR is used as cover rubber of conveyor in need of high abrasion resistance due to superior elasticity and abrasion resistance.

Feature : Abrasion resistance, cold resistance, superior reinstitution elasticity, Low dynamic heat.

▶ IIR(Ethylene Propylene Rubber)

IIR is a copolymer of isoprene and isobutylene and used as cover rubber of conveyor in need of high heat resistance due to superior weather resistance and heat resistance.

Feature : Weather resistance, chemical resistance, ozone resistance, Low permeability of gas, High shock absorption

▶ EPR(Ethylene Propylene Rubber), EPDM(Ethylene Propylene Diene Monomers)

EPR is a copolymer of ethylene and propylene and EPDM is a three component copolymer adding diene ingredients to EPR. It is used as cover rubber of conveyor belt in need of high heat resistance and ozone resistance.

Feature ; Heat resistance, weather resistance, ozone resistance, chemical resistance, superior reinstitution elasticity.

Steel Cord Conveyor Belt



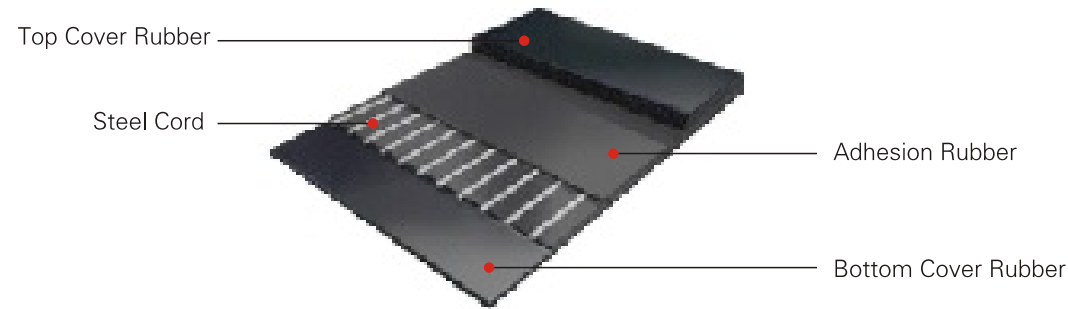
► Features

- + It is ideal for long-distance, large-capacity and high tensile strength lines.
- + Low elongation allows for short take-up strokes.
- + Small diameter pulleys may be used.

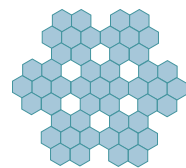
Take-up Stroke Comparison

Carcass	Take-up Stroke
Steel Cord	Over 0.35
Nylon	Over 2.1
Polyester	Over 1.4

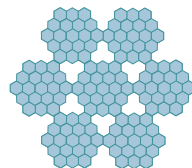
► Belt Structure



► Cord Structure



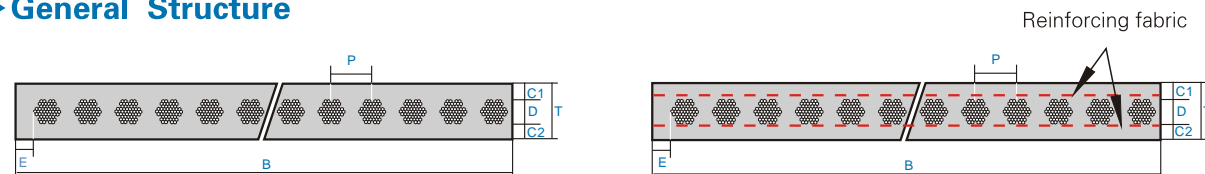
7 × 7



7 × 19

7 × 7: Applied to low tension lines
7 × 19: Applied to high tension lines

► General Structure



b : Belt width c1: Top cover rubber thickness
c2 : Bottom cover rubber thickness
d : Cord diameter e : Edge rubber width
p : Cord pitch t : Total belt thickness

b : Belt width c1: Top cover rubber thickness
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p : Cord pitch t : Total belt thickness

The reinforcing fabric

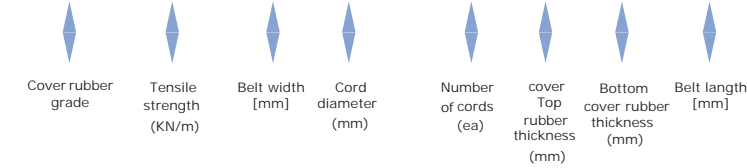
- + Prevents length-wise tearing by foreign substances or sharp objects
- + Prevents broken steel cord from protruding through cover rubber
- + Provides high withdrawal strength (in stationary tests)
- + Reduces risks for belt breakage by impact

Steel Cord Conveyor Belt



► Belt Marking Protocol

DIN-X St2000 1200X5.7φx94eaX6.0X5.0 300m



► Standard belt specification

Belt strength (St-NO.)	Max Cord diameter (mm)	Composition	Pitch (mm)	Standard working tension (N/mm)	Standard cover Thickness t12(mm)	Belt weight (Kg/m ²)	Min. pulley diameter(mm)	Cord strength KN/piece
St-630	3.0	K6x7+IWS	10	90	5x5	19.1	800	6.93
St-800	3.5	K6x7+IWS	10	110	5x5	20.6	800	8.8
St-1000	4.0	K6x7+IWS	12	140	6x6	24.7	800	13.2
St-1250	4.5	K6x7+IWS	12	175	6x6	25.4	800	16.5
St-1600	5.0	K6x19+IWS	12	225	6x6	26.0	1000	21.12
St-2000	6.0	K6x19+IWS	12	285	8x6	30.0	1000	26.4
St-2500	7.2	K6x19W+IWS	15	355	8x6	32.2	1250	41.25
St-3150	8.1	K6x19W+IWS	15	450	8x8	35.7	1400	51.98
St-3500	8.6	K6x19W+IWS	15	500	8x8	44.9	1500	57.7
St-4000	8.9	K6x19W+IWS	15	570	8x8	46.6	1600	66
St-4500	9.7	K6x19W+IWS	16	645	8x8	49	1800	79.2
St-5000	10.9	K6x19W+IWS	17	715	8.5x8.5	53.6	1800	93.5
St-6400	11.3	K6x19W+IWS	17	760	9x9	57.5	2000	101

► Number of steel cords

Belt width mm	St630	St800	St1000	St1250	St1600	St2000	St2500	St3150	St3500	St4000	St4500	St5000	St5400
800	75	75	63	63	63	63	50	50	50				
1000	95	95	79	79	79	79	64	64	64	64	59	59	59
1200	113	113	94	94	94	94	76	76	77	77	71	71	71
1400	133	133	111	111	111	111	89	89	90	90	84	84	84
1600	151	151	126	126	126	126	101	101	104	104	96	96	96
1800		171	143	143	143	143	114	114	117	117	109	109	109
2000			159	159	159	159	128	128	130	130	121	121	121
2200						176	141	141	144	144	134	134	134
2400							193	155	155	157	157	146	146

► Cover rubber property and grades

Test items		Property indexes						
		GB9770-2001				DIN22131		
		D	H	L	P	W	X	Y
Tensile strength	MPA ≥	18	25	20	14	18	25	20
Pull to break the elongation rate	% ≥	400	450	400	350	400	450	400
After aging(70°C、7D) Change rate of tensile strength Change rate of elongation	%	-25 ~ +25	-25 ~ +25	-25 ~ +25	-25 ~ +25	-25 ~ +25	-25 ~ +25	-25 ~ +25
Abrasion	≤	90mm ³	120mm ³	150mm ³	200mm ³	90mm ³	120mm ³	150mm ³

► Adhesion of steel cord

Strength	St630	St800	St1000	St1250	St1600	St2000	St2500	St3150	St3500	St4000	St4500	St5000	St5400
Adhesion N/mm GB9770-2001	60	70	80	95	105	105	130	140	145	150	165	175	180
Adhesion N/mm DIN22131-88	60	70	80	95	105	105	130	140	145	150	165	175	180

General, Abrasion Resistant Conveyor Belt



► JIS

Standard		Plant				Mine			
		JIS-P	JIS-G	JIS-S	JIS-A	JIS-L	JIS-D	JIS-H	
Tensile test	Before Aging	Tensile Strength (Mpa)	>8	>14	>18	>14	>15	>18	>24
		Elongation(%)	>300	>400	>450	>400	>350	>400	>450
	After Aging	Change rate of TS(%)	±40	±30	±25	±25	±25	±25	±25
		Change rate of EL(%)	±40	±30	±25	±25	±25	±25	±25
Abrasion test (mm ³)		<400	<250	<200	<150	<200	<100	<120	
Ozone test				NC	NC				

► DIN

Standard		DIN-W	DIN-X	DIN-Y	DIN-Z	
Tensile test	Before Aging	Tensile Strength (Mpa)	>18	>25	>20	>15
		Elongation(%)	>400	>450	>400	>350
	After Aging	Change rate of TS(%)	±25	±25	±25	±25
		Change rate of EL(%)	±25	±25	±25	±25
Abrasion test (mm ³)		<90	<120	<150	<250	

► As

Standard		AS-N	AS-M	AS-A	
Tensile test	Before Aging	Tensile Strength (Mpa)	>17	>24	>17
		Elongation(%)	>400	>450	>400
	After Aging	Change rate of TS(%)	±20	±20	±20
		Change rate of EL(%)	±20	±20	±20
Abrasion test (mm ³)		<200	<125	<75	

► Bs

Standard		BS-N17	BS-M24	
Tensile test	Before Aging	Tensile Strength (Mpa)	>17	>24
		Elongation(%)	>400	>450
	After Aging	Change rate of TS(%)	±25	±25
		Change rate of EL(%)	±25	±25

► RMA

Standard		RMA-1	RMA-2	
Tensile test	Before Aging	Tensile Strength (Mpa)	>25	>18
		Elongation(%)	>450	>400
	After Aging	Change rate of TS(%)	±25	±25
		Change rate of EL(%)	±25	±25
Abrasion test (mm ³)		<125	<200	



Note :
ZUNHUA produces conveyor belts that conform to various international specifications as well as GB specifications.

Please consult your representative for conveyor belts of non-standard specifications.

Multi-Ply Conveyor Belt



► Features

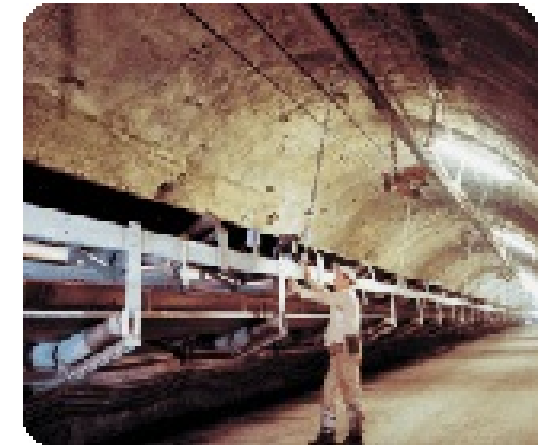
Material Quality

Nylon (NN)

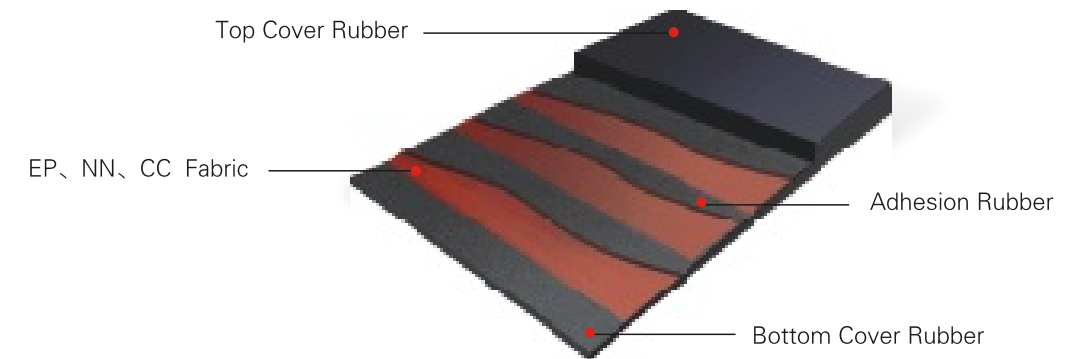
- + Highly flexible.
- + Highly resistant against impact.
- + Highly bendable.

Polyester (EP)

- + Less elongation.
- + Less deformed by heat.
- + Less affected by moisture.



► Belt Structure

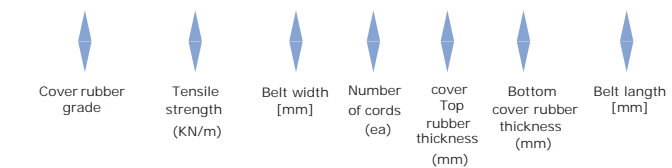


► Product Information

Products	Application groups	
(1) Belt tensile strength : 100~1500(KN/m)	(1) General	(5) Fire
(2) Belt width : 300~2200mm	(2) Abrasion	(6) Chemical
(3) Minimum length : 50m	(3) Heat	(7) Anti-Static
	(4) Oil	(8) Color

► Belt Marking Protocol

DIN-Z NN630 1200X4PX6.4X3.2 300m



Multi-Ply Conveyor Belt



► Standard specifications

Belt strength (kg f / cm)	Belt specifications				Belt width (mm/inch)														
	Plies	Carcass type	Cover rubber (mm)		300	400	500	600	700	800	900	1000	1050	1200	1400	1600	1800	2000	2200
			Top rubber	Bottom rubber	12	16	20	24	28	32	36	40	42	48	56	64	72	80	88
160	2	NN、EP、CC	3.2	1.6															
250	2~3	NN、EP、CC	3.2	1.6															
315	2~4	NN、EP、CC	4.8	1.6															
400	2~4	NN、EP、CC	4.8	1.6															
500	2~4	NN、EP、CC	4.8	1.6															
630	3~5	NN、EP、CC	4.8	1.6															
800	3~6	NN、EP、CC	4.8	2.4															
1000	4~6	NN、EP、CC	4.8	2.4															
1250	4~6	NN、EP、CC	4.8	2.4															
1500	5~6	NN、EP、CC	6.4	3.2															
2000	5~6	NN、EP、CC	6.4	3.2															

Heat-Resistant Conveyor Belt



It is more economical to use a thermostable conveyor belt when transporting materials of 60°C or higher temperature. Damage to cover rubber varies depending on the temperature or shape of transported materials and it is critical to choose suitable belt materials depending on the use conditions. The relationship between the cargo and the belt surface temperature is especially noteworthy. This is because cooling mainly is achieved on the return trip as the temperature of the belt surface is different from that of the cargo, although it varies depending on the cargo shape, belt length, speed, operation environment and hours.



Grade	Features	Applications
HRB	Being a belt made of heat-hardening SBR materials, it has good abrasion resistance though some cracks are generated as cover rubber gets hardened by heat if used for a long time.	High abrasion resistance, Medium temperature
HRS	Being a belt made of heat-softening IIR materials, it has good resistance against cracks though its cover rubber gets softened by heat if used for a long time. It is suitable to transport cement or clinker with little abrasion.	Crack resistance, Medium high temperature
HRP	Being a belt made of EPR materials, it demonstrates outstanding performance in transporting hot materials as it has high resistance against abrasion and cracks.	High abrasion resistance, Crack resistance, High temperature
HRP(plus)	Being a new concept HRP product whose crack resistance is reinforced, you may experience a longer life span.	

► Selection of Belts by Material Type and Temperature

Grain shape	Powder materials						Lump materials				
	Cement, Chemical, Fertilizer, Soda ash, Casting sand, Clinker						Sintered ore, Cokes, Limestone, Iron Ore, Clinker				
Material handled											
Maximum temperature of material handled	120	150	200	200	400		200	200	400	400	
Average temperature of material handled	60	80	100	120	150	180	60	100	120	150	200
Maximum temperature of belt surface	50	80	100	120	150	180	50	80	100	130	180
HRB(SBR)											
HRB(Butyl)											
HRP (EPR)/HRP (plus)											

► Relation between Material and Belt Surface Temperature

Material handled	Temperature of material handled(°C)	Belt surface temperature(°C)	Used belt
Sintered ore	200~350	90~150	HRP
Cokes	60~200	40~60	HRS
Clinker	200~300	100~150	HRB
Clinker	300~400	150~180	HRP
Cement	110~140	100~110	HRB
Fertilizer	80~100	60~80	HRS
Casting cast	~100	60~80	HRS
	100~150	110~130	HRP

Belt surface temperature varies depending on material types, shapes, sizes, belt cycle time, and trough angle. The heat-resistant belts should be selected based on their surface temperature as their life span depends on the belt surface temperature.

Fire Resistant Conveyor Belt



► Fire Resistant Conveyor Belt

This belt is used to prevent line loss while reducing damage to the belt from flames by suppressing ignition. It is mainly used to transport grains, fertilizer, or coal.



► Flame resistant belt standards by country

Standard	Item	Laboratory flame test		Drum friction test	Electric resistance	Other Items
		Flame	Glow			
JIS		Each less than 15 sec. Total of 6 samples less than 45 secretary.	None	None	None	None
ISO		Each less than 15 sec. Total of 6 samples less than 45 secretary.	None	None	Less than $3 \times 10^8 \Omega$	None
DIN		Each less than 15 sec. Total of 6 samples less than 45 secretary.	None	None	Less than $3 \times 10^8 \Omega$	None
MSHA		Avr. less than 60 sec.	Avr. less than 120 sec.	None	Less than $3 \times 10^8 \Omega$	None
AS		Avr. less than 10 sec. Each less than 15 secretary.	Avr. less than 120 sec. Each less than 180 secretary.	Less than 325°C on drum surface and no glow	Less than $3 \times 10^8 \Omega$	Oxygen index test in accordance with ISO 4589 Gallery flame test
CSA		Avr. less than 60 sec.	Each less than 180 secretary.	Less than 400°C on drum surface and no glow	Less than $3 \times 10^8 \Omega$	None

MSHA(U.S), CAN/CSA-M422(Canada), MDA-M5010(Australia) certified

► **Carcass:** EP/NN

► Technical Data of Rubber Cover:

- + Tensile Strength: $\geq 14\text{Mpa}$
- + Elongation at Break: $\geq 350\%$
- + Adhesive strength between carcass: $\geq 4.0\text{N/mm}$
- + Adhesive strength between cover and carcass: 3.15N/mm
- + Elasticity: $\geq 32\%$
- + Abrasion: $\leq 200\text{mm}^3$
- + Change of heat aging (72°C x 168H)
- + Tensile Strength: $\pm 35\%$
- + Elongation at Break: $\pm 35\%$
- + Surface electrical Resistant: $\leq 3.0 \times 10^8 \Omega$

Oil Resistant Conveyor Belt



► Oil Resistant Conveyor Belt

Ordinary grade belts are damaged quickly by imbibition of oil into cover rubber, peeling of cover rubber, and reverse-troughing of the belt if oily materials are transported. Therefore, oil-resistant belts should be used to transport oily materials.



Grade	Color	Key Applications
ORN	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Resistant to metal, animal or vegetable oil excluding aromatic compounds (benzene, toluene etc.) halogen hydrocarbon, ketone, and ester family. Further, the cover rubber is highly resistant to abrasion.
ORN-30	<input type="checkbox"/> <input checked="" type="checkbox"/>	Used for slightly oily materials. It is suitable for transporting wood chips or frozen meat.
HOR	<input type="checkbox"/> <input checked="" type="checkbox"/>	It is suitable for animal or vegetable oil transported at a relatively high temperature (up to 100°C)

► **Carcass:** EP/NN

► Technical Data of Rubber Cover:

- + Tensile Strength: $\geq 14\text{Mpa}$
- + Elongation at Break: $\geq 350\%$
- + Adhesive strength between carcass: $\geq 6.0\text{N/mm}$
- + Adhesive strength between cover and carcass: $\geq 3.0\text{N/mm}$
- + Elasticity: $\geq 32\%$
- + Abrasion: $\leq 250\text{mm}^3$
- + Change of heat aging (72°C x 72H)
- + Tensile Strength: $\pm 30\%$
- + Elongation at Break: $\pm 30\%$



► Chemical-resistant Conveyor Belt

Used for transporting chemicals, pulp, ceramic, foodstuffs, fertilizer and materials with chemicals attached. It is necessary to select cover rubber that is resistant to acid or alkali depending on the types of transport materials or chemicals attached to the materials.

► Carcass:

EP/NN (Heat proof type can also be made)

► Technical Data of Rubber Cover:

- + Tensile Strength: $\geq 10\text{Mpa}$
- + Elongation at Break: $\geq 350\%$
- + Adhesive strength between carcass: $\geq 6.0\text{N/mm}$
- + Adhesive strength between cover and carcass: $\geq 3.0\text{N/mm}$
- + Elasticity: $\geq 32\%$
- + Abrasion: $\leq 200\text{mm}$
- + Change of heat aging (72°Cx 72H)
- + Tensile Strength: $\pm 30\%$
- + Elongation at Break: $\pm 30\%$
- + Change of acid/alkali aging (25°Cx 48H, 40% H₂SO₄ or 40% NaOH)
- + Tensile Strength: $\pm 5\%$
- + Elongation at Break: $\pm 5\%$

► Anti-Static Conveyor Belt

Belt made of cover rubber especially mixed to prevent static electricity. Anti-static belt is essential to transport fabrics that stick on the belt surface with static electricity or electronic products that may explode or ignite by electrification.

- + Cover rubber electric resistance (ISO-284) : $3^8 \times 10^8 \Omega$ or less

► Carcass: EP/NN

► Technical Data of Rubber Cover:

- + Tensile Strength: $\geq 18\text{Mpa}$
- + Elongation at Break: $\geq 450\%$
- + Adhesive strength between carcass: $\geq 6.0\text{N/mm}$
- + Adhesive strength between cover and carcass: $\geq 3.0\text{N/mm}$
- + Elasticity: $\geq 32\%$
- + Abrasion: $\leq 200\text{mm}^3$
- + Change of heat aging (72°C x 72H)
- + Tensile Strength: $\pm 30\%$
- + Elongation at Break: $\pm 30\%$
- + Surface resistance: $\leq 2.5 \times 10^8 \Omega$



Chevron conveyor belt is composed of belt carcass and pattern. Pattern shape and height (depth) may be different because of different conveyed material and gradient of conveyor.

We have different pattern shapes, such as "U" pattern, "V" pattern and "八" pattern. Customer can also order other patterns as well.



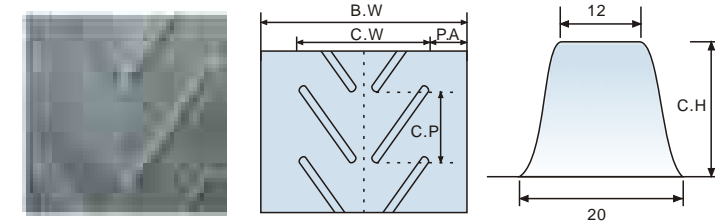
► Application

There are open type and closed type, suitable for bulk or bagged materials such as powder and granule with incline less than 45°C.

► Technical Data of Rubber Cover

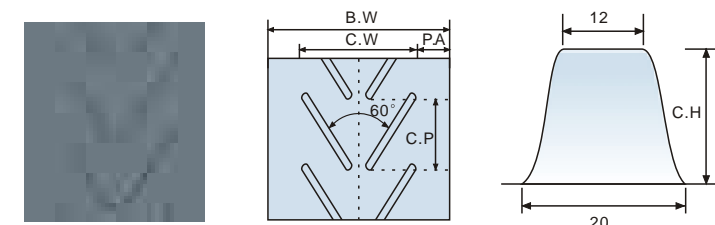
- + Tensile Strength: $\geq 14\text{Mpa}$
- + Elongation at Break: $\geq 350\%$
- + Adhesive strength between carcass: $\geq 6.0\text{N/mm}$
- + Adhesive strength between cover and carcass: $\geq 3.0\text{N/mm}$
- + Elasticity: $\geq 32\%$
- + Abrasion: $\leq 200\text{mm}^3$

● Rib Type C7P385 Open V Chevron Cleat



B.W (mm)	C.W (mm)	C.P (mm)	θ	C.H (mm)
400	385	200	90°	7
500	385	200	90°	7
600	385	200	90°	7
650	385	200	90°	7
700	385	200	90°	7
800	385	200	90°	7

● Rib Type C15P380 Open V Chevron Cleat

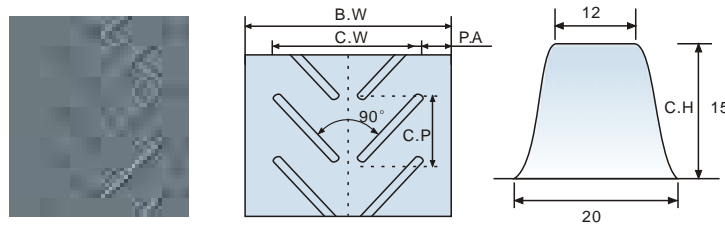


B.W (mm)	C.W (mm)	C.P (mm)	θ	C.H (mm)
450	380	250	35	15
500	380	250	60	15
600	380	250	110	15
650	380	250	135	15
800	380	250	210	15

Chevron Conveyor Belts

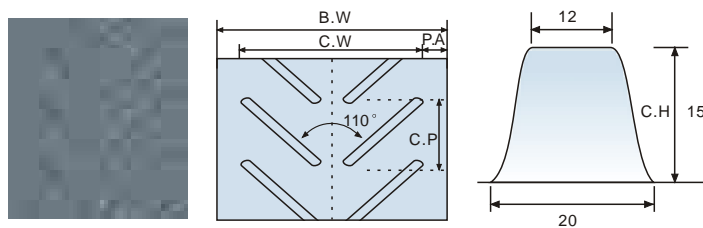


● Rib Type C15P600 Open V Chevron Cleat



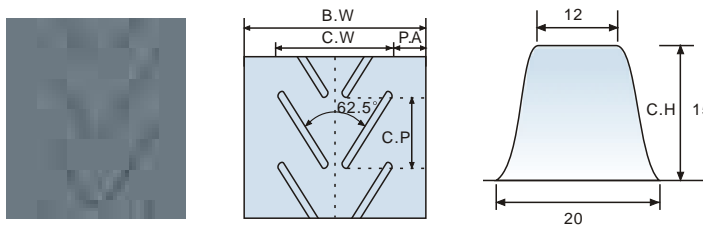
B.W.	C.W.	C.P.	P.A.	C.H.
750	600	250	75	15
800	600	250	100	15
900	600	250	150	15

● Rib Type C15P740 Open V Chevron Cleat



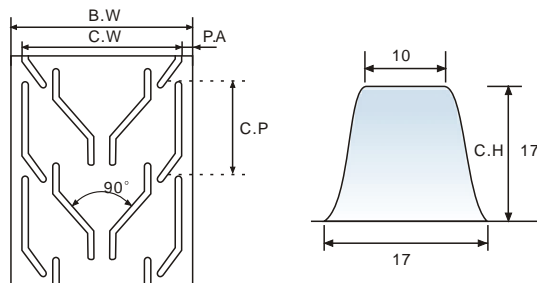
B.W.	C.W.	C.P.	P.A.	C.H.
900	740	250	80	15
1000	740	250	130	15
1050	740	250	155	15
1200	740	250	230	15

● Rib Type C127 P8509 Open V Chevron Cleat



B.W.	C.W.	C.P.	P.A.	C.H.
1000	850	295	75	12.7
1200	850	295	175	12.7
1400	850	295	275	12.7
1500	850	295	325	12.7

● Rib Type C17 L630 Chevron Cleat



B.W.	C.W.	C.P.	P.A.	C.H.
650	630	330	10	17
750	630	330	60	17
800	630	330	85	17
900	630	330	135	17

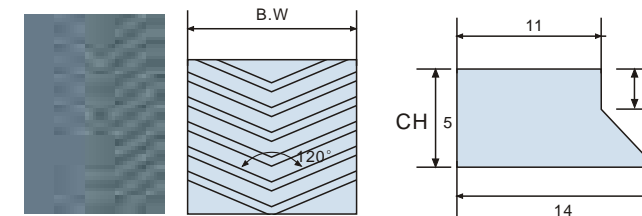
► low chevron profile

This belt is most suitable for transporting loose, bulky or bagged materials at angles from 18~25 degrees.

Chevron Conveyor Belts

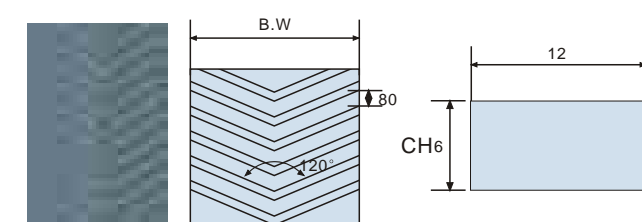


● Rib Type C5 Closed V Chevron Cleat



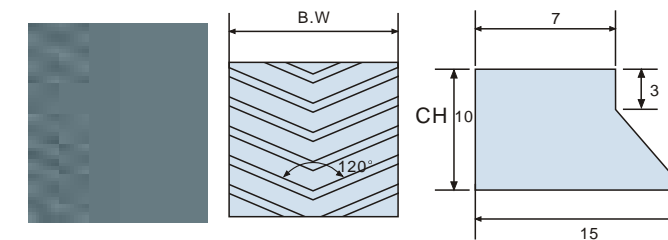
B.W.	C.W.	C.P.	P.A.	C.H.
300~1000	Fullwidth or appointed width	100	0~200	5

● Rib Type C6 Closed V Chevron Cleat



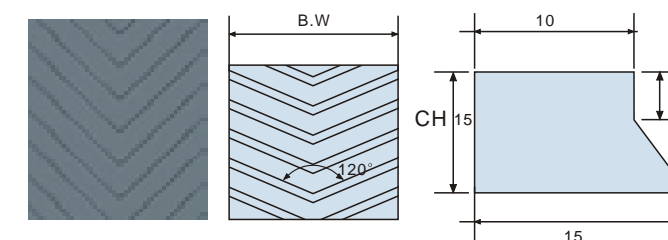
B.W.	C.W.	C.P.	P.A.	C.H.
300~1000	Fullwidth or appointed width	100	0~200	6

● Rib Type C10 Closed V Chevron Cleat



B.W.	C.W.	C.P.	P.A.	C.H.
500~1000	Full width or appointed width	150	0~200	10

● Rib Type C15 Closed V Chevron Cleat

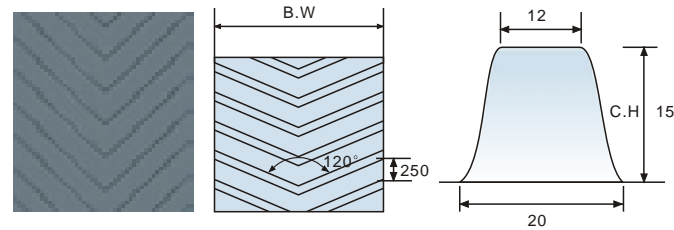


B.W.	C.W.	C.P.	P.A.	C.H.
500~1000	Full width or appointed width	200	0~200	15

Chevron Conveyor Belts

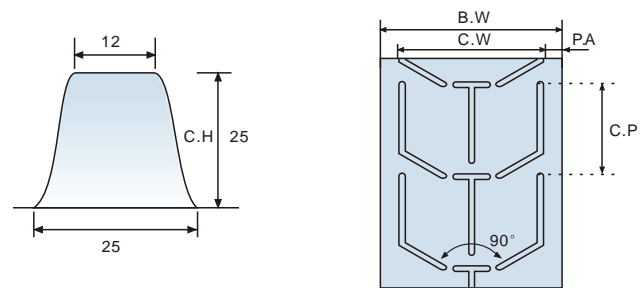


● Rib Type C15 Closed V Chevron Cleat



B.W.	C.W.	C.P.	P.A.	C.H.
500~1000	Full width or appointed width	200	0~200	15

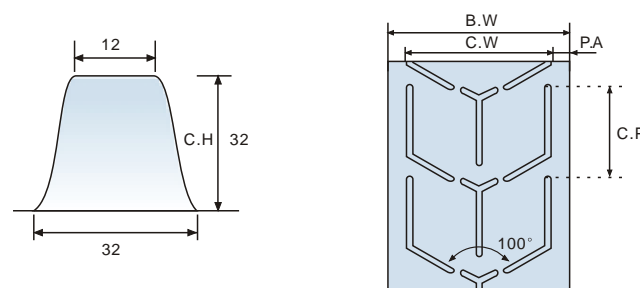
● Rib Type C25 P450 Chevron Cleat



B.W.	C.W.	C.P.	P.A.	C.H.
500	450	250	25	25
600	450	250	75	25
650	450	250	100	25
700	450	250	125	25

► Middle Chevron Profile

● Rib Type Y32 P800 Chevron Cleat



B.W.	C.W.	C.P.	P.A.	C.H.
900	800	333	50	32
1000	800	333	100	32
1050	800	333	125	32
1200	800	333	200	32

► High Chevron Profile

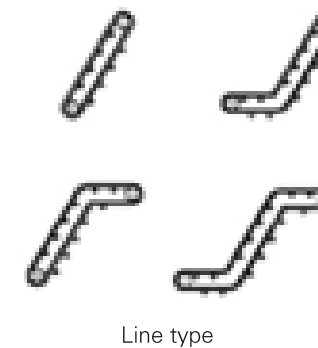
Corrugated Sidewall Conveyor



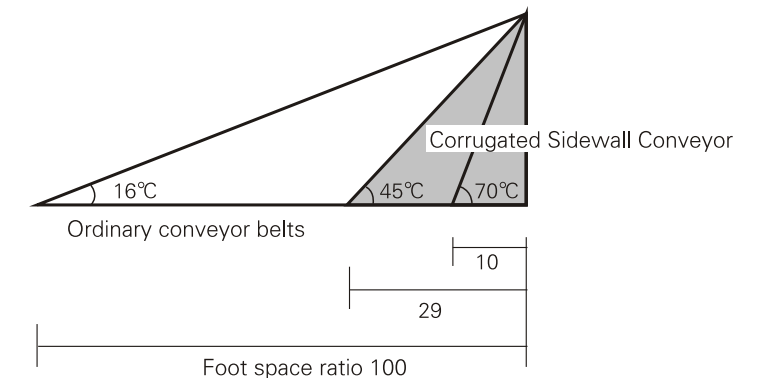
Conveyor belts equipped with special waves or cleats called corrugated sidewall on the belt ears provide the following.

► Features

- ✦ Corrugated sidewall design allows for greater transport volume with increased sectional loading area, enabling a narrower conveyor design.
- ✦ Reduces foot space as steep incline or vertical transport is possible with pin hooks attached belt widthwise.
- ✦ No skirt board is required as transport materials spillage is prevented by high wavelike raised strips.
- ✦ Incline angle can be easily adjusted with specially strong belts and press rollers.
- ✦ Flat rollers may be used to reduce the equipment cost.

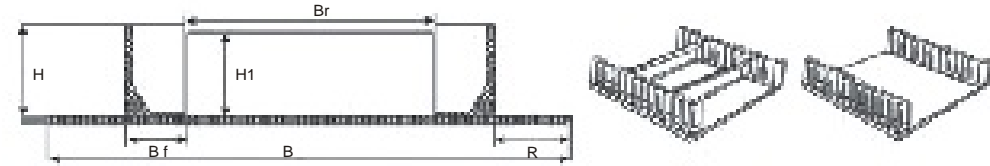


Line type



Name \ Type	N					S				ES			
	40	60	80	100	120	120	160	200	240	300	400	500	630
Sidewall													
structure													
Type	TC					TC				TC			
Height	35	55	75	90	110	110	140	180	220	280			
structure													
Type	T					T				TS		TS	
Height	35	55	75	90	110	110	140	180	220	280	360	460	580
structure													
Type	C					C				TCS		TCS	
Height	35	55	75	90	110	110		180	220	280	360	460	580

Corrugated Sidewall Conveyor

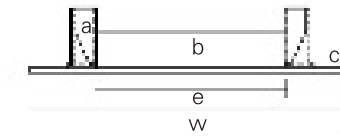
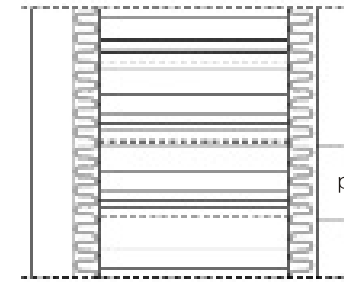


Base Belt Width B(mm)	Side wall Height H(mm)	Cleat height H1(mm)	Bf(mm)	R(mm)	Br(mm)
300	40	35	25	180	35
	60	55	50	120	40
	80	75			
400	60	55	50	180	60
	80	75			
	100	90			
500	80	75	50	250	75
	100	90			
	120	110			
650	100	90	50	350	100
	120	110			
	160	140			
800	120	110	50	460	120
	160	140	75	410	
	200	180			
1000	160	140	75	550	150
	200	280			
	240	220			
1200	160	140	75	690	180
	200	180			
	240	220			
	300	280			
1400	200	180	75	830	210
	240	220	105	770	
	300	280			
	400	360			
1600	200	180	75 105	970	240
	240	220	75	910	
	300	280			
	400	360			
1800	240	220	105	1110	270
	300	280	125	1050	
	400	360			
	500	460			

Corrugated Sidewall Conveyor

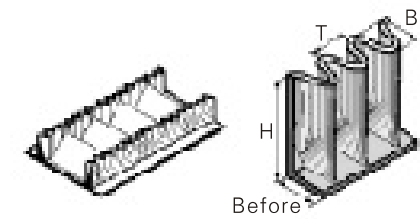


► General Shape and Name of Corrugated Sidewall Conveyor Belts



- a Corrugated Sidewall
- b Cleat
- c Main belt
- e Effective width
- p Cleat pitch
- w Belt width

► Corrugated sidewall dimension and types

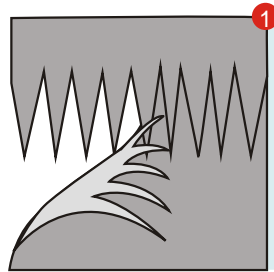


H(mm)	Bw(mm)	Bf(mm)	T(mm)	H(mm)	Bw(mm)	Bf(mm)	T(mm)
60	45	50	45	160	70	80	65
80	45	50	45	200	70	80	65
100	45	50	45	240	70	80	65
120	45	50	45	300	80	90	75



▶ Joining Method

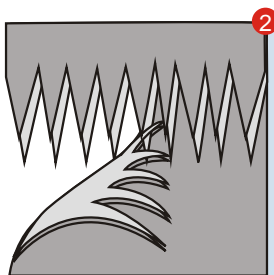
When making a conveyor belt endless, the best solution is by hot vulcanizing as this creates a strong and durable splice. Cold gluing is only recommended when the belt is exposed to nothing but normal working temperatures and moisture conditions.



▶ Single finger joining

Is used on 1 ply belts and special constructions, ensuring maximum flexibility without thickness variations in the joining area.

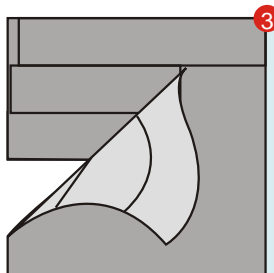
Joining angle is 90 (60 is possible) with 80/20 finger lengths, with the possibility for 80/15 lengths.



▶ Double finger joining

Is used on 2 and 3 ply belts and is the strongest and most durable joining.

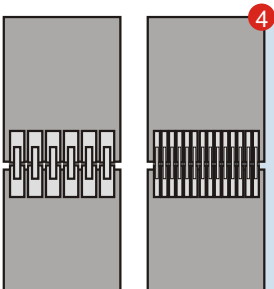
Joining angle is 90 (60 is possible) with stepped 50/20 finger lengths.



▶ Overlap joining

Is used mainly at bend conveyors, special 2 or 3 ply belt types and when performing cold gluing. The endless belt is installed making sure that the lap will run with the scrapers and not against.

Joining angle is 70 (90 is possible).



▶ Mechanical joining

Is the most simple joining of a conveyor belt. Mechanical hook and clamp fasteners are mainly supplied in stainless and anti magnetic qualities.

Using mechanical fasteners means necessary increase in pulley diameters of approx. 50% from our recommended values.



▶ How to calculate the necessary strength of a conveyor belt:

When choosing the right conveyor belt for a specific transport, certain factors must be observed, such as

- + Total thickness of belt
- + The product to be conveyed
- + Minimum pulley diameters
- + Working temperatures
- + Chemical resistance
- + Cross stable / trough transport
- + The formula below can be used as guide line when choosing the right belt with suitable strength for carrying out the transportation:

▶ Working tension for belt(N/mm)=10 × Fmax/belt width(mm)

- + (1n/mm=1dan/cm=1kn/m
- + Fmax is the maximum, total load (kg) on the belt at the same time.
- + Belt length: 10m
- + Belt width: 500m
- + Boxes of each 50kg for every 0.5m
- + $F_{max}=50 \times 10/0.5=1000\text{kg}$

▶ Working tension=10 × 1000/500=20N/mm

- + 2el016 will be too weak and 2m024 is chosen
- + Drum diameters should always be as large as possible. The minimum admissible diameter is determined by the effective pull to be transmitted and the flexural properties of the belt type used.
- + Particularly with wide conveyors, drums with too small a diameter are subject to inadmissibly large deflection and mistracking.



► Tips for Selecting Conveyor Belts



Caution

- + Please fill out and forward to us the use condition details on the rear cover of the catalog for right belt selection.
- + Do not use conveyor belts for transporting bulk or unpacked foodstuff.
- + Advance enquiry is invited for use environment prone to cracks (on belt surface) by ozone (seashore, woods, or other places exposed to direct sunray).
- + Observe the following instructions in selecting conveyor belts.

Instructions

Ordinary Belt	Belts surface temperature should be within the range of $-30^{\circ}\text{C}\sim+50^{\circ}\text{C}$. The cannot be applied to such specialty belts as heat-resistant, cold-resistant, acid-resistant, alkali-resistant, foodstuff transporting, fire-retardant, human transporting, and bucket elevator conveyor belts.
Heat-Resistant Belt	Belts life span is greatly reduced if use in a sealed space as belt temperature soon becomes the ambient temperature. Do not use belt for transporting materials above allowed temperatures as indicated on the catalog. The belt is not fully fire proof.
Oil-Resistant Belt	Please indicate the intended use conditions when ordring belts as belt life span is greatly affected by adhesion of materials on belt surface, types and amount of oil contained in materials, and temperature of materials.
Fire-Resistant Belt	Flame-retardant belts may ignite in flames though they satisfy the flame retardancy standards.
Color Belt	Store belts indoors after covering. Do not leave belts idle on machines for an extended time.

► Tips for Using Conveyor Belts

► Routine Maintenance



Caution

- + Belts should be inspected as to the following checkpoints before using them. Appropriate actions should be taken for any abnormal condition. Please contact the dealer if such abnormal conditions persist.

Checkpoints	Corrective actions
(1) Damage or wear of belt body	Repair or replacement
(2) Peeling or damage on joining parts	Repair and rejoining
(3) Poor roller rotation	Repair or replacement
(4) Foreign materials attached to pulley or rollers	Removal of foreign materials
(5) Abnormal take-up action parts	Maintenance
(6) Skirt or cleaner damages	Maintenance
(7) Shute damages	Maintenance
(8) foreign materials or substances attached	Removal



► Points to note in operation



Caution

- + Install a shield wall or safety cover.
Operator or others may be squeezed or drawn between the belt and equipment while under operation.
- + Do not enter the area behind the shield wall.
- + Do not wear a necktie and check for any loose clothing.
Human body may be squeezed or drawn into the equipment.
- + During operation don't step on the belt. Don't touch the belt with your hand or body.
- + Don't throw in any foreign materials like cigarette butts or anything that may catch fire.
- + Check power switch, emergency stop device, and escape exit before starting operation.
- + Observe maximum load limit to prevent an unusual strain. It may cause the belt to break.
- + Ensure transport materials are not spilt over the belt sides.
- + Install a detection device on equipment for emergency stop situation.
Ex) Device to prevent reverse rotation, serpentine action detection device, emergency stop device etc.
- + Immediately stop and check the line for any joint breaks or serpentine action or any other maintenance issue.
- + Do not enter the space below the belt or take-up part.
- + Do not remove cake or debris while the belt is in operation.

► Points to note when stopped



Caution

- + Turn off the switch and display "Stopped" sign on the switch to prevent a mistaken operation.
- + Never step on the belt unless necessary for repair.
- + Do not stop the belt with transport materials on it. Fire may result.
- + Do not turn on the switch for resuming operation until the entire line safety is thoroughly checked.
- + Do not step on the belt for repair with cleated shoes. The belt may be damaged.
- + Ensure that harmful objects do not fall onto or attach to the belt, including oil, chemical, welding torch flames, and heavy items.

► Points to note when splicing belts



Caution

- + Belts should be joined on an even surface according the strict procedures to ensure safety.
- + Be careful in performing work or handling tools at a high or dangerous line.
- + Beware of ignition in the workplace. Fire may result.
- + Avoid direct sunlight and remove moisture or dust from the joint when joining belts. Adhesive power may be degraded.
- + Ensure sufficient ventilation when rubber bond or solvent is used. They may hurt your health.
- + Do not leave rubber bond or solvent or any other accelerants in the workplace. They may cause fire.
- + Use only materials allowed for joining belts. Also observe the validity of the joining materials.

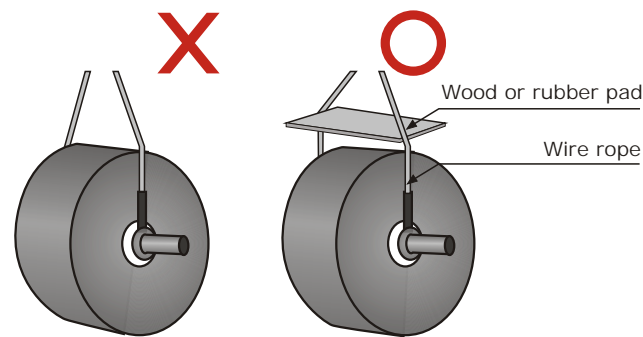


► Points to Note in Handing

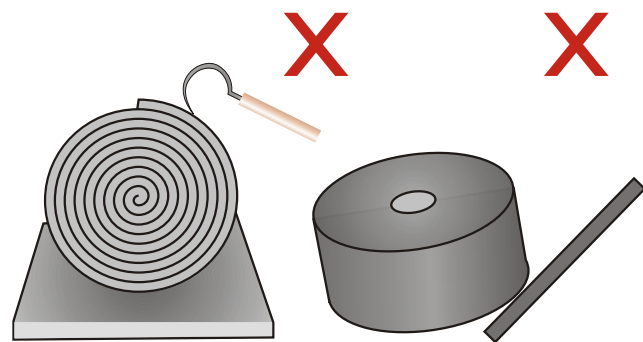


Caution

- + Belts are rolled on wood or steel drum and wrapped with polypropylene. Beware of the following points.
- + The belt rolls should not be fixed on the cargo bed of a truck. Pay special care not to damage them which forks of lift trucks.
- + Do not roll them. It may hurt people in the area.
- + Ensure the belt is not damaged by inserting a shaft in the roll holes as shown in the figure when you lift them by a crane.



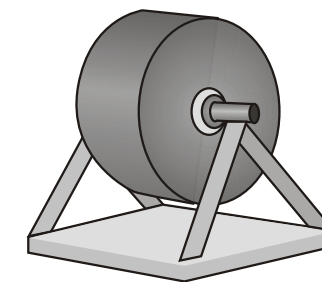
Do not use a hook or lever.



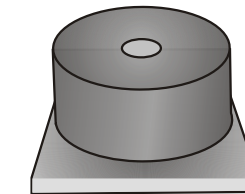
► Acceptable storage conditions

When keeping stand-by belts or used belts, pay attention to the following points to prevent aging damage from prolonged storage.

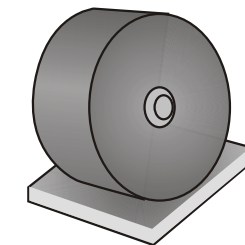
- + Keep the belts away from direct sunlight.
- + Keep the belts away from wind, rain, or moisture.
- + Keep them in a dry, even place.
- + Keep them away from harmful objects like fire, oil, chemical or organic gas.
- + Fix belt rolls to prevent them from rolling.



When laid flat



when kept upright



when hung

Inadequate storage conditions

