

# *OPTIMUM*

## CONVEYOR BELT



☎ 038-016999

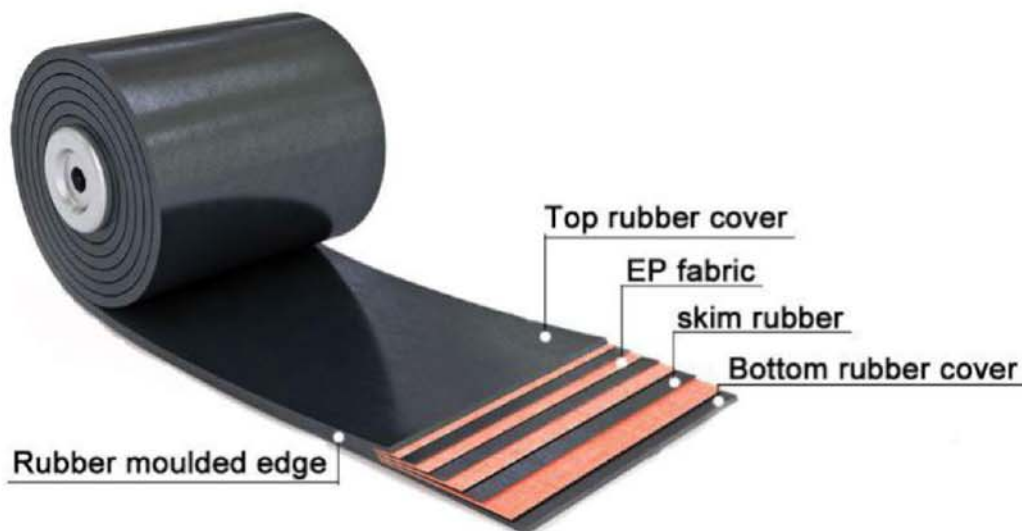
✉ SALES9@MOTION.CO.TH / SALES10@MOTION.CO.TH

MOTION POWER AND SERVICES CO., LTD

## PRODUCT DESCRIPTION

To meet various needs from our customers all over the world, OPTIMUM mainly manufacture textile ply conveyor belting, facing industries like mining, crusher plant, cement, steel, construction and package handle throughout the world.

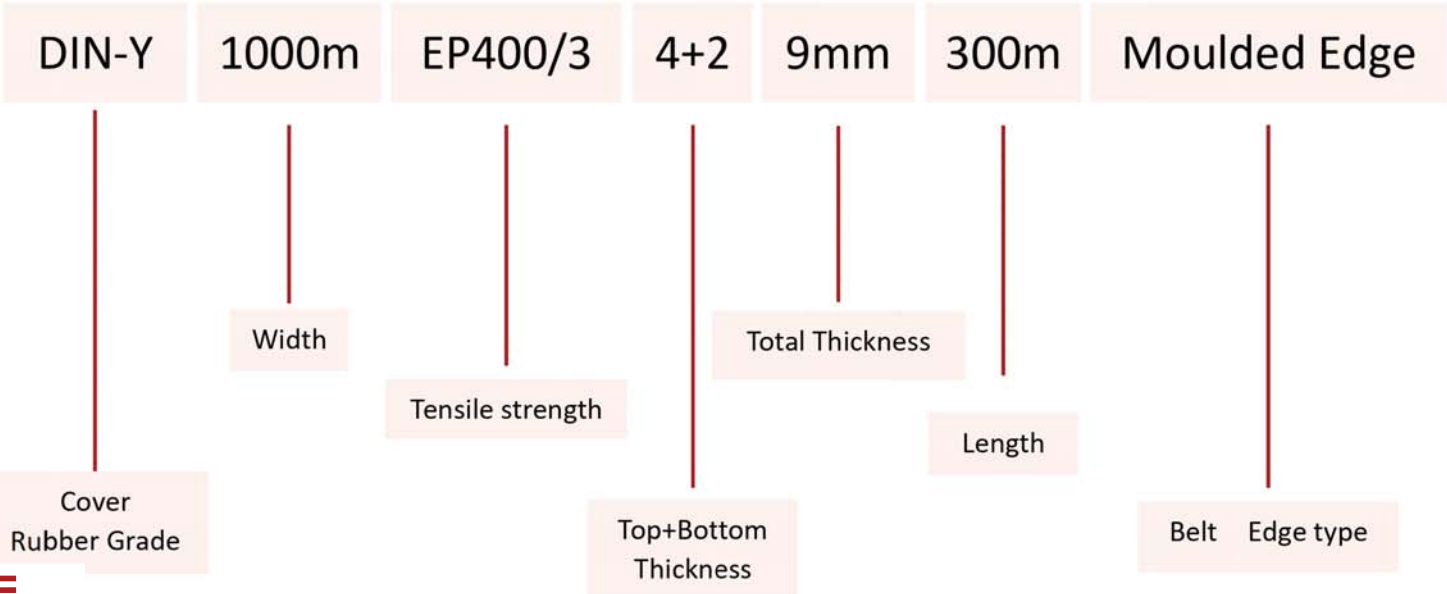
OPTIMUM multi-ply conveyor belting provide surpassing value for money to help our clients grow their business worldwide. Extensive producing technology and rich working experience enable us to manufacture high quality conveyor belts, excellently resisting to impact, abrasion, tear, cut, heat, fire, cold, oil and grease.



### Property

- Suitable for heavy duty operations due to polyester/polyamid (EP) fabric structure design
- Low elongation with highly reliability and durability
- High adhesion between plies and between cover and ply.
- Advanced production technologies and facilities ensure ep conveyor beltings extended service life
- Available width from 300mm to 2500mm, depending on rubber conveyor belts thickness and length
- Different cover quality enable EP conveyor belts to transport materials which is  $-40^{\circ}\text{C}$  to  $300^{\circ}\text{C}$ , combustible, oily and cold.

# SPECIFICATIONS



## SPECIFICATIONS

OPTIMUM can provide conventional rubber conveyor belts with the following specifications. If there are special requirements, we also provide customized services.

<b>Cover Rubber Grade</b>	8MPA,10MPA,12MPA,15MPA 18MPA,20MPA,24MPA,26MPA	DIN-X,Y,W RMA-1,RMA-2 N17,M24
<b>Belt Width (Mm)</b>	500,600,650,700,800,1000,1200 1400,1500,1800,2000,2200,2500	18",20",24",30",36",40",42" 48",60",72",78",86",94"
<b>Tensile Strength</b>	EP400/4,EP500/4,EP600/4 EP500/5,EP1000/5,EP1250/5 EP600/6,EP1200/6	330PIW, 440PIW
<b>Top+Bottom Thickness</b>	3+1.5, 4+2, 4+1.5, 4+3, 5+1.5	3/16"+1/16", 1/4"+1/16"
<b>Belt Thickness</b>	3mm,4mm,5mm,6mm,7mm,8mm,9mm,10mm,12mm,15mm,20mm,25mm	
<b>Belt Length</b>	10m,20m,50m,100m,200m,250m,300m,500m	
<b>Belt Edge Type</b>	Moulded (Sealed) Edge <b>OR</b> Cut Edge	



## FLAME RETARDANT CONVEYOR BELTS

For conveying combustible materials such as coal dust, gas, fertilizer, etc., it is very important to choose OPTIMUM refractory conveyor belt. It is mostly used in wood, paper and pulp, sugar and food, recycling and fertilizer plants.



OPTIMUM manufacture fire resistant conveyor belts according to customer's operational conditions.

### Property

- Anti-static which conform to EN/ISO 20284 international standards
- When ignited, it will self-extinguish within 15 seconds
- Rubber belts reinforced by several layers of textile fabrics (multi-ply) or steel cord
- Available in abrasion resistant type--as low as 150mm<sup>3</sup>, oil resistant type for both mineral oil and vegetable oil
- Widely used in underground mining industry for long distance transportation with high speed
- K grade (with covers) and S grade (with or without covers) are available for fire resistant conveyor belts

## FLAME RETARDANT CONVEYOR BELTS

Flame retardant conveyor belts test based on EN/ISO 340:

- Anti-static:  $\leq 3 \times 10^8$
- Drum friction: no flame under the condition of 325°C
- Buring test:



Flame retardant conveyor belt sample



Put six individual samples of the belt on a naked flame



The flame goes out within 10 seconds after leaving the fire



Normal conveyor belt sample



Put six individual samples of the belt on a naked flame



Continue to burn after leaving the fire

A. For individual test sample of fire resistant conveyor belts, the time it takes to self-extinguish should be no more than 15 seconds.

B. For each group of six test pieces, the maximum cumulative time they take to self-extinguish should be no more than 45 seconds

## HEAT RETARDANT CONVEYOR BELTS



When conveying hot materials, the working surface rubber contact with materials directly. Conventional conveyor belts will be easily cracked and hardened under this condition. This will reduce the protection of carcass from cover rubber, thus resulting in carcass separation and splice failure.

OPTIMUM heat resistant conveyor belts select heat resistant compounds and innovative structure to solve these problems.

Ideal for transporting high-temperature, high-heat raw materials, semi-finished products, and products. If the belt surface temperature exceeds 60°C, use OPTIMUM heat-resistant conveyor belt.





## HEAT RETARDANT CONVEYOR BELTS

### Product advantage:

- Optimal formula of EPDM/POE vulcanizing, together with designed mixing process, to obtain ideal heat resistant cover rubber.
- Aminolysis reaction resistant fiber material is covered on both sides of textile carcass of burning through resistant conveyor belts. It not only effectively isolate polyester fiber from direct contact with cover rubber, preventing carcass destruction caused by heat, but also retain a high adhesion to EPDM under high temperature.
- Anti-aging property of special textile carcass make it no need to increase cover rubber thickness during belt design, resulting a reduction on cover rubber consumption and production cost of burning through resistant conveyor belts.

Item		Classes			
		T1	T2	T3	T4
		Test Temperature			
		≤100°C	≤125°C	≤150°C	≤175°C
		Change Range Allow			
Hardness	The difference after aging	20	20	20	20
	Maximum value after aging	85	85	85	85
Tensile Strength	Performance change rate	-25	-30	-40	-40
	Minimum value after aging	12	10	5	5
Elongation	Change rage after aging	-50	-50	-55	-55
	Minimum value after aging	200	200	180	180



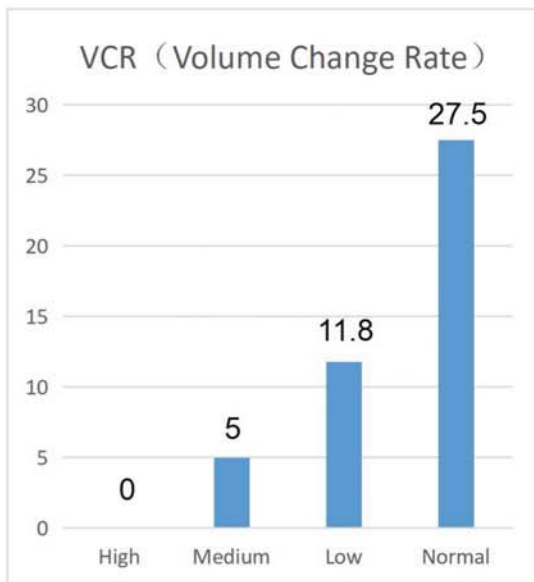
## OIL RETARDANT CONVEYOR BELTS

OPTIMUM oil-resistant conveyor belt is very suitable for conveying oily materials in various fields such as food, animals, plants, and minerals. Using ordinary conveyor belts at high temperatures, due to the synergistic effect of oil and temperature, the life of the conveyor belts will be greatly shortened.

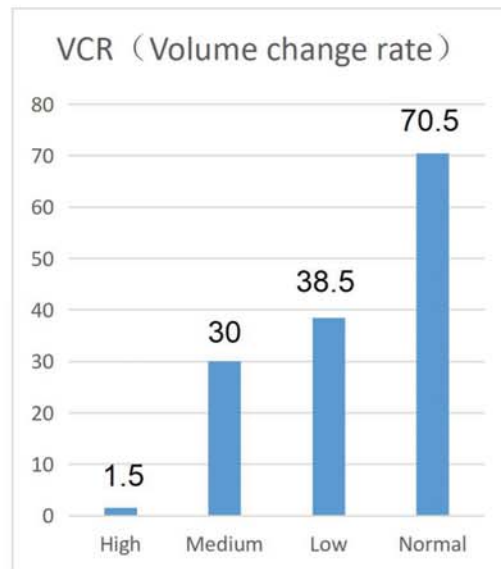
Oil Resistance Grade	Type	Typical Type
(1)Low	Cereals	Soybeans, Peanuts, Etc.
(2)Medium	Animal And Vegetable Oils	Rapeseed Oil, Palm Oil, Lard Oil, Fish Oil, Etc.
(3)High	Mineral Oil	Kerosene, Engine Oil, Hydraulic Oil, Etc.

### Volume Change Rate / Type Of Belt

**Rapeseed Oil**



**Kerosene**



## ACID/ALKALI RETARDANT CONVEYOR BELTS

OPTIMUM acid & alkali retardant conveyor belts is suitable for conveying acidic or alkaline materials in chemical plants, paper mills, cement plants, etc.

Typical Chemical Types That Can Be Applied			
Chemical Type	Concentration	Chemical Type	Concentration
Hydrochloride	Less than 20%	Acetic Acid	Less than 10%
Nitric Acid	Less than 20%	Caustic Soda	100%
Sulfuric Acid	Less than 40%	Potassium Hydroxide	100%
Boric Acid	Less than 40%	Ammonia Anhydrous	100%
Phosphoric Acid	Less than 40%	Acetone	100%
Arsenic Acid	100%	Aniline	100%
Carbonic Acid	100%	Phenol	100%
Formic Acid	100%	Ethanol	100%

For other chemicals, please contact us.

## CHEVRON CONVEYOR BELTS

Chevron conveyor belts are used on slope angles up to approx. 30° for slightly rolling materials such as gravel and coal and up to approx. 40° for sticky materials such as wet sand and earth. Patterned conveyor belts are also a highly effective belt for conveying packages such as sacks and bales.

### Product advantage of chevron conveyor belts:

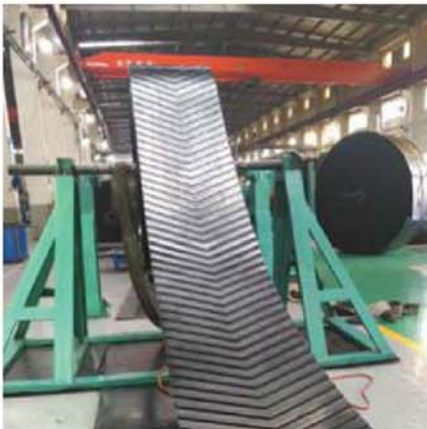


**1.The cleats are moulded and vulcanized in one single process together with the base belt of patterned conveyor belts.**

**2.Profile conveyor belts allows the use of smaller pulley diameters.**




**3.High quality cover rubber compound is excellent resistant to abrasion.**



**CHEVRON CONVEYOR BELTS**

<b>Chevron Conveyor Belt Drawing Data</b>				
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	700-1500	5	1.5	700-1500
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	460	50	3	500
	560		3	600
	660		3	700
	760		3	800
	860		3	900
	960		3	1000
	1160		3	1200---1600
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	900	400	15	400-1000
	450	300	25	450-800



Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	1450	250	35mm height 35mm width	400-1600
Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	500	500	50	600/750
	530	750	50	800
Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	300-1600	70	6	300-1600
Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	500-2400	75	6	500-2400

<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	14 inch	50	6	14 inch
	16 inch		6	16 inch
	18 inch		6	18 inch
	20 inch		6	20 inch
	24 inch		6	24 inch
	28 inch		6	28 inch
	32 inch		6	32 inch
	36 inch		6	36 inch
	40 inch		6	40 inch
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	400-1200	80	10	400-1200
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	400-1600	200	10	400-1600

Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	500	200	13.5/14	500
	600	200	13.5/14	600
	700	200	13.5/14	700
	800	200	13.5/14	800
	1000	200	13.5/14	1000
Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	550	250	15	600-1400
	750	300	15	800-1400
Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	440	250	15	650
	330	250	15	450
	540	250	15	750
Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	330	250	15	400-1400
	500	250	15	550-1400
	820	250	15	850-1400
	1200	250	15	1200-1400

<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	380	250	15	1400
	600	250	15	1400
	750	250	15	1400
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	440	300	15	500-1600
	630	300	15	700-1600
	800	300	15	850-1600
	1000	300	15	1200-1600
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	800	80	16.5	400-900
	800	80	16.5	400-900
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	450	330	17	500-800
	630	330	17	650-1000
	800	330	17	900-1400
	950	330	17	1000-1600



<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	510	330	20	800
	1100	330	20	1600
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	450	250	25	500-800
	550	250	25	650-800
	750	330	25	850-1400
	950	330	25	1400-1600
	1000	300	25	1400-2000
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	230	250	25	300-400
	330	250	25	400-500
	440	250	25	500-650
	540	250	25	600-1000
	750	250	25	800-1000

<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	750	350	25	900-1400
	550	250	25	600-1200
	1000	400	25	1200-1400
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	580	330	32	800
	750	330	32	1600
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	5			
	800	80	16.5	400-900
<b>Drawing</b>	<b>Cleat width mm</b>	<b>Cleat pitch mm</b>	<b>Cleat height mm</b>	<b>Belt width mm</b>
	800	330	32	900-1100

Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	620	330	32	700-850
Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	500	250	35	800
Drawing	Cleat width mm	Cleat pitch mm	Cleat height mm	Belt width mm
	500	250	35	600-900

## SIDEWALL CONVEYOR BELTS



Special treated steel mesh inserted into both top cover and bottom cover, creating an excellent combination of longitudinal flexibility and transverse rigidity. The entire steep angle conveyor belts are highly durable, low elongation and long lasting

Sidewall conveyor belts are composed of three parts: base belt, sidewall and cleats  
Possible to convey at steep angle with big capacity in a limited space.



Fabric inside sidewall perfectly combine flexibility and strength to effectively avoid torn.

Sidewall is hot vulcanized on the base belt  
High quality rubber to guarantee sidewall withstand highly stress and repeated flexing.



Cleats are also hot vulcanized on the base belt

Fabric inside cleats protect cleats from deformation caused by impact.

Cleats are the main part to carry materials in a high capacity and steep angle

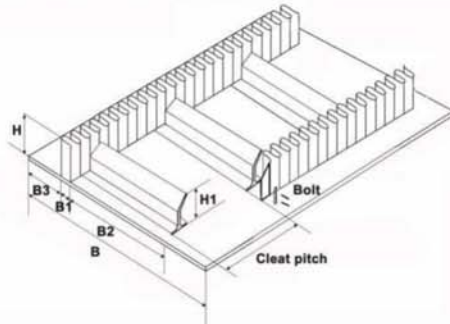
Available with TC or TCS type

Special compounds to extremely avoid deformation caused by impact.





OPTIMUM Sidewall conveyor belts are composed of three parts:base belt,sidewall and cleats.Sidewall and cleats are connected with base belt by second hot vulcanizing,which create a super-strength bond between sidewall,cleats and base belt,preventing base belt aging caused by multi vulcanizing.The entire steep angle conveyor belts are highly double,low elongation and long lasting.



Base belt width(B)	Sidewall height(H)	Cleat height(H1)	Bottom width of sidewall(B1)	Cleat width(B2)	Empty width(B3)
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			
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	180			
	240	220			
1200	160	140	75	690	180
	200	180			
	240	220			
	300	260			
1400	200	180	75	830	210
	240	220	100	780	
	300	260			
	400	360			

## ABRASION RETARDANT CONVEYOR BELTS

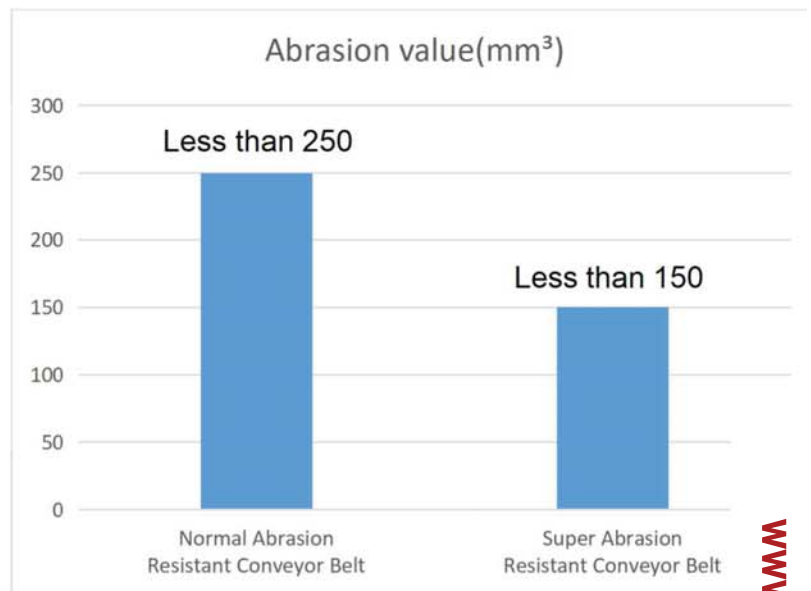
OPTIMUM abrasion retardant conveyor belt uses rubber with excellent wear resistance, which is suitable for quarries, mines, etc.



OPTIMUM Abrasion resistance test method: press a cylindrical sample with a diameter of 16mm and a thickness of about 8mm on a roller wrapped with sandpaper under a certain load. The sample wears when the drum rotates, and the wear after a certain distance is measured.

OPTIMUM abrasion resistance test

- ① Normal abrasion resistant conveyor belt, the abrasion is less than 250mm<sup>3</sup>.
- ② Super abrasion resistant conveyor belt with abrasion less than 150mm<sup>3</sup>.



**IMPACT/CUT RETARDANT CONVEYOR BELTS**

OPTIMUM impact/cut retardant conveyor belts has excellent impact resistance, cut resistance and chipping resistance, and uses cover rubber. it is suitable for the transportation of sharp objects, such as crushers, rough stones, waste materials, logs, glass and iron flakes.

**1. Impact test method**

Testing machine: drop hammer impact testing machine

Cutting edge angle: 90°

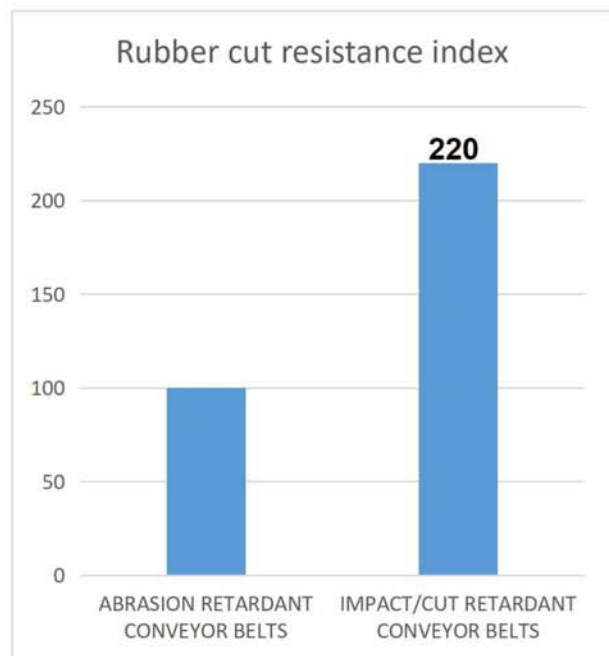
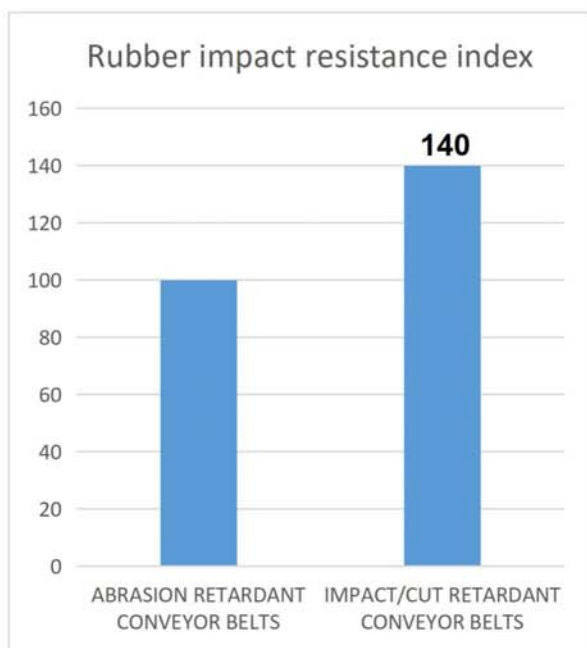
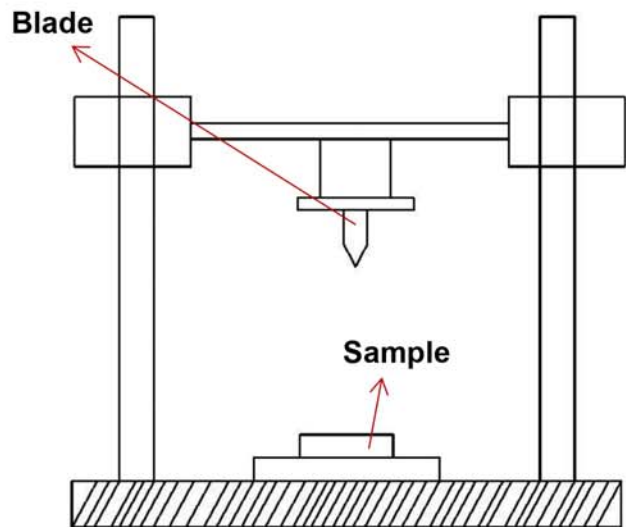
**2. Cutting resistance test method**

Testing machine: drop hammer impact testing machine

Drop weight: 15kg

Drop height: 400mm

Cutting edge angle: 90°





## QUALITY CONTROL

### Step 1: Raw material inspection



#### Rubber compound test

Moving die rheometer analyzes the characteristics of Rubber Compound



#### EP fabric test

Tensile strength test and elongation test when broken.

### Step 2: Advance equipment to guarantee quality from the details



#### Calender process

4 rollers calender machine is able to stick rubber on both side of the fabric in one time. This can reduce the strength loss of the rubber during the process.



#### Forming process

The forming tension is even between different plies, which can avoid wrinkled fabric and guarantee an even thickness of belt core.



**QUALITY CONTROL****Step 3: Finished belts inspection**

OPTIMUM have an inspection team to inspect the surface and dimension of each conveyor belt. If any problem on belt surface, we will repair at once in our factory.



**Length and surface  
inspection**



**Thickness inspection**



**Width inspection**

**Step 4: Technical data test**

OPTIMUM have a lab to test all raw materials and rubber compound. For each roll of conveyor belt, the lab will test the following features, and issue Quality Test Report.



**Abrasion test**



**Adhesion strength test**



**Tensile strength test**

**TRANSPORT PACKAGE**





# AUTHORIZED DISTRIBUTOR :



MOTION POWER AND SERVICES CO., LTD (RAYONG BRANCH)

TEL +66 38016999

🌐 [www.motion.co.th](http://www.motion.co.th) ✉ [sales9@motion.co.th](mailto:sales9@motion.co.th)  
[sales10@motion.co.th](mailto:sales10@motion.co.th)



MOTION POWER CO.,LTD (KORAT BRANCH)

TEL +66 44756092

🌐 [www.motion.co.th](http://www.motion.co.th) ✉ [sales3.mpk@motion.co.th](mailto:sales3.mpk@motion.co.th)  
[sales5.mpk@motion.co.th](mailto:sales5.mpk@motion.co.th)



RPM POWER TRANSMISSION CO., LTD

TEL +66 38212272

✉ [sales@rpmpowertrans.com](mailto:sales@rpmpowertrans.com)

