



# Conveyor Belt Catalogue

**BANDO**  
PT. BANDO INDONESIA

C-0889



## PT. Bando Indonesia

With a rich history and tradition behind us, PT. Bando Indonesia is today the leading manufacturer of conveyor belt in Indonesia.

PT. Bando Indonesia is a joint venture manufacturing company between PT. Kreasi Utama Investama and Bando Chemical Industries, Ltd. Japan, which is one of the world's leading integrated manufacturers of belts since 1906.

Since our establishment in 1987 in Indonesia, we have continually innovated and developed our products to earn our customer's satisfaction.



## Production Facility

With a 5 hectares production facility in Tangerang, some 40 km from Jakarta, we continued expanding our conveyor belt production.

We now have established ourselves as the leading pioneer in producing quality conveyor belt in Indonesia. Our conveyor belts are widely used in the mining, fertilizer, cement, pulp and paper as well as many other industries throughout the country.



## Quality Control

To maintain our high standard of “zero defect” quality control, we are committed to exceed the quality requirements of our customers.

We only use top grade materials, exacting manufacturing standards and constant quality measurements. Each step of the manufacturing procedure receives rigorous quality testing. Finished products must pass final comprehensive inspection before shipment.

With our state of the art laboratory and testing equipment, our research personnel ensure that every product leaving our factory is delivered to your standard and expectations. For these, we have received certifications as a belt manufacturer.



## World Class Satisfaction

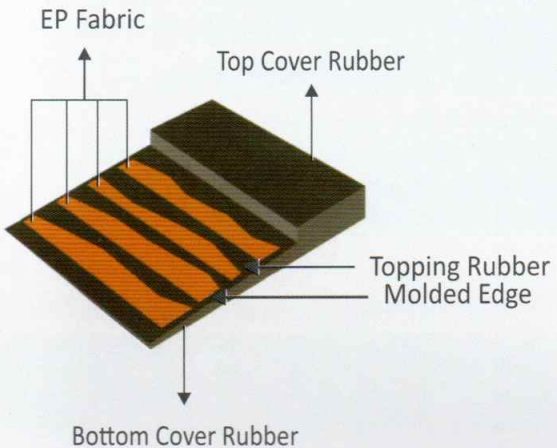
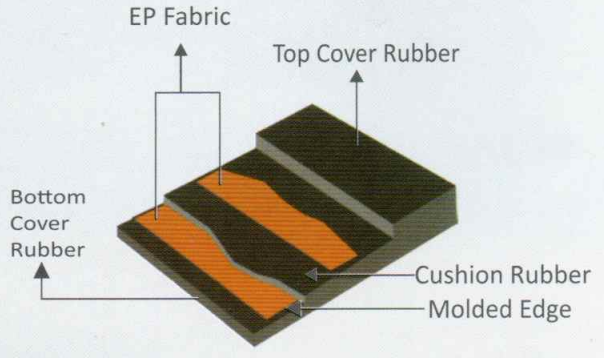
In addition to producing top quality and reliable products, we also provide technical support to assist our customers in optimizing their belts reliability and performance.

Today, you can find our products in many of the industry's most demanding belt applications because we take pride in manufacturing “world class products” for our customers.

We understand that in order for you to deliver the consistent, and outstanding performance that your customers expect, you must receive the same level of service from us. Thus, we guarantee your satisfaction.

# Belt Construction & Selection of Fabric

## Belt Construction

Suncon (Multi-Ply)	Sunlon (Less-Ply)
 <p>EP Fabric</p> <p>Top Cover Rubber</p> <p>Topping Rubber</p> <p>Molded Edge</p> <p>Bottom Cover Rubber</p>	 <p>EP Fabric</p> <p>Top Cover Rubber</p> <p>Bottom Cover Rubber</p> <p>Cushion Rubber</p> <p>Molded Edge</p> <p><b>Features :</b></p> <ul style="list-style-type: none"> <li>• Superior Fastener Holding Ability</li> <li>• High Impact Resistance</li> <li>• Small Pulley Diameter</li> <li>• High Bending Resistance</li> <li>• Complete Moisture &amp; Mildew Protection</li> <li>• Deep Trough</li> </ul>

## Selection of Fabric by Service Conditions

Fabric	Features and Service Conditions
<p><b>NN</b> Nylon-Nylon</p>	<ul style="list-style-type: none"> <li>• High Impact Resistance</li> <li>• High Bending Resistance</li> </ul>
<p><b>EP</b> Polyester-Nylon</p>	<ul style="list-style-type: none"> <li>• Short Take-up Travel</li> <li>• Heavy Duty</li> <li>• Deep trough</li> <li>• High Tension</li> <li>• High Speed</li> <li>• Long Span</li> <li>• Tear Resistance</li> <li>• Impact Resistance</li> <li>• Complete Moisture &amp; Mildew Protection</li> </ul>

# General Cover Rubber Size Code & Product Range

## General Cover Rubber

### Grades And Applications

JIS-L	for conveying low abrasive materials
JIS-G	for conveying medium abrasive materials
JIS-S	for conveying abrasive materials
Grade M	superior abrasion resistance and cut-and-gouge resistance
UIP (Ultra Impact Protection)	superior in impact resistance as well as cut-and-gouge resistance
SAR (Super Abrasive Resistant)	very high abrasion resistance

Equivalent RMA, DIN, BS, AS, etc. standards available.

## Size Code

### Example 1 : Overall belt strength

900 x EP 400 / 4P x 5.0 x 1.5 x 200, Grade M

A B C D E F G H

A : Belt width (mm)  
 B : Type of fabric (EP = Polyester-Nylon)  
 C : Tensile strength (kgf/cm)  
 D : Number of plies

### Example 2 : One Ply strength

900 x EP 100 x 4P x 5.0 x 1.5 x 200, Grade M

A B C D E F G H

E : Top cover rubber thickness (mm)  
 F : Bottom cover rubber thickness (mm)  
 G : Belt length (meter)  
 H : Cover rubber grade

## Product Range

### Product Range

Belt Width	300 - 2,200 mm
Belt Length	Min. order 30 meters
Top Cover Thickness	0 - 30 mm
Bottom Cover Thickness	0 - 30 mm
Number of Ply	1 - 8 ply
Belt Strength	100 - 2,800 kgf/cm
Packing Weight	20 ton max
Roll Diameter	3.4 m max.
Selection of Fabric	EP (POLYESTER-NYLON)

#### Selection of Cover Rubber

- General Use
  - Heat-Carry
  - Oil-Resistant
  - Flame-Resistant
  - Chemical-Resistant
- JIS-L, JIS-G, JIS-S, Grade M, UIP, SAR
  - HC-513, HC-710
  - OR-210, OR-220
  - FR-300T
  - CR

# Special Application Cover Rubbers



## Heat-Carry Conveyor Belt

### Applications

These conveyor belts are designed for use where either the material temperature or ambient temperature exceeds 60°C (140°F). They are suitable for the conveyance of sintered ore or pellets in steel mills; or dry material, clinker or cement products in cement mills.

### Features

Types, Features and Applications of heat-Carry Belts

Type of Belts	Main Polymer	Applications	Specifications
HC-513	SBR (Styrene Butadien Rubber)	for low-medium temperature	This Heat-Carry belt is made of SBR material. It is superior in abrasion resistant and has better crack resistant than Heat-Carry 510.
HC-710	EPR (Ethylene Propylene Rubber)	for high temperature	This noncrack model is made of EPR polymer and is highly resistant to thermal degradation. It is suitable for high temperature applications and is abrasion resistant.

### Standard Applicable Temperature °C

Type of Belts	Temperature					Applicable Materials
	60°C (140°F)	100°C (210°F)	150°C (300°F)	180°C (356°F)	400°C (752°F)	
HC-513						Coke, Sintered ore, Ore Pellets, Dry Lime. <b>Not Suitable for powder material.</b>
HC-710						Sintered ore, Ore pellets, Cement clinker, Coke, Dry clay.

: Material Temperature  
 : Belt Surface Temperature

## Flame-Resistant Conveyor Belt

Type of Belt	Main Polymer	Major Features and Applications
FR-300T	SBR + BR + NR (Styrene Butadiene Rubber + Butadiene Rubber + Natural Rubber)	<ul style="list-style-type: none"> <li>* It is self-extinguishing</li> <li>* Standard in Accordance to JIS K-6324 burner combustion test</li> <li>* This belt is suitable for underground mines and power plant and other locations where the potential for fire hazards exist with excellent abrasion resistant capability, thus providing a more comprehensive application solution</li> </ul>

### Flame Reappearance Test JIS K-6324

Specimens	Testing Procedures	Specifications
Belt width : 25mm (1 inch)	<b>Flame Holding Test</b> The time during which the material remains aflame after combustion for one minutes	Material should not remain aflame longer than one minute
Belt length : 150mm (6 inch)	<b>Residual Flame</b> The material is exposed to a blast of air with a velocity of 1.5m/sec (5ft/sec). 30 second after the flame dies	Residual flame No flame should reappear
Number of specimen : 3		

## Oil-Resistant Conveyor Belt

### Applications

This belt can convey various oil products, oil-treated materials, sewage and garbage.

### Features

1. Less swelling with oil
2. Wide selection of belts designed for use with various types of oil based materials.

Type of Belts	Main Polymer	Major Features and Applications
OR-210	NBR (Nitrile Butadiene Rubber)	Resistant to oils (minerals, animal and vegetable oils) except aromatic solvents (benzol, toluol, halogenated hydrocarbon, ketone, ester. Cover Rubber is highly resistant to abrasion.
OR-220	NBR + NR (Nitrile Butadiene Rubber + Natural Rubber)	Oil resistant and cold temperature resistant for transporting lighter substances. Applicable to conveyance of wood chips, frozen fish and grains.

# Chemical Resistant, V-Cleat, Bucket Elevator & Rough Top Conveyor Belt

## Chemical-Resistant Conveyor Belt

Type of Belt	Main Poylmer	Applications
CR	SBR (Styrene Butadiene Rubber)	Used as cover rubber for handling various kind of chemical contents such as phosphate base fertilizer, etc.

## V-Cleat Conveyor Belt

### Applications

Designed for conveying granular materials and bagged materials such as sand gravel, iron ore pellets, etc on inclines of up to 30°.

### Features

This belt is produced with vulcanized cleat for better durability

### Product Range

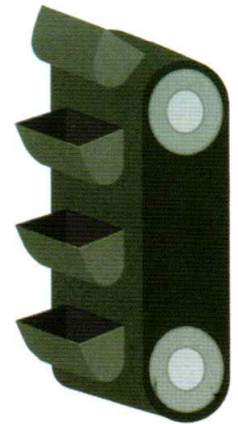
- Belt Width : 300 - 1,000 mm
- Cleat Height : 5 mm
- Cleat Width : 12 mm
- Cleat Angle : 120°
- Cleat Pitch : 75 mm
- Cover rubber : All types available except HC-513 & HC-710



## Bucket Elevator Conveyor Belt

### Applications

Buckets can be attached with bolts to vertically installed belt, which is suitable for conveying bulk materials such as grains, cement materials and other fine particle products.



### Product Range

- Belt Width : 300 - 2,200 mm
- Cover Rubber : All types available

## Rough Top Conveyor Belt

### Applications

Belt has a loosely textured surface suitable for conveying bags and packages up to a maximum incline of 30°.

### Features

Strong corrugated surface texture which absorbs impact and prevents conveyed objects from shifting or falling off the belt.

### Product Range

- Belt Width : 300 - 1,200 mm
- Cover rubber : Rough top





# Belt Splicing Materials

## Hot Splice

### Applications

These materials are used for high tension belts to ensure long service life. Splice materials are manufactured to customers' order to ensure they are supplied in fresh condition.



### Materials

- Cover Stock
- Edge Rubber
- Tie Gum
- Rubber Cement
- Cleaning Solvent

### Applicable Range

- Belt Tension : All fabric reinforced belts
- Cover Rubber Type : All types

## Bando Hot Splice Material Codes

Type of Belts	Cover Stock & Edge Rubber	Tie Gum	Rubber Cement
General Cover Rubber including Rough Top	C # 07	T # 31	J # 31
SAR	C # 01	T # 31	J # 31
UIP	C # 17	T # 31	J # 31
Heat-Carry : HC-513 HC-710	TK # 60 X # 345	TK # 53 X # 26	TK # 60 X # 26
Oil-Resistant : OR-210 OR-220	N # 631 N # 632	N # 28 T # 31	N # 28 J # 31
Flame-Resistant : FR -300T	C # 87	T # 31	J # 31
Chemical-Resistant : CR	C # 30	T # 31	J # 31

## Sunpat-Eco Cold Splice

### Applications

This adhesive for vulcanizing rubber is used for splicing and/or repair of conveyor belts at ambient temperature.



### Features

- Short curing time. The belt can be in operation only two hours after splicing is completed.
- Wider applicable range
- High Peeling Off Resistance
- Increased operational efficiency
- Shelf life : 9 months

### Applicable Range

- Belt Tension : overall max. 1,020 kgf/cm
- Tensile : max. 255 kgf/cm/ply
- Cover Rubber Thickness : 0 - 6.5 mm
- Cover Rubber Type : General Cover Rubber, SAR, UIP, HC-513, OR-210, OR-220, CR, Rough Top

# Steel Cord Conveyor Belt

## Applications

Long span, high strength, high capacity.

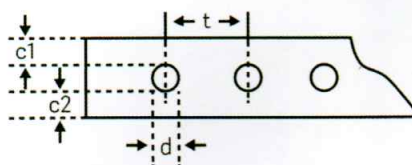
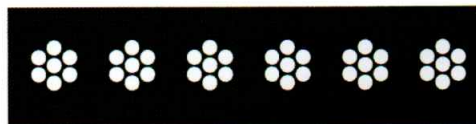
## Features

1. High Tensile Strength permit high tension operation
2. Excellent Bending Resistance
3. Extremely Small Elongation
4. Excellent Dynamic Adhesion
5. Excellent Impact Resistance

## Product Range

- Belt Width : 800 - 1,800 mm
- Belt strength : ST-500 - ST-5000
- Cover rubber : Grade-M, JIS-S, SAR, UIP,FR-300 T Low Rolling Resistant (LRR)

## Construction



d : cord diameter  
 t : cord pitch  
 c1 : top cover rubber  
 c2 : bottom cover rubber

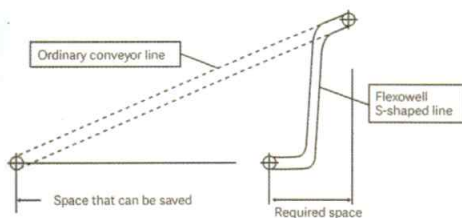
For further information please contact PT. Bando Indonesia.

# Flexowell Conveyor Belt

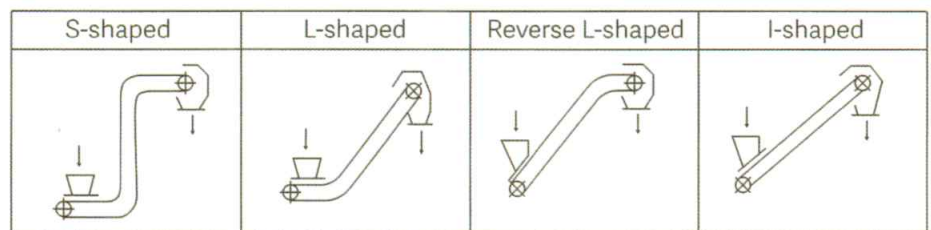
## Features

1. Space saving  
Vertical conveyance substantially saves space compared with conventional conveyor facilities
2. Freely design conveyor line angles  
Easy to design the required conveyor angle, from flat to steep incline, depending on the facility layout.
3. High capacity conveyance  
Significantly improved cross-section area, with dramatically increased load capacity compared with trough conveyors.
4. Reduced facility costs  
Small pulley diameters may be used, without the need for skirt boards. Facility costs are reduced with flat rollers.

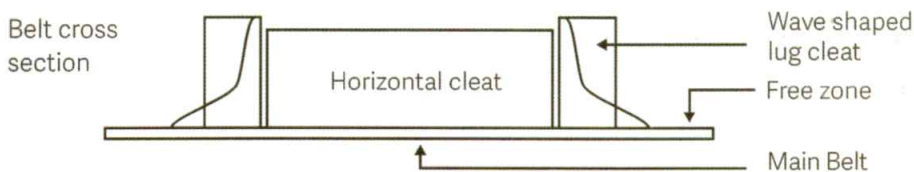
## Space saving



## Major line shapes



## Structure



## Components

Flexowell Belts are made up of the main body belt, wave-shaped sidewalls and horizontal cleats. The three components are rigidly cold-bonded by mechanical means. Please consult with us, as various combinations are available, depending on the items conveyed, volume and the angle of inclination.

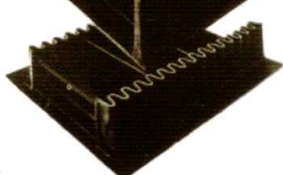
Type 1



Type 2



Type 3



Combination Types (Types 1, 2 and 3 are standard)

Type 1: No free zone, no horizontal cleats

For lines with 0-16° inclinations, without angle change in conveyance.

Type 2: No free zone, with horizontal cleats

For sharp inclines, without angle change in conveyance.

Type 3: With free zone and horizontal cleats

For sharp inclines, with angle change(s) in conveyance.

Type 4: With free zone, without horizontal cleats

For lines with 0-16° inclinations, with angle change(s) in conveyance.



## Minimum Required Pulley Diameter For Multi-Ply Fabric Belt

The figures in this table are applied to :

1. Belts in general use, when their actual tension is 75 to 100% of their tension rating.
2. Heat-Carry belts, when their maximum tension is not more than 70% of their tension rating.

Fabric \ No. of Plies	3	4	5	6	7
EP-100	300	400	550	650	750
EP-150	400	500	650	750	900
EP-200	400	550	700	800	900
EP-250	450	600	750	900	1050
EP-300	500	650	850	1000	1150
EP-350	650	850	1050	1250	1450
EP-400	650	850	1050	1250	1450

Unit in mm

## Properties of Fabric

### Polyester-Nylon Fabric (EP)

Item		Fabric				
		EP-100	EP-150	EP-200	EP-300	EP-400
Tensile strength (Min.)	kg/cm/ply	100	150	200	300	400
Elongation at Break (Min.)	%	10	10	10	10	10
Approx. Gauge per ply with skim coat	mm	0.9	1.1	1.4	1.8	1.9



## After Sales Services



Consultation



Frequent Technical Visit



Splicing Supervision



Workshop / Training On Site / Off Site



100% Commitment Towards Customer Satisfaction

## Take-Up Stroke

When deciding on the take-up stroke it is necessary to consider both elastic elongation and permanent strength.

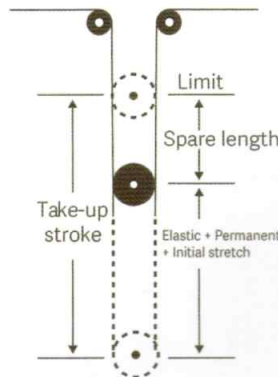
(Percentage of Center-to-Center Distance)

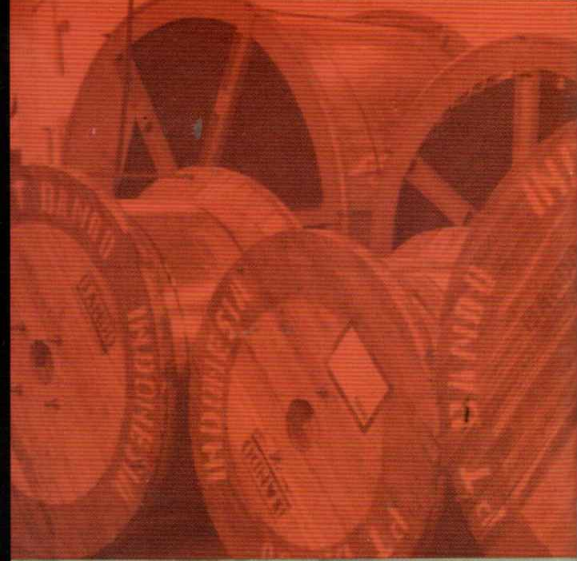
Kind of Fabric	Elastic Elongation	Permanent Strength	Take-Up Stroke Recommended
NN 100 - 350	0.3 - 0.5	1.0 - 1.2	1.7 + Additional length
NN 400 - 630	0.4 - 0.8	1.0 - 1.2	2.0 + Additional length
EP	0.1 - 0.3	0.4 - 0.6	0.9 + Additional length

Additional length = Spare length + Initial stretch  
(Initial stretch : Approximate 0.5%)

Spare length equals a half of splicing length or 2 ft (500 mm) whichever is longer, plus 0.2% of the center-to-center distance with a minimum of 6 inches (150 mm) and a maximum of 40 inches (1,000 mm).

The former provides sufficient length in case resplicing is required due to an accident or mishap. The latter is considered necessary to provide the slack in the conveyor line which is required during splicing work and is afterwards absorbed into the take-up.





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