BANDO
LIGHT-DUTY CONVEYOR BELT

- SUNLINE™ BELTS
- BANCOLLAN™ LONG SYNCHRONOUS BELTS
- PS BELTS™
- BANCORD™ ROUND BELTS

BANDO CHEMICAL INDUSTRIES, LTD.
http://www.bandogrp.com

2018.10

Industrial Products Division

■ For further information contact below

C-SL-003-104E

—— ISO Certification and Food Sanitation Act standards ——

Bando' s Kakogawa Factory, which manufactures SUNLINE Belts, acquired ISO9001 and 14001 Certification to conduct organized and systematic quality assurance and environmental conservation. We also integrated the ISO9001 and ISO14001 instruction manuals for system efficiency.

The SUNLINE Belts we supply to the food industry, including those made of PVC, meet Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare.

We have polyurethane belts which pass flame resistant standard ISO340. For details, please contact Bando or your distributor.

LLOYD'S REGISTER・LRQA
ISO 9001

Quality Management System
Industrial Products Division

ISO 9001

Certification acquired on May 2, 1996
ID No. YKA0953248

LLOYD'S REGISTER・LRQA
ISO 14001

Environment Management System
Kakogawa Factory

ISO 14001

Certification acquired on May 21, 1999
ID No. YKA0772509

BANDO LIGHT-DUTY CONVEYOR BELT

CONTENTS

Bando Light-Duty Conveyor Belts Features and Major Applications

Products	Usage Examples

SUNLINE Belts

- Wide selection available
- High performance “F Series” for food conveyance
- “M Series” for logistics (material distribution) / general purpose conveyance
- Multi-use “S Series”
- Cleats and guides can be fabricated upon request

- Food
- Baggage, boxes
- Components, bulk
- Lumber, plywood
- Fibers
- Paper
- Gaming machines
- Medical equipment

Super SUNLINE Belts

- Seamless, precision conveyance
- Long life even in small pulley or knife edge conveyance
- Wide selection, including non-fray

- Scales
- Metal detectors
- Small pulley and knife edge conveyors

Bancollan Long Synchronous Belts

- Synchronous conveyance and positioning applications
- Wide selection of tooth profiles
- Profile processing possibilities
- Meets Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare

- Food
- Panels
- Reciprocal motion, such as for sliding doors
- Head motion and positioning for printers, plotters
- Medical supplies, test tubes

Bancollan Long Flat Belts

- Excellent dimensional stability and precision thickness

- Transport equipment risers

PS Belts

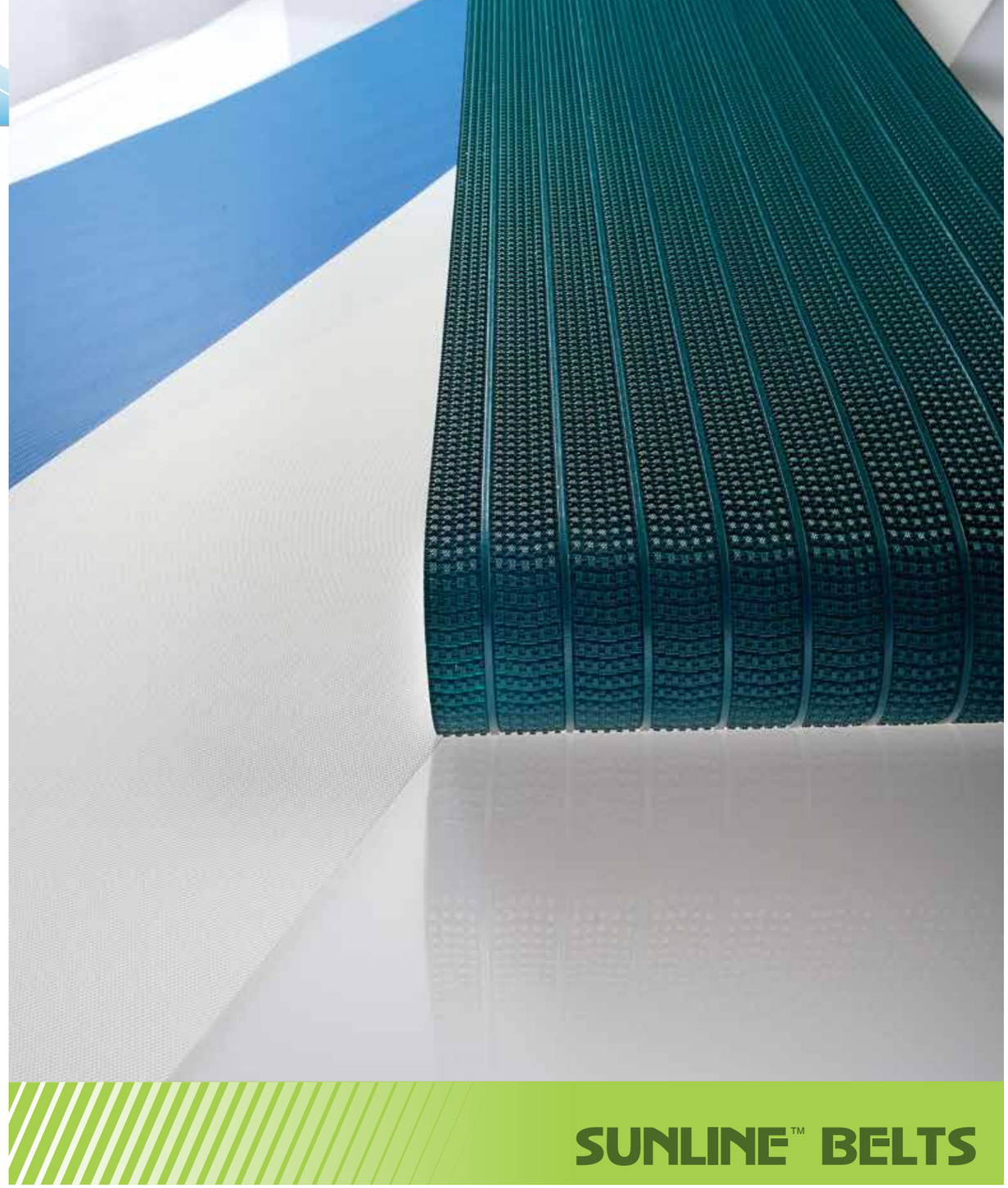
- Transmission belts for light-load, high-speed applications
- Proven performance in light duty applications
- Axes adjust according to belt elongation (no need for take-up)
- Seamless and precise conveyance

- Cards, banknotes
- Test tubes
- Chip registers
- High-speed, light-load transmission
- Paper
- Scales
- Food
- Medical equipment

Bancord Round Belts

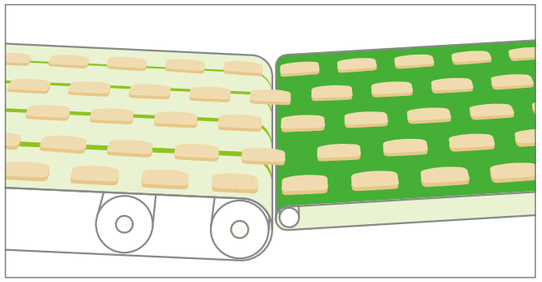
- Easily joined to desired length
- Light load and multi-belt conveyance
- Meets Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare

- Roller conveyor drives
- Food
- Cards, banknotes
- Circuit boards
- Light load power transmission

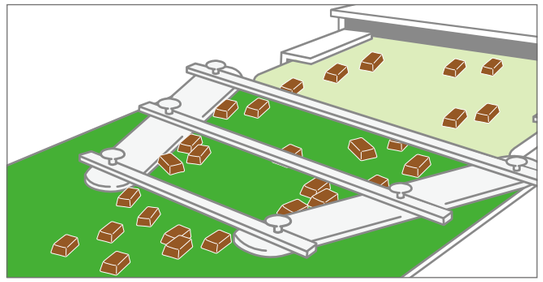


Food, Food Machinery

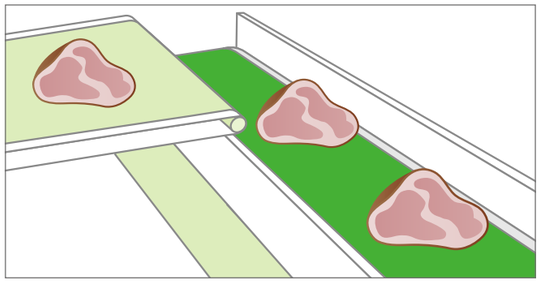
Bando' s F-Series resin conveyor belts have been a pioneer in the food industry. Antibacterial, antifungal and non-fray features are standard specifications. A wide selection is available as we have made product improvements and size reductions to reduce environmental impact and respond to changes in work environments. SUNLINE Belts meet various demands – from standard operations to specialty applications.



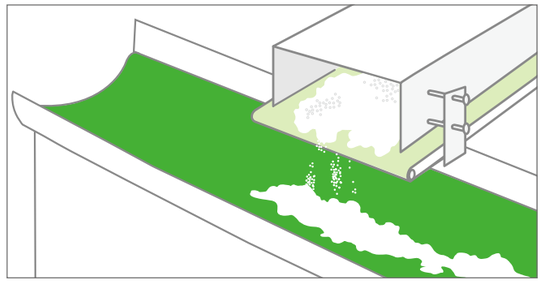
【 Small pulley and knife edge applications 】



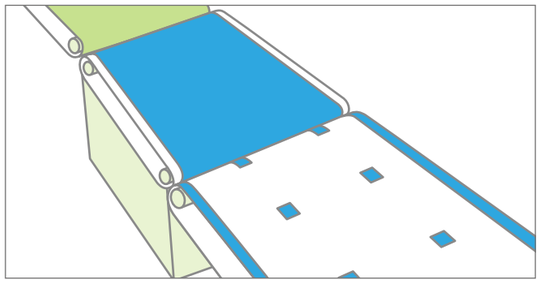
【 Less sticky 】



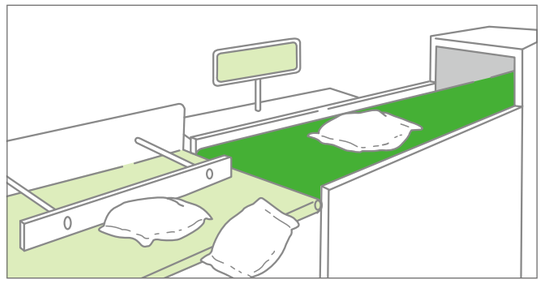
【 Long service life, even in applications requiring frequent cleaning or sterilization 】



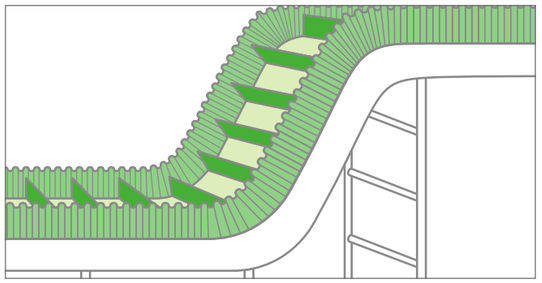
【 Trough-shaped conveyance for powder or bulk materials 】



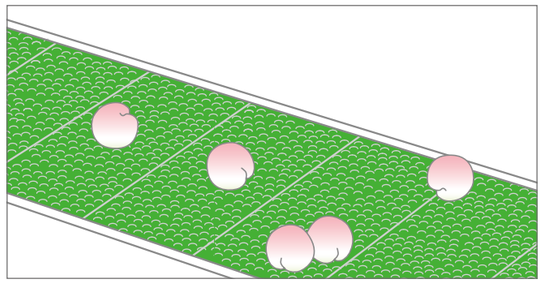
【 Available in blue to easily detect foreign object inclusion 】



【 High precision seamless belts for scales 】



【 Inclined conveyance in narrow spaces 】

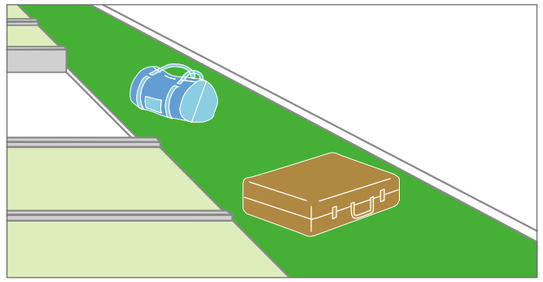


【 Prevents damage or rolling of fruits and vegetables 】

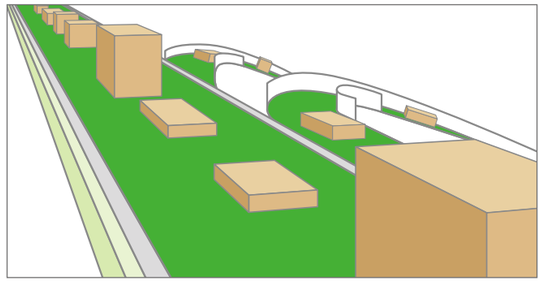
※Actual belt color may differ from those shown above.

Logistics, Logistic Equipment, Other

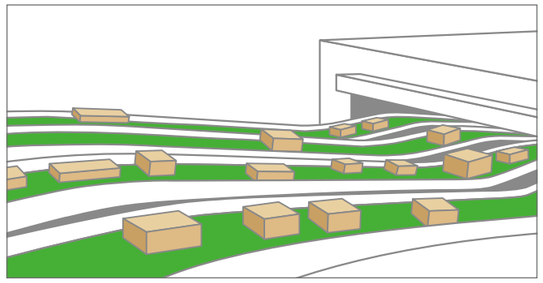
Reliable and effective conveyance is the most basic function of conveyor belts. Our belts offer high speed and low noise conveyance, with applications ranging from sorting and slide applications to inclined conveyance. We have belts resistant to heat, oil and chemicals for use in a variety of manufacturing processes, and we can provide processing service.



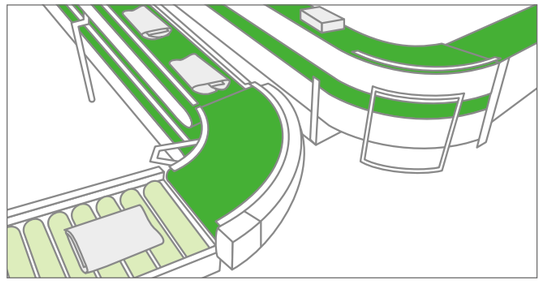
【 High speed conveyance for heavy baggage on airport conveyors 】



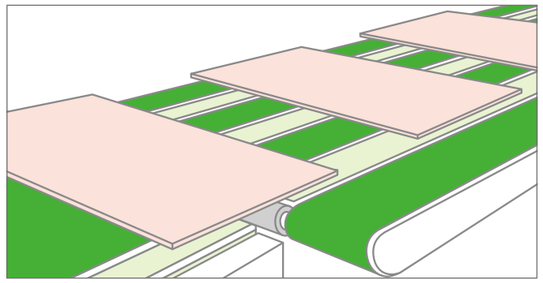
【 Slide conveyance for sorting lines 】



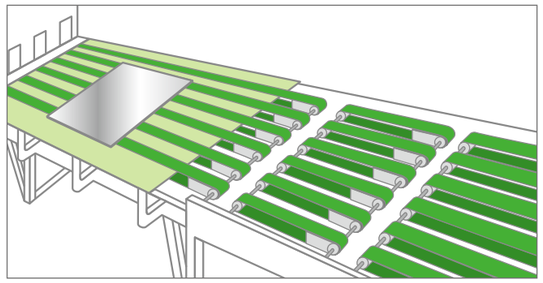
【 Inclined conveyance of boxes or bags 】



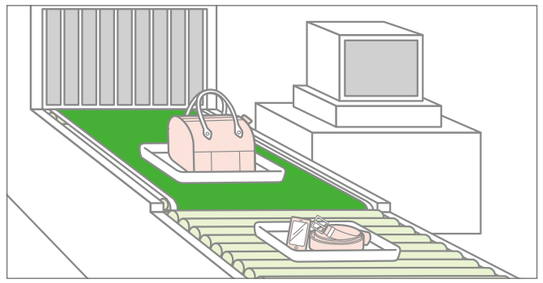
【 Flexible horizontal and vertical curves 】



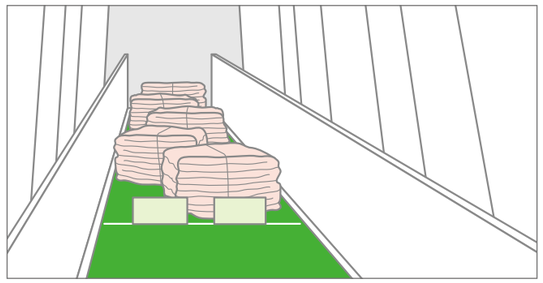
【 Multiple belts for large sized material such as plywood 】



【 Post-press conveyance of steel plates and iron parts 】



【 Inspection scanners 】



【 Cleats used in inclined conveyance 】

※Actual belt color may differ from those shown above.

How to Read Specifications

How to Read Specifications

SL-	①	②	③	④	
	F	2	2	0 0	N
	Applications	Function	Color / Plies	Specification No.	

① Applications

F : Unpackaged food conveyance
M : Logistics and general purpose conveyance
S : Special specification and user type
P : Seamless belts (Super SUNLINE Belts)

② Function

F : All belts are antibacterial, antifungal, and non-fray.

1 : Standard belts for unpackaged food
2 : For non-sticky unpackaged food
3 : Humidity and heat resistance, low thermal shrinkage for unpackaged food conveyance
4 : Flexibility in the direction of width for troughed conveyance of unpackaged food
0 : Canvas belt top for conveyance of unpackaged food

M : General purpose conveyance in various use conditions.

1 : Polyvinyl chloride cover (not available for unpackaged food)
2 : Standard general purpose (available for unpackaged food)
3 : Non-fray type for light load logistics (available for unpackaged food)
4 : Low noise type for mini computers and logistics (available for unpackaged food)
5 : Logistics slide conveyance (available for unpackaged food)
9 : Special PVC surface for steep incline conveyance (available for unpackaged food)
0 : Special polyurethane surface for steep incline conveyance (available for unpackaged food)
C : Special rubber surface for steep incline conveyance (available for unpackaged food)

S : Custom designs to meet use conditions

0 : Low noise
1 : Heat and cold resistance
2 : Oil resistance
3 : Ultra anti-static
5 : Non-penetration type
7 : Curved belts, flex belts and special cleat belts
8 : Special materials installed
9 : PVC for unpackaged food
Y : Customized use

P : Seamless belts, suitable for conveying precision instruments (such as scales); may be used in small pulley and knife edge designs.

1 : Urethane
2 : PVC
3 : Humidity and heat resistance
4 : Ultra anti-static
5 : Silicon impregnated
6 : Slide type
7 : Polyester
8 : Antibacterial, antifungal urethane

③ Color / Plies (Belt cover color / Number of canvas plies)

1 : White / 1 ply
2 : White / 2 plies
3 : Green / 1 ply
4 : Green / 2 plies
5 : Blue / 1 ply
6 : Blue / 2 plies
7 : Black / 1 ply
8 : Black / 2 plies
9 : Gray / 2 plies
0 : Other color / Number of plies

④ Specification No. (S Series is sequentially numbered)

F・M :

00 : Standard type
01 : Standard type (fabric 2 plies / small pulley)
02 : Different color surface cover
03 : Surface cover thickness 2.0mm
04 : Textured surface cover Type N
05 : Special surface cover Type R7
06 : Textured surface cover Type N3
07 : Special surface cover Type P1
08 : Special surface cover Type P3
09 : Special surface cover Type R1
10 : Silicon impregnated
11 : Top and backside covers both 0.2mm (Top: smooth and glossy / Backside: fabric)
12 : Top and backside covers both 0.2mm (Top: smooth and glossy / Backside smooth and matte)
13 : Both surfaces covered Top 0.5 / Backside 0.2mm (Top: smooth and glossy / Backside: smooth and matte)
14 : Top and backside covers both 0.5mm (Top: smooth and glossy / Backside: fabric)
15 : Fabric surface cover for small pulleys N3
16 : Surface covers for small pulley, different color
17 : Silicon impregnation type for small pulley
N : New specification with same name

Non-standard products are custom-made and distributors may not carry inventory.

S : The S Series are all numbered sequentially. Please refer to the corresponding page.

P : Please refer to page 31 in this catalog.

Please select belts using the procedure below.

Select belt series and type

Use the Selection Chart on pages 11-12 to choose the belt series and type. Progressively choosing one alternative in each section should result in proper belt selection.

Select the number of belt plies ①

Use the tables on the following pages regarding belt size and the weight of the materials transported to determine the necessary number of plies. If the result is one ply, and if pulley diameter is not a problem, two plies may be selected. (If the result is two plies, one ply cannot be selected.) Two-ply belts reduce the risk of snaking and offset.

Go to the page for series and type recommended by the Selection Chart.

Select the number of plies ② and decide on the belt type.

Choose plies from among "Ply Selection Based on Pulley Diameter" on page 10, and then select the belt type. In addition to standard belt selections for each series, you can select options, such as surface texture, covers on both belt surfaces, etc.

※ This procedure is for general purpose conveyor belts. If you use special belts, such as for marble grinders or vegetable slicers, please contact Bando or your distributor.

[Website for the Selection of Sunline Belts]

The procedures described in this catalog can be used on our website:

https://sekkei.bando.co.jp/sunline/jpn/index.php/m/top

Cutomers and distributors can easily select belt specifications on-site from your PC, smart phone or tablet computer. Or contact Bando or your distributor for a more detailed consultation.

Selection of the Number of Plies based on Pulley Diameter

1) Belt selection for existing conveyors

- Check the pulley diameter of the existing conveyor (Check R value if knife edge)
- Determine the belt series and type using the Selection Chart.
- Look for the same belt pulley diameter as that of the existing conveyor, or the minimum pulley diameter. (If using a knife edge, look for the belt with the same R value or a smaller one)
- The number of plies should match the plies necessary based on the conveyor size and weight of the material conveyed.

Example 1 The pulley diameter of the existing conveyor is 40mm and one ply is necessary (if the number of plies is 1, 2 plies may also be selected)

Series and type selection pages ▶▶▶

Belt type	Minimum pulley diameter	Number of plies
A	20 ← Select 40 or less	1 ← As the number of
B	40 ← Select 40 or less	2 ← necessary plies is 1,
C	50	2 ← you can choose either 1 and 2.

▶▶▶ Belts A and B are available. Either belt would be suitable.
Two-ply belts can reduce the risk of belt snaking and offset.

Example 2 The pulley diameter of the existing conveyor is 40mm and two plies are necessary.

Series and type selection pages ▶▶▶

Belt type	Minimum pulley diameter	Number of plies
A	20 ← Select 40 or less	1
B	40 ← Select 40 or less	2 ← Number of plies necessary is 2
C	50	2 ← Only 2 plies is appropriate

▶▶▶ Belt B is appropriate

Example 3 The pulley diameter of the existing conveyor is 30mm and two plies are necessary.

Series and type selection pages ▶▶▶

Belt type	Minimum pulley diameter	Number of plies
A	20 ← Select 30 or less	1
B	40	2 ← Number of plies necessary is 2
C	50	2 ← Only 2 plies is appropriate

▶▶▶ If no belt is appropriate,
please contact Bando or your distributor for a design review.

2) New conveyor designs

- Choose the series and type from the chart.
- Choose the number of plies necessary based on the conveyor size and the weight of the material conveyed.
- Select the belt matching the series and type, and the necessary number of plies.
- Verify the minimum pulley diameter and the knife edge R, and design the conveyor.
- Check the minimum drive pulley diameter for the design. Please refer to the design manual instructions.

Note) There is a relationship between motor capacity and the number of plies

Check these items when selecting belts for existing conveyors.

1) Check the conveyor's motor capacity.

2) Check whether the number of plies is correct in the table below.

Motor capacity	40W or less	40~200W	200W or more
Number of plies selected	1ply	1 ply or 2 plies	2ply

- The table above is applicable for most general-purpose conveyors.
- 200W motors are needed for 1-ply applications for high-speed conveyors, stretch-type conveyors or 24-hour operation.

3) If you cannot find an appropriate belt, the conveyor may be for special use or specially designed. Please consult with Bando or your distributor.

Selection Chart

※This chart introduces general purpose belts.
Please contact Bando or your distributor for specialty applications such as for polished marble or glass, or for custom cleat processing or belt perforations.

Material Conveyed

Specific items

Unpackaged, ready-to-eat food (bread, sweets, cooked vegetables, processed marine products)

→ CS series Meets overseas food sanitation low ; FDA,PIM — p.28 【26】

Baked bread, sweets, cooked vegetables, marine products

Usage temperature

- Ambient temperature −40~+80℃ (in wet heat, 60℃) → Standard belt for transporting unpackaged food products SL-F1 — p.17 【2】 ※SL-F1120, SL-F1121, SL-F1220, and SL-F1200 can accommodate temperatures as low as -10℃.
- Ambient temperature +60~+80℃ → Wet-heat-resistant, low-thermal-contraction belt SL-F3 — p.19 【4】
- Ambient temperature in excess of 80℃ → Heat-resistant silicon and fluororesin belts SL-S1239, SL-S1933 — p.24 【15】

Sticky foods such as bread dough, pastries, chocolate

Usage temperature

- Ambient temperature −10~+80℃ (in wet heat, 60℃) → How will the belt be used?
  - Powder on belt (dough) → Coverless belt SL-F0100,SL-F0200 Belt that adds texture to a F2 belt(SL-F2224) — p.17【1】 p.18【3】
  - Soft materials (chocolate and paste clog the belt) → Belt with cover Belt that adds a smooth surface to an SL-F2 belt — p.18 【3】
  - Other highly sticky materials → Silicon impregnated belt SL-F0217 — p.17 【1】; Fluorine resin film belt SL-S8935N, SL-S8936N — p.20 【6】
- Ambient temperature in excess of 80℃ → Heat-resistant silicon and fluororesin belts SL-S1239, SL-S1933 — p.24 【15】

High-temperature, hard foods such as steamed bread, steamed rice, glutinous rice

Usage temperature

- Ambient temperature +80℃ or less → Wet-heat-resistant, low-thermal-contraction belt SL-F3 — p.19 【4】
- Ambient temperature in excess of 80℃ → Please contact us

Bulk food such as rice, beans

Incline over 5°

- Incline angle 5° or less → Trough conveyor belt SL-F4200 — p.19 【5】
- Incline angle exceeding 5° → Steep incline belt (please contact us) — p.33~

Meat

Priority

- Excellent antifungal properties +5 ~ +60℃ → PVC belt for food SL-S9200, SL-S9235 — p.27 【23】
- Washable with hot water −10 ~ +80℃ → Wet-heat-resistant, low-thermal-contraction belt — p.19 【4】
- Freezer applications −40 ~ +60℃ → Standard belt for transporting unpackaged food products SL-F1 — p.17 【2】 ※SL-F1120, SL-F1121, SL-F1220, and SL-F1200 can accommodate temperatures as low as -10℃.
- Excellent cleanability → Single-material resin VOLTA belt (Please contact us for more information.) — p.44~

Weight measurement, metal detection, slicer applications

- Small knife edge(to a minimum of R2) Metal detection Weight measurement → SUNLINE P Series Wide selection — p.31
- Larger rollers than R2 → Belt for mini-conveyors SL-M4100, SL-M4300 — p22 【11】
- Vegetable slicers, meat slicers → SL-F3207 — p.19 【4】

Material condition

Unprepared unpack - aged food (unwashed vegetables,unpre-pared seafood)

Almost dry → Usage temperature

- Ambient temperature −10~+80℃(dry heat) → General use PU belt SL-M6423, SL-M4300, SL-M4329 — p.21【9】 p.22【11】
- Ambient temperature +5~+60℃(dry heat) → General use PVC belt SL-M1400N, SL-SY455N — p.21【10】 p.26【21】

Wet, juicy, muddy → Usage temperature

- Ambient temperature −10~+60℃(wet heat) → Standard belt for transporting unpackaged food products SL-F1 — p.17 【2】
- Ambient temperature −10~+80℃(wet heat) → Wet-heat-resistant, low-thermal-contraction belt SL-F3 — p.19 【4】
- Ambient temperature +5~+40℃(wet heat) → General use PVC belt SL-M1400N, SL-SY455N — p.21【10】 p.26【21】

Soft, easily damaged fruits, vegetables → Strand belt SL-S8432 — p.20 【7】

Packaged food (bagged, canned) Luggage (bags, suitcases) Logistics (cardboard boxes, plastic cases) Parts, products (plastic, rubber components)

Inclined conveyance

YES → Angle of incline

- Angle of incline 5°~20° → Ambient temperature +60℃ or above, or importance for abrasion resistance
- Angle of incline 5°~25° → Special rubber belt for inclines SL-MC300、SL-MC400 — p.23 【13】
- Angle of incline 20°~90° → Steep incline belt (please contact us) — p.33~

NO → Usage

- General horizontal conveyance → Ambient temperature +60℃ or above, or importance for abrasion resistance
  - YES → Does the ambient temperature exceed 80℃?
    - YES → Please contact us for more information.
    - NO → Incline PU belt SL-M2309, SL-M0409 — p.22【12】 p.26【21】
  - NO → Incline PVC belt SL-M9400N, SL-M9409N — p.22 【12】
- Baggage sliding on the belt → Belt for slide applications SL-M5200N, SL-M8418 — p.23 【14】
  - YES → Does the ambient temperature exceed 80℃?
    - YES → Heat-resistant belt — p.24 【15】
    - NO → General use PU belt SL-M6423, SL-M2401N — p.21 【9】
  - NO → General use PVC belt SL-M1400N, SL-SY455N — p.21【10】 p.26【21】
- Small knife edge(to a minimum of R2) Metal detection Weight measurement → SUNLINE P Series Various models available — p.31~
  - YES → Large amount of mill oil on belt
    - YES → Oil resistant PVC belts SL-S2632(Thick type) — p.25 【17】
    - NO → Impact resistant PU belt SL-S5425, SL-SY035 — p.25 【18】
  - NO → Large amount of mill oil on belt
    - YES → Oil resistant PVC belts SL-S2632, SL-S2634 — p.25 【17】
    - NO → General use PU belt SL-M6423, SL-M4300, SL-M4329 — p.21 【9】
- Larger rollers than R2 → Belt for mini-conveyors SL-M4100, SL-M4300 — p.22 【11】
  - YES → Does the ambient temperature exceed 80℃?
    - YES → Heat-resistant belt — p.24 【15】
    - NO → General use PU belt SL-M6423, SL-M2401N — p.21 【9】
  - NO → General use PVC belt SL-M1400N, SL-SY455N — p.21【10】 p.26【21】

Metal Iron plates Machined products, chips

Items easily causing belt damage, such as heavy items, high drops, burred items

Garbage conveyance Other

→ Oil resistant PVC belts SL-S2632,SL-S2634 — p.25 【17】

Electronic components Paper Fibers

Application that is extremely sensitive to static electricity or that requires thoroughgoing functionality for preventing static electricity (surface electrical resistance of 10⁴ to 5 Ω)?

- YES → Ultra anti-static belt SL-S3726, SL-S3827 — p.25 【19】
- NO → Ambient temperature +60℃ or above, or importance for abrasion resistance
  - YES → Does the ambient temperature exceed 80℃?
    - YES → Heat-resistant belt — p.24 【15】
    - NO → General use PU belt SL-M6423, SL-M2401N — p.21 【9】
  - NO → General use PVC belt SL-M1400N, SL-SY455N — p.21【10】 p.26【21】

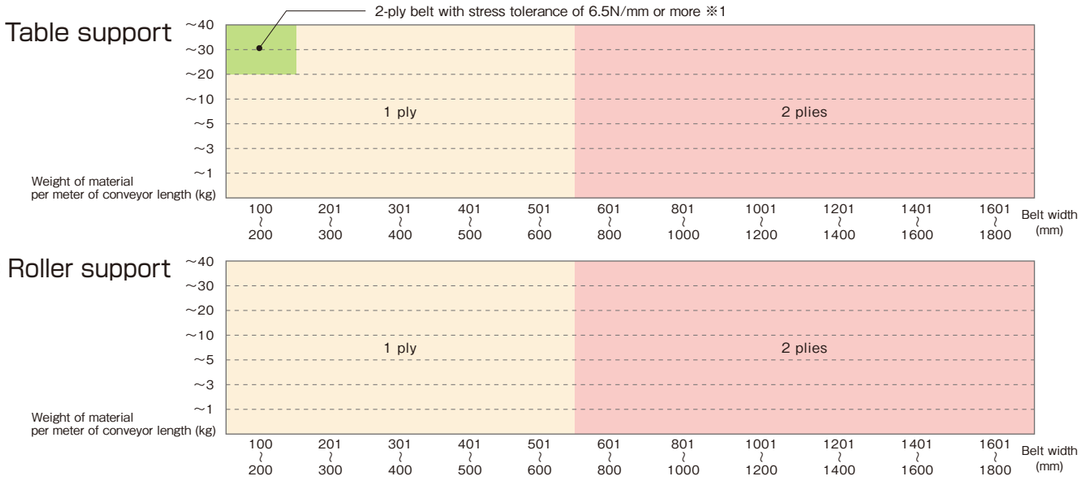
Special applications Curved conveyors

→ Belt for curved conveyors SL-S7300, SL-S7436 — p.26 【20】

Ply Requirement Table for Food Conveyance Applications (F Series)

1. Conveyor length 2.0m or less

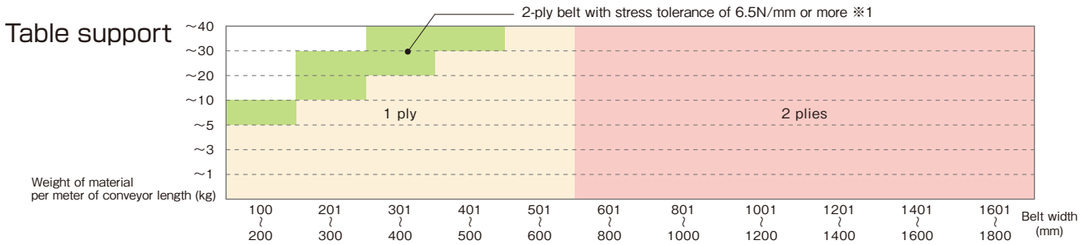
1) Table support



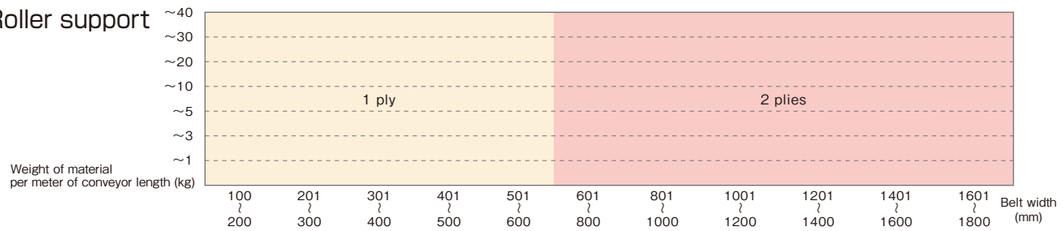
2) Roller support

2. Conveyor length 2.1～5.0m

1) Table support

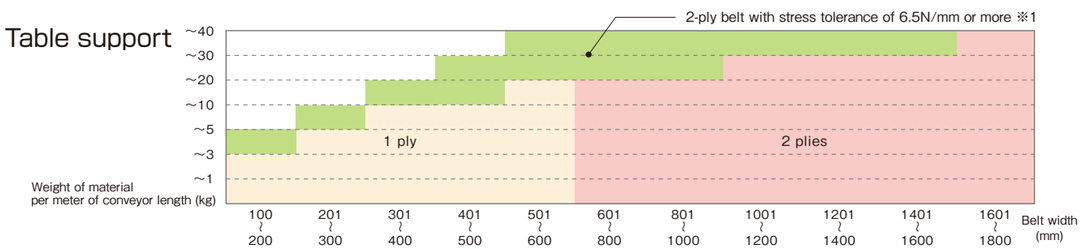


2) Roller support

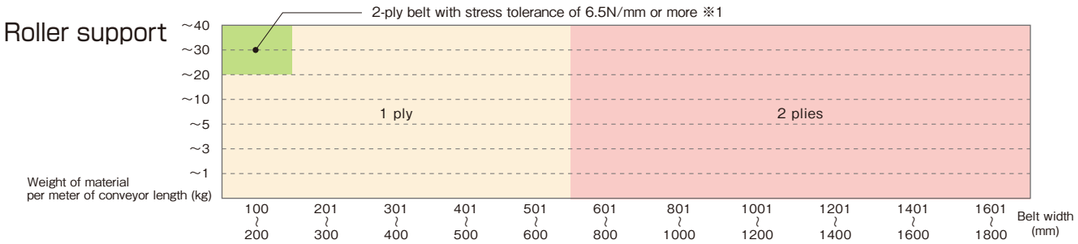


3. Conveyor length 5.1～10.0m

1) Table support

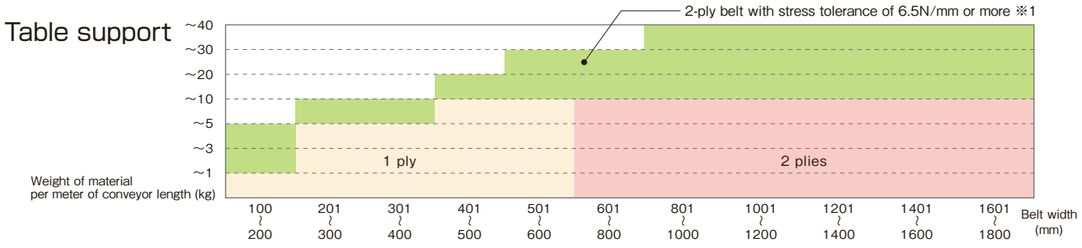


2) Roller support

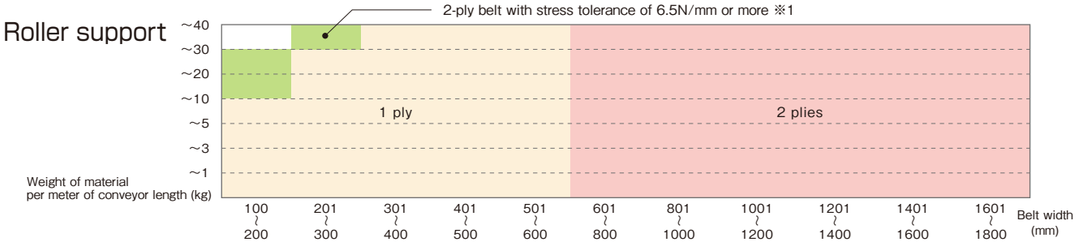


4. Conveyor length 10.1～15.0m

1) Table support

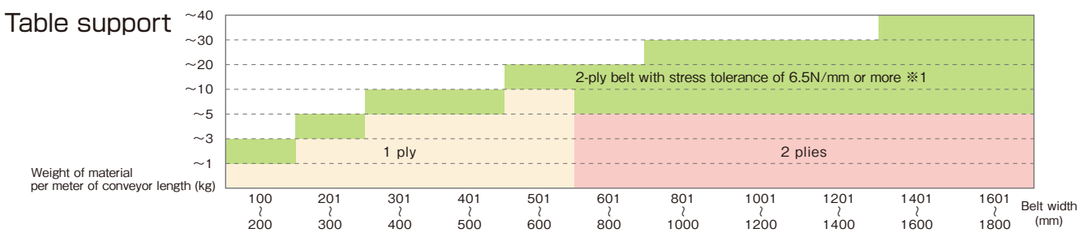


2) Roller support

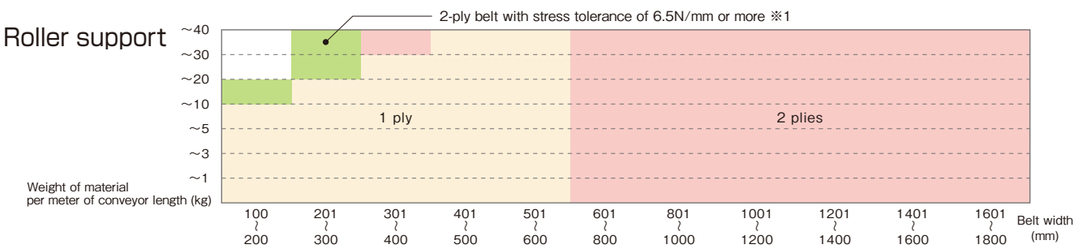


5. Conveyor length 15.1～20.0m or less

1) Table support



2) Roller support

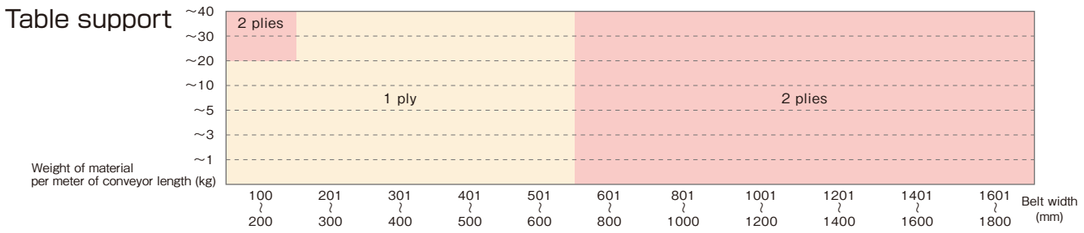


※1 2-ply belt with stress tolerance of 6.5N/mm or more : SL-F3202・F3206N・F3207・F3211・F3611・F4200・F1200・F2200・CS060

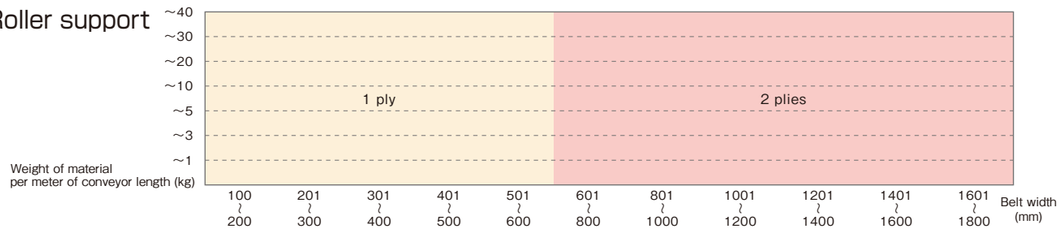
Ply Requirement Table for Logistics, General and Specialty Conveyance Applications (M, S Series)

1. Conveyor length 2.0m or less

1) Table support

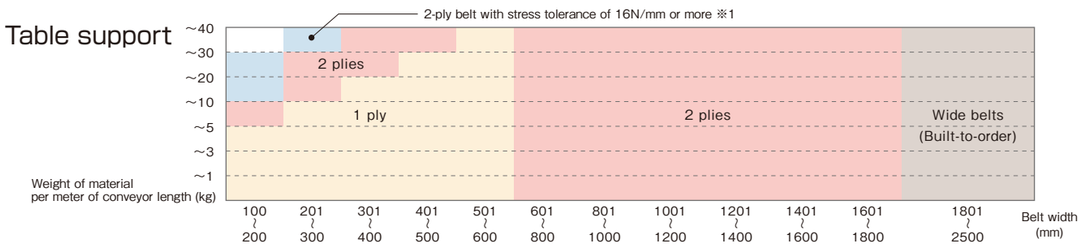


2) Roller support

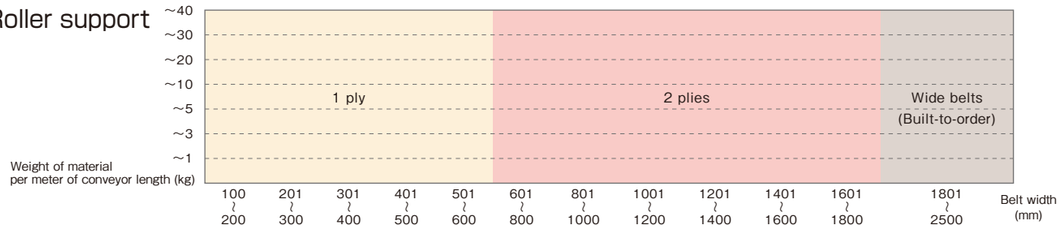


2. Conveyor length 2.1～5.0m

1) Table support

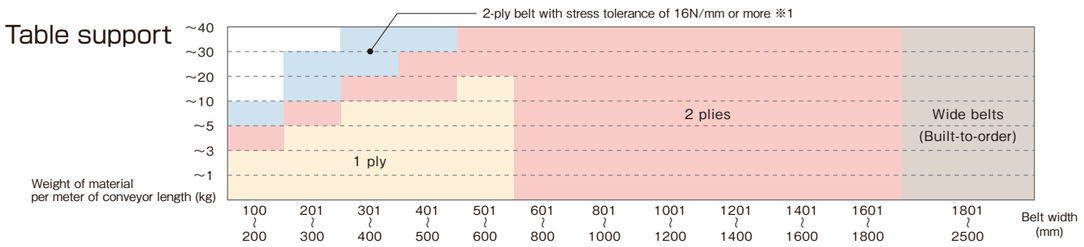


2) Roller support

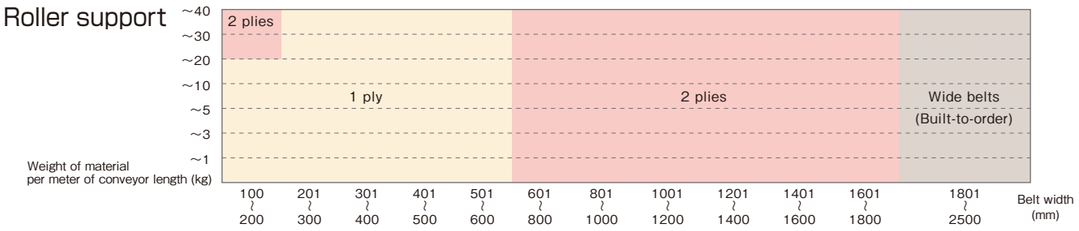


3. Conveyor length 5.1～10.0m

1) Table support

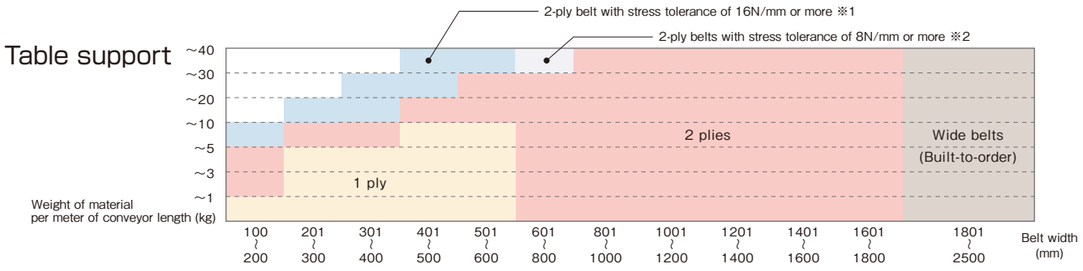


2) Roller support

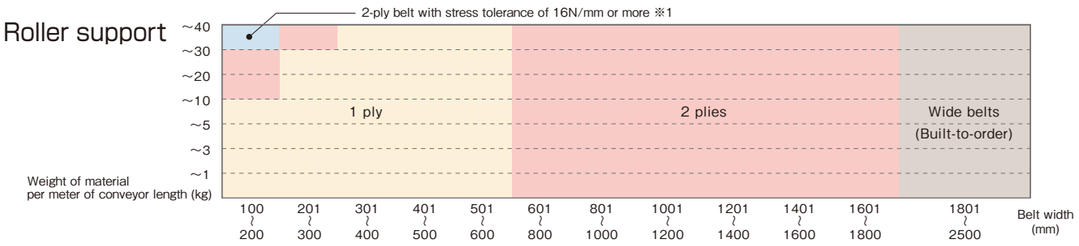


4. Conveyor length 10.1～15.0m

1) Table support

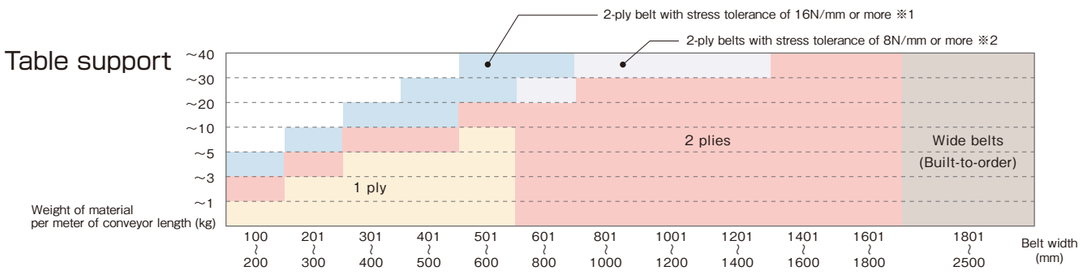


2) Roller support

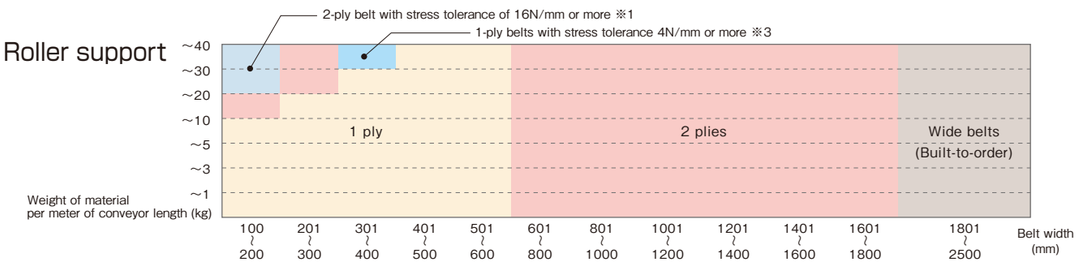


5. Conveyor length 15.1～20.0m or less

1) Table support



2) Roller support



※1 2-ply belt with stress tolerance of 16N/mm or more : SL-S5425
※2 2-ply belts with stress tolerance of 8N/mm or more, except the following specifications :
SL-M2401N・SL-M5201N・SL-M5422・SL-S1239・SL-S6235・SL-S6400・SL-S6404・SL-S6933N・SL-S8231N・SL-S9200・SL-SY045・SL-SY456N・SL-S8432・SL-S7200
※3 1-ply belts with stress tolerance 4N/mm or more :
SL-M2309・SL-M4100・SL-M4300・SL-M5100・SL-M5302・SL-MC300・SL-S7300・SL-SY040・SL-SY533・SL-SY534・SL-M2100・SL-M2300・SL-S1235

F Series Belts for Food Conveyance

Belts for Unpackaged Food Conveyance

Please contact Bando or your distributor about delivery lead time.

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)／Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Non-fray	Antibacterial Antifungal	Applicable operating temperature(℃)		Maximum applicable width (mm)
				Finger	Hot lap	Cold lap	Table	Roller	Trough					Dry heat	Wet heat	
【1】No top cover. Excellent slide and separation properties. Applicable for materials alignment and dough conveyance applications																
SL-F0100	1	0.7	0.6	25/R3	—	—	○	○	×	0.15	0.15	○	○	−40～80	60	600
SL-F0200	2	1.2	1.1	25/R5	30/R10	35※	○	○	△	0.15	0.25	○	○	−40～80	60	1800
SL-F0217	2	1.2	1.1	—	35	40※	○	○	△	0.1	0.25	○	○	−10～80	60	1600
【2】Standard belt for unpackaged food																
SL-F1100	1	0.9	0.8	15/R3	20/R5	25	○	○	×	0.3	0.15	○	○	−40～80	60	600
SL-F1111	1	1.3	1.1	15/R5	25/R10	30	△	○	×	0.3	0.3	○	○	−40～80	60	600
SL-F1120	1	1.3	1.3	25	30	—	○	○	×	0.3	0.2	○	○	−10～80	60	600
SL-F1121	1	1.2	1.0	15/R5	—	—	○	○	×	0.3	0.2	○	○	−10～80	60	600
SL-F1200	2	1.5	1.4	25/R8	30/R10	40	○	○	△	0.3	0.15	○	○	−10～80	60	1800
SL-F1201	2	1.3	1.1	10/R2	15/R3	25	○	○	△	0.3	0.15	○	○	−40～80	60	1800
SL-F1204	2	1.3	1.2	15/R3	20/R5	25	○	○	△	0.3	0.15	○	○	−40～80	60	1800
SL-F1206N	2	1.6	1.4	20/R5	25/R8	30	○	○	△	0.4	0.15	○	○	−40～80	60	1800
SL-F1211	2	1.6	1.4	25/R8	30/R10	40	△	○	△	0.3	0.3	○	○	−40～80	60	1800
SL-F1218	2	1.3	1.1	15/R3	20/R5	25	○	○	△	0.3	0.15	○	○	−40～80	60	1800

○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. ×: Not suitable —: Not functional

※: Hot joint is recommended. Delicate fabric material is used, and unprocessed belt edge and cold joint may result in unstable joint strength.

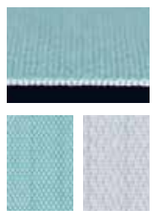
■ SL-F0100

	Top／Backside
Material	PET／PET
Color	White／White
Profile	Impregnated／Impregnated

■ SL-F0200

	Top／Backside
Material	PET／PET
Color	White／White
Profile	Impregnated／Impregnated

■ SL-F0217



	Top／Backside
Material	PET／PET
Color	Light blue／White
Profile	Silicon impregnated／Impregnated

■ SL-F1100

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

■ SL-F1111

	Top／Backside
Material	PU／PU
Color	White／White
Profile	Smooth and glossy／Grainy(N)

■ SL-F1120

	Top／Backside
Material	PU／PU
Color	White／White
Profile	Smooth and glossy／Grainy(N3)

■ SL-F1121

	Top／Backside
Material	PU／PU
Color	White／White
Profile	Smooth and glossy／Grainy(N)

■ SL-F1200

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

■ SL-F1201

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

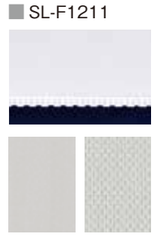
■ SL-F1204

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Grainy(N)／Impregnated

■ SL-F1206N

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Grainy(N3)／Impregnated

■ SL-F1211



	Top／Backside
Material	PU／PU
Color	White／White
Profile	Smooth and glossy／Grainy(N)

■ SL-F1218

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Grainy(N3)／Impregnated

PU : Polyurethane PET : Polyester

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)／Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Non-fray	Antibacterial Antifungal	Applicable operating temperature(℃)		Maximum applicable width (mm)
				Finger	Hot lap	Cold lap	Table	Roller	Trough					Dry heat	Wet heat	
【2】Standard belt for unpackaged food																
SL-F1220	2	2.0	1.9	45	55	60	○	○	△	0.3	0.2	○	○	−10～80	60	1800
SL-F1502	1	0.9	0.8	15/R3	20/R5	25	○	○	×	0.25	0.15	○	○	−40～80	60	600
SL-F1601	2	1.3	1.1	10/R2	15/R3	25	○	○	△	0.3	0.15	○	○	−40～80	60	1800
SL-F1611	2	1.6	1.4	25/R8	30/R10	40	△	○	△	0.3	0.3	○	○	−40～80	60	1800
【3】Excellent non-stick properties, ideal for conveyance of sticky materials, such as dough or chocolate																
SL-F2100	1	1.0	0.9	20/R5	25/R8	—	○	○	△	0.2	0.15	○	○	−10～80	60	600
SL-F2104	1	1.1	1.0	20/R5	25/R8	—	○	○	×	0.2	0.15	○	○	−10～80	60	600
SL-F2105	1	1.4	1.4	25/R8	30/R10	—	○	○	△	0.2	0.15	○	○	−10～80	60	600
SL-F2200	2	1.6	1.4	15/R5	30	—	○	○	△	0.2	0.15	○	○	−10～80	60	1800
SL-F2200N	2	1.4	1.2	15/R5	30	—	○	○	△	0.2	0.15	○	○	−10～80	60	1800
SL-F2205N	2	1.7	1.7	15/R5	30	—	○	○	△	0.2	0.15	○	○	−10～80	60	1800
SL-F2224	2	1.4	1.3	15/R5	30	—	○	○	△	0.2	0.15	○	○	−10～80	60	1800
SL-F2601	2	1.4	1.2	15/R5	30	—	○	○	△	0.2	0.15	○	○	−10～80	60	1800
SL-F2624	2	1.4	1.3	15/R5	30	—	○	○	△	0.2	0.15	○	○	−10～80	60	1800

○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. ×: Not suitable —: Not functional

■ SL-F1220

	Top／Backside
Material	PU／PU
Color	White／White
Profile	Smooth and glossy／Grainy(N3)

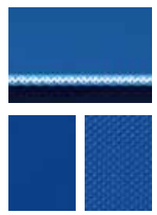
■ SL-F1502

	Top／Backside
Material	PU／PET
Color	Blue／White
Profile	Smooth and matte／Impregnated

■ SL-F1601

	Top／Backside
Material	PU／PET
Color	Blue／White
Profile	Smooth and glossy／Impregnated

■ SL-F1611



	Top／Backside
Material	PU／PU
Color	Blue／Blue
Profile	Smooth and glossy／Grainy(N)

■ SL-F2100

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

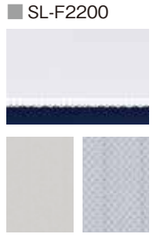
■ SL-F2104

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Grainy(N)／Impregnated

■ SL-F2105

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Special (R7)／Impregnated

■ SL-F2200



	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

■ SL-F2200N

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

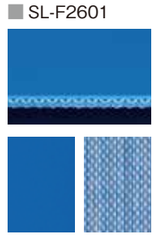
■ SL-F2205N

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Special (R7)／Impregnated

■ SL-F2224

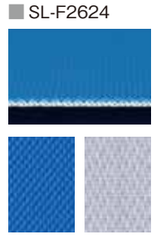
	Top／Backside
Material	PU／PET
Color	White／White
Profile	Grainy(N)／Impregnated

■ SL-F2601



	Top／Backside
Material	PU／PET
Color	Blue／White
Profile	Smooth and glossy／Impregnated

■ SL-F2624



	Top／Backside
Material	PU／PET
Color	Blue／White
Profile	Grainy(N)／Impregnated

PU : Polyurethane PET : Polyester

F Series Belts for Food Conveyance

Belts for Unpackaged Food Conveyance

Please contact Bando or your distributor about delivery lead time.

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Non-fray	Antibacterial Antifungal	Applicable operating temperature(℃)		Maximum applicable width (mm)
				Finger	Hot lap	Cold lap	Table	Roller	Trough					Dry heat	Wet heat ※1	
【4】Excellent humidity, heat (constant 80℃), and chemical resistance. For use in heat-sterilized lines, meat and seafood processing, cooked rice conveyance, etc. Excellent heat durability, and can withstand exposure to chemical cleansing (sodium hypochlorite, etc.) at temperatures up to 100℃.																
SL-F3102N	1	1.0	0.9	20/R5	25	—	○	○	×	0.3	0.15	○	○	−10～80	80(70)	600
SL-F3106N	1	1.2	1.2	20/R5	25	—	○	○	×	0.4	0.15	○	○	−10～80	80(70)	600
SL-F3202	2	1.5	1.4	25/R10	30	—	○	○	△	0.3	0.15	○	○	−10～80	80(70)	1800
SL-F3206N	2	1.8	1.8	25/R10	30	—	○	○	△	0.4	0.15	○	○	−10～80	80(70)	1800
SL-F3207	2	2.8	2.8	—	45	—	○	○	△	0.5	0.15	○	○	−10～80	80(70)	1800
SL-F3211	2	2.0	1.8	50	55	—	△	○	△	0.3	0.3	○	○	−10～80	80(70)	1800
SL-F3611	2	2.0	1.8	50	55	—	△	○	△	0.3	0.4	○	○	−10～80	80(70)	1800
SL-F3500	1	1.0	0.9	20/R5	25	—	○	○	×	0.3	0.15	○	○	−10～80	80(70)	600
【5】Bulk (granular) conveyance requiring troughs																
SL-F4200	2	1.8	1.6	50	50	50	×	○	○	0.25	0.25	○	○	−10～80	60	1600

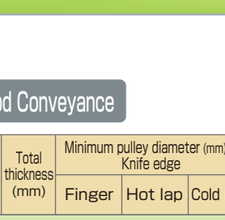
○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. ×: Not suitable —: Not functional

※1 The figures in ( ) indicate the temperature of humidity and heat resistance at finger joints

SL-F3102N

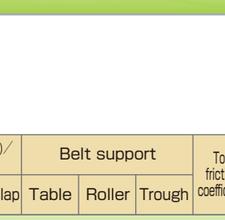
Top/Backside	
Material	PU/PET
Color	White/White
Profile	Smooth and glossy/Impregnated

SL-F3106N



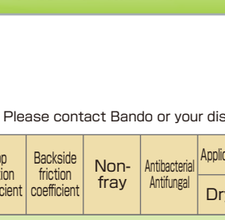
Top/Backside	
Material	PU/PET
Color	White/White
Profile	Grainy(N3)/Impregnated

SL-F3202



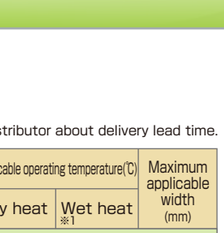
Top/Backside	
Material	PU/PET
Color	White/White
Profile	Smooth and glossy/Impregnated

SL-F3206N



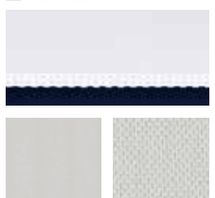
Top/Backside	
Material	PU/PET
Color	White/White
Profile	Grainy(N3)/Impregnated

SL-F3207



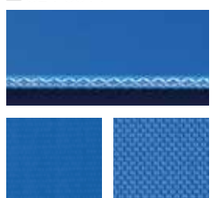
Top/Backside	
Material	PU/PET
Color	White/White
Profile	Grainy(P1)/Impregnated

SL-F3211



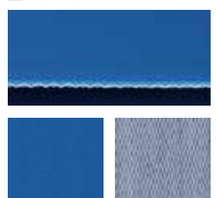
Top/Backside	
Material	PU/PU
Color	White/White
Profile	Smooth and glossy/Grainy(N)

SL-F3611



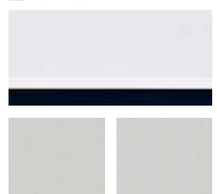
Top/Backside	
Material	PU/PU
Color	Blue/Blue
Profile	Smooth and matte/Grainy(N)

SL-F3500



Top/Backside	
Material	PU/PU
Color	Blue/White
Profile	Smooth and matte/Impregnated

SL-F4200



Top/Backside	
Material	PU/PU
Color	White/White
Profile	Smooth and matte/Smooth and matte

PU : Polyurethane PET : Polyester

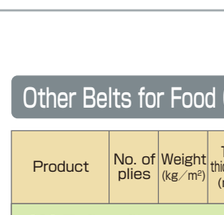
Other Belts for Food Conveyance

Please contact Bando or your distributor about delivery lead time.

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Non-fray	Antibacterial Antifungal	Applicable operating temperature(℃)		Maximum applicable width (mm)	Previous product, remarks
				Finger	Hot lap	Cold lap	Table	Roller	Trough					Dry heat	Wet heat		
【6】Teflon film-coated top gives a high degree of non-stickiness and chemical resistance.																	
SL-S8935N	2	1.6	1.5	—	75	—	○	○	×	0.1	0.15	—	—	−10～80	60	1200	5FKDBE TS
SL-S8936N	2	1.7	1.6	—	75	—	×	○	×	0.1	0.4	—	—	−10～80	60	1200	5FKDB2/ AW2E TF
【7】Belt for fruit sorters that prevent rolling and damage to fruits and vegetables while being conveyed ※ Not suitable for unpackaged food conveyance																	
SL-S8432	2	8.0	12.0	—	—	100	○	○	×	1.0	0.15	—	—	5～60	40	1200	Strand belt
【8】Belts with plastic buckets attached for bucket elevators to lift or lower materials																	
SL-S9235	2	2.6	2.4	80	80	80	×	○	△	0.4	0.4	—	—	5～60	40	1200	8CW5/ W5JE FF
SL-SY292	2	3.2	2.9	100	100	100	×	○	○	0.4	0.5	—	—	5～60	40	1800	8YCW FN

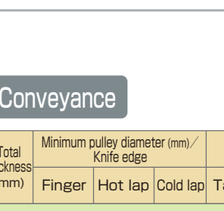
○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. ×: Not suitable —: Not functional

SL-S8935N



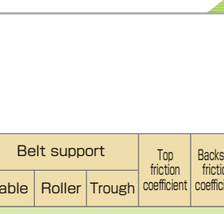
Top/Backside	
Material	Teflon/PET
Color	Blue/White
Profile	Film/Impregnated

SL-S8936N



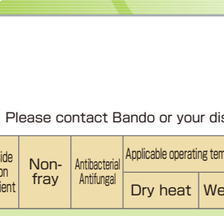
Top/Backside	
Material	Teflon/PU
Color	Blue/White
Profile	Film/Smooth and matte

SL-S8432



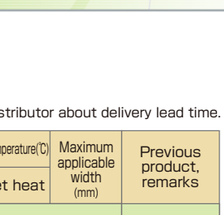
Top/Backside	
Material	PVC/PET
Color	Green/White
Profile	Strand/Impregnated

SL-S9235



Top/Backside	
Material	PVC/PVC
Color	White/White
Profile	Smooth and matte/Smooth and matte

SL-SY292



Top/Backside	
Material	PVC/PVC
Color	White/White
Profile	Smooth and matte/Grainy(N)

PU : Polyurethane PET : Polyester PVC : Polyvinyl chloride

M Series Belts for Logistics and General Conveyance Applications

General Purpose Belts

Please contact Bando or your distributor about delivery lead time.

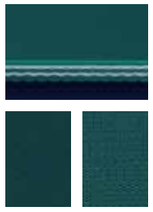
Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Unpackaged food	Non-fray	incline	Low noise	Applicable operating temperature (℃)	Maximum applicable width (mm)	Previous product, remarks
				Finger	Hot lap	Cold lap	Table	Roller	Trough									
【9】General purpose, standard belts																		
SL-M0409	2	2.2	2.1	50	50	55	○	○	△	1.7	0.1	○	—	○	○	−10～80	1800	8MUGE R10
SL-M1414N	2	3.0	2.6	60	60	60	×	○	△	0.4	0.5	—	—	△	—	5～60	2000	8CG5/ G5E HN
SL-M2100	1	1.0	0.9	20/R5	25/R8	30	○	○	×	0.3	0.15	○	—	△	—	−10～80	1200	4DUWE HS
SL-M2200	2	1.5	1.4	35	40	45	○	○	△	0.3	0.15	○	—	△	—	−10～80	1800	8UWE HS
SL-M2300	1	1.0	0.9	20/R5	25/R8	30	○	○	×	0.3	0.15	○	—	△	—	−10～80	1200	4DUGE HS
SL-M2400	2	1.5	1.4	35	40	45	○	○	△	0.3	0.15	○	—	△	—	−10～80	1800	8UGE HS
SL-M2401N	2	1.5	1.4	25/R8	30/R10	40	○	○	△	0.3	0.15	○	○	△	—	−10～80	1800	5UGE HS
SL-M6423	2	1.5	1.4	35	40	40	○	○	△	0.3	0.1	○	—	△	○	−10～80	1800	8MUGE HO
SL-SY163	1	1.0	0.9	20/R5	25/R8	30	○	○	×	0.3	0.15	○	○	△	—	−10～80	1200	4DUWE NF HS
SL-SY456N	2	1.7	1.7	50	55	60	△	○	△	0.3	0.3	○	○	△	—	−10～80	1800	8UG2/ G2E HN
【10】Wide selection of belts for general logistics applications																		
SL-M1400N	2	2.2	2.0	50	50	50	○	○	△	0.4	0.15	—	—	△	—	5～60	3000	8CGE HS
SL-M1403N	2	3.6	3.3	75	75	75	○	○	△	0.4	0.15	—	—	△	—	5～60	3000	8CG20E HS
SL-SY458	2	1.5	1.4	30	40	45	○	○	△	0.3	0.15	○	—	△	—	−10～80	2500	8HUGE HS
SL-S6404	2	1.7	1.5	25	30	35	○	○	△	1.7	0.15	○	○	○	—	−10～80	1800	

○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. ×: Not suitable —: Not functional

■ SL-M0409

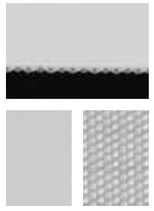
Top/Backside
Material PU/PET
Color Green/White
Profile Grooved(R1)/Fabric surface

■ SL-M1414N



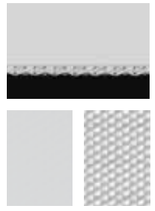
Top/Backside
Material PVC/PVC
Color Green/Green
Profile Smooth and matte/Grainy(N)

■ SL-M2100



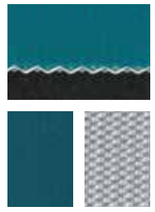
Top/Backside
Material PU/PET
Color White/White
Profile Smooth and glossy/Impregnated

■ SL-M2200



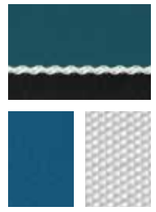
Top/Backside
Material PU/PET
Color White/White
Profile Smooth and glossy/Impregnated

■ SL-M2300



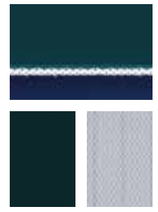
Top/Backside
Material PU/PET
Color Green/White
Profile Smooth and glossy/Impregnated

■ SL-M2400



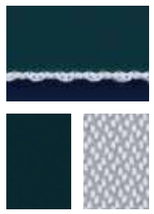
Top/Backside
Material PU/PET
Color Green/White
Profile Smooth and glossy/Impregnated

■ SL-M2401N



Top/Backside
Material PU/PET
Color Green/White
Profile Smooth and glossy/Impregnated

■ SL-M6423

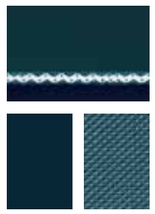


Top/Backside
Material PU/PET
Color Green/White
Profile Smooth and glossy/Fabric surface

■ SL-SY163

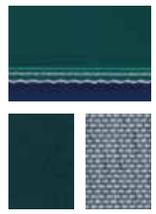
Top/Backside
Material PU/PET
Color White/White
Profile Smooth and glossy/Impregnated

■ SL-SY456N



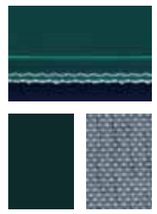
Top/Backside
Material PU/PU
Color Green/Green
Profile Smooth and glossy/Grainy(N)

■ SL-M1400N



Top/Backside
Material PVC/PET
Color Green/White
Profile Smooth and matte/Impregnated

■ SL-M1403N



Top/Backside
Material PVC/PET
Color Green/White
Profile Smooth and matte/Impregnated

■ SL-SY458

Top/Backside
Material PU/PET
Color Green/White
Profile Smooth and glossy/Impregnated

■ SL-S6404

Top/Backside
Material PU/PET
Color Green/White
Profile Grainy(N)/Impregnated

PU : Polyurethane PET : Polyester PVC : Polyvinyl chloride

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Unpackaged food	Non-fray	incline	Low noise	Applicable operating temperature (℃)	Maximum applicable width (mm)	Previous product, remarks
				Finger	Hot lap	Cold lap	Table	Roller	Trough									
【11】Excellent belt flexibility, applicable for small pulleys or knife edges, suitable for small and mini conveyors																		
SL-M4100	1	0.9	0.8	15/R3	25/R8	30	○	○	×	0.3	0.1	○	—	△	○	−10～80	600	4MUWE HO
SL-M4300	1	0.9	0.8	15/R3	25/R8	30	○	○	×	0.3	0.1	○	—	△	○	−10～80	600	4MUGE HO
SL-M4329	1	0.9	0.8	15/R3	25/R8	30	○	○	×	0.25	0.15	○	○	△	○	−10～80	600	

Incline conveyor belts

Please contact Bando or your distributor about delivery lead time.

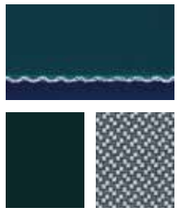
【12】Inclined conveyance using surface juts and surface friction resistance magnitude.																		
SL-M9400N	2	5.1	5.1	—	50	50	○	○	△	0.7	0.1	—	—	○	—	5～60	2900	8CGE P20
SL-M9409N	2	3.5	3.2	50	—	50	○	○	△	0.7	0.1	—	—	○	○	5～60	3000	8MCGE R10
SL-S6100	1	1.0	0.9	25	25	30	○	○	×	1.7	0.15	○	○	○	—	−10～80	600	
SL-S6400	2	1.7	1.5	25	30	35	○	○	△	1.7	0.15	○	○	○	—	−10～80	1800	
SL-S6437N	2	3.4	3.3	—	50	50	○	○	△	0.7	0.1	—	—	○	○	5～60	1800	8MCSG10E R40
SL-M0400N	2	2.8	2.8	—	50	55	○	○	△	0.5	0.15	○	—	○	—	−10～80	1800	8UGE P1S
SL-M2406	2	1.8	1.7	35	40	40	○	○	△	0.3	0.15	○	—	○	—	−10～80	1800	8UGE N3S
SL-M2309	1	1.6	1.5	30	30	35	○	○	×	1.7	0.15	○	—	○	—	−10～80	1200	4DUGE R1S

○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. ×: Not suitable —: Not functional

■ SL-M4100

Top/Backside
Material PU/PET
Color White/White
Profile Smooth and glossy/Fabric surface

■ SL-M4300

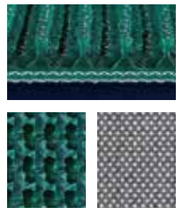


Top/Backside
Material PU/PET
Color Green/White
Profile Smooth and glossy/Fabric surface

■ SL-M4329

Top/Backside
Material PU/PET
Color Green/White
Profile Smooth and matte/Impregnated

■ SL-M9400N



Top/Backside
Material PVC/PET
Color Green/White
Profile Grainy(P2)/Fabric surface

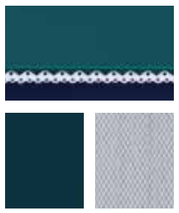
■ SL-M9409N

Top/Backside
Material PVC/PET
Color Green/White
Profile Grooved(R1)/Fabric surface

■ SL-S6100

Top/Backside
Material PU/PET
Color White/White
Profile Smooth and matte/Impregnated

■ SL-S6400

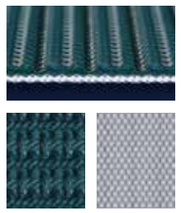


Top/Backside
Material PU/PET
Color Green/White
Profile Smooth and matte/Impregnated

■ SL-S6437N

Top/Backside
Material PVC/PET
Color Green/White
Profile Special (R4)/Fabric surface

■ SL-M0400N

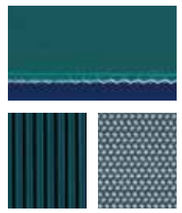


Top/Backside
Material PU/PET
Color Green/White
Profile Grainy(P1)/Impregnated

■ SL-M2406

Top/Backside
Material PU/PET
Color Green/White
Profile Grainy(N3)/Impregnated

■ SL-M2309



Top/Backside
Material PU/PET
Color Green/White
Profile Grooved(R1)/Impregnated

PU : Polyurethane PET : Polyester PVC : Polyvinyl chloride

Incline conveyor belts

Please contact Bando or your distributor about delivery lead time.

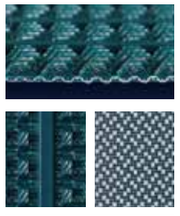
Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Unpackaged food	Non-fray	incline	Low noise	Applicable operating temperature (℃)	Maximum applicable width (mm)	Previous product, remarks
				Finger	Hot lap	Cold lap	Table	Roller	Trough									
【13】Excellent durability in inclined conveyance contributes to long belt life																		
SL-MC300	1	1.9	2.0	20	–	–	○	○	×	0.9	0.1	–	–	○	○	−5~60	600	"4MIGE R80 Mr. Climber"
SL-MC400	2	3.0	3.0	60	60	–	○	○	△	0.9	0.1	–	–	○	○	−5~60	1800	"8MIGE R80 Mr. Climber"

Belts for slide applications

【14】Easy-slide surface specification, suitable for side sorting and alignment applications																		
SL-M5100	1	0.5	0.5	25/R3	30/R5	35	○	○	×	0.15	0.15	○	–	–	–	−10~80	600	4PE SS
SL-M5200N	2	1.1	1.1	25/R8	30/R10	40	○	○	△	0.15	0.1	○	–	–	○	−10~80	1800	8PE SO
SL-M5201N	2	1.2	1.2	25/R5	30/R10	–	○	○	△	0.15	0.15	○	○	–	–	−10~80	1800	5PE SS
SL-M5302	1	0.5	0.5	25/R3	30/R5	35	○	○	×	0.15	0.15	○	–	–	–	−10~80	600	4PGE SS
SL-M5402N	2	1.2	1.2	25/R8	30/R10	40	○	○	△	0.15	0.1	○	–	–	○	−10~80	1800	8PGE SO
SL-M5422	2	1.2	1.2	25/R5	30/R10	35	○	○	△	0.15	0.15	○	–	–	–	−10~80	1800	5PGE SS
SL-M8418	2	1.9	1.7	50	50	55	○	○	△	0.2	0.1	○	–	–	○	−10~80	1800	8MGUG5E F0
SL-S6235	2	1.4	1.4	25	30	35	○	○	△	0.15	0.15	○	○	–	–	−10~80	1800	8PE NF SS
SL-S6933N	2	1.5	1.4	30/R10	35	–	○	○	△	0.2	0.15	○	○	–	–	−10~80	1800	5GUGRE FS
SL-SY040	1	1.0	0.9	25/R5	30	35	○	○	×	0.2	0.15	○	–	–	–	−10~80	1200	4DGUGRE FS

○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. × : Not suitable – : Not functional

■ SL-MC300 ★

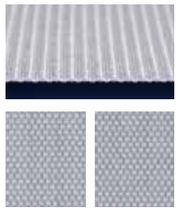


	Top/Backside
Material	Special rubber/PET
Color	Green/White
Profile	Special (R8)/Fabric surface

■ SL-MC400 ★

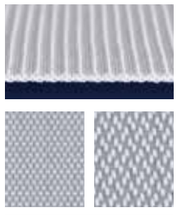
	Top/Backside
Material	Special rubber/PET
Color	Green/White
Profile	Special (R8)/Fabric surface

■ SL-M5100



	Top/Backside
Material	PET/PET
Color	White/White
Profile	Impregnated/Impregnated

■ SL-M5200N ★

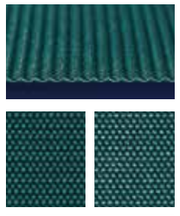


	Top/Backside
Material	PET/PET
Color	White/White
Profile	Impregnated/Fabric surface

■ SL-M5201N

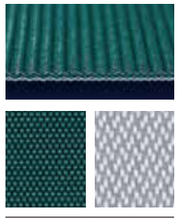
	Top/Backside
Material	PET/PET
Color	White/White
Profile	Impregnated/Impregnated

■ SL-M5302



	Top/Backside
Material	PET/PET
Color	Green/Green
Profile	Impregnated/Impregnated

■ SL-M5402N ★

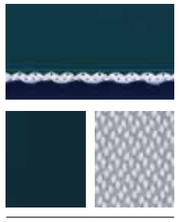


	Top/Backside
Material	PET/PET
Color	Green/White
Profile	Impregnated/Fabric surface

■ SL-M5422

	Top/Backside
Material	PET/PET
Color	Green/White
Profile	Impregnated/Impregnated

■ SL-M8418 ★



	Top/Backside
Material	PU/PET
Color	Green/White
Profile	Smooth and matte/Fabric surface

■ SL-S6235N

	Top/Backside
Material	PET/PET
Color	White/White
Profile	Impregnated/Impregnated

■ SL-S6933N ★

	Top/Backside
Material	PU/PET
Color	Gray/White
Profile	Smooth and matte/Impregnated

■ SL-SY040 ★

	Top/Backside
Material	PU/PET
Color	Gray/White
Profile	Smooth and matte/Impregnated

PU : Polyurethane PET : Polyester

Specialty Belts

Please contact Bando or your distributor about delivery lead time.

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Unpackaged food	Non-fray	incline	Applicable operating dry heat temperature (℃)	Maximum applicable width (mm)	Previous product, remarks
				Finger	Hot lap	Cold lap	Table	Roller	Trough								
【15】Belts with excellent heat resistance, suitable for conveyance of kneaded rubber, metal, plastics																	
SL-S1235	1	6.0	9.0	–	100※	–	○	○	△	0.4	0.15	–	–	△	−10~250	1000	8AUCF8E 0S
SL-S1239	2	1.8	1.6	–	75	–	○	○	×	1.7	0.25	○	○	△	−40~180	1200	5SWE KS
SL-S1831	2	2.2	2.0	–	50	–	○	○	△	0.15	0.15	–	–	–	−20~150	1200	8EE SS
SL-S1832	2	1.8	1.7	–	50	–	○	○	△	0.5	0.15	–	–	△	−20~150	1200	8EBKE FS
SL-S1833	2	2.2	2.1	–	50	–	×	○	△	0.5	0.5	–	–	△	−20~150	1200	8EBK4/ BK4E FN
SL-S1933	2	2.6	2.4	–	100	–	○	○	×	0.1	0.15	○	–	–	−20~150	1200	8FGRE TS
【16】Belts for low temperature conveyance, suitable for frozen food, ice cream and other cold products																	
SL-F1201	2	1.3	1.1	10/R2	15/R3	25	○	○	△	0.3	0.15	○	○	△	−40~80	1800	
SL-F1218	2	1.3	1.1	15/R3	20/R5	25	○	○	△	0.3	0.15	○	○	△	−40~80	1800	
SL-F1502	1	0.9	0.8	15/R3	20/R5	25	○	○	×	0.25	0.15	○	○	△	−40~80	600	Mr. Cook the blue
SL-F1601	2	1.3	1.1	10/R2	15/R3	25	○	○	△	0.3	0.15	○	○	△	−40~80	1800	Mr. Cook the blue
SL-F1611	2	1.6	1.4	25/R8	30/R10	40	△	○	△	0.3	0.3	○	○	△	−40~80	1800	Mr. Cook the blue

○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. × : Not suitable – : Not functional

※: Lace joint is generally used. Hot joint may be suitable, but it may cause crack by bent around jointed part.

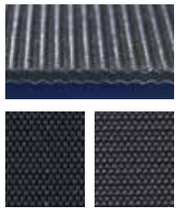
■ SL-S1235

	Top/Backside
Material	Felt/PET
Color	White/White
Profile	Felt/Impregnated

■ SL-S1239

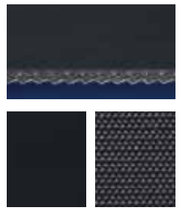
	Top/Backside
Material	Silicon/PET
Color	White/White
Profile	Mirror type/Impregnated

■ SL-S1831



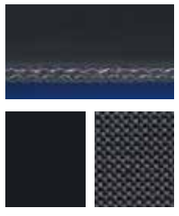
	Top/Backside
Material	PET/PET
Color	Black/Black
Profile	Impregnated/Impregnated

■ SL-S1832



	Top/Backside
Material	Heat resistant rubber/PET
Color	Black/Black
Profile	Smooth and matte/Impregnated

■ SL-S1833



	Top/Backside
Material	Heat resistant rubber/Heat resistant rubber
Color	Black/Black
Profile	Smooth and matte/Grainy(N)

■ SL-S1933

	Top/Backside
Material	Fluorine resin/PET
Color	Gray/Black
Profile	Film/Impregnated

■ SL-F1201 ★

	Top/Backside
Material	PU/PET
Color	White/White
Profile	Smooth and glossy/Impregnated

■ SL-F1218 ★

	Top/Backside
Material	PU/PET
Color	White/White
Profile	Smooth and glossy/Impregnated

■ SL-F1502

	Top/Backside
Material	PU/PET
Color	Blue/White
Profile	Smooth and matte/Impregnated

■ SL-F1601N

	Top/Backside
Material	PU/PET
Color	Blue/White
Profile	Smooth and glossy/Impregnated

■ SL-F1611

	Top/Backside
Material	PU/PET
Color	Blue/Blue
Profile	Smooth and glossy/Grainy(N)

PU : Polyurethane PET : Polyester

S Series Belts for Specialty Applications

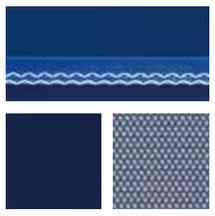
Specialty Belts

Please contact Bando or your distributor about delivery lead time.

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Unpackaged food	Non-fray	incline	Ultra anti-static	Applicable operating temperature (℃)	Maximum applicable width (mm)	Previous product, remarks
				Finger	Hot lap	Cold lap	Table	Roller	Trough									
【17】Excellent oil resistance, such as to machine oil																		
SL-S2632	2	3.6	3.3	75	75	–	○	○	△	0.5	0.15	–	–	△	–	5~60	1800	8RDB20E HS
SL-S2634	2	2.1	1.9	50	50	–	○	○	△	0.5	0.15	–	–	△	–	5~60	1800	8RDDB5E HS
SL-SY533	1	1.9	1.7	30	30	–	×	○	×	0.5	0.5	–	–	○	–	5~60	400	4RDB5/ 5E N3N
SL-SY534	1	1.1	1.0	25	25	–	○	○	×	0.5	0.15	–	–	△	–	5~60	600	4RDB5E HS
【18】Belts for heavy object conveyance, such as iron plates and lumber, with excellent resistance to impact and piercing																		
SL-S5425	2	2.1	1.9	60	60	70	○	○	△	0.3	0.15	○	–	△	–	−10~80	1800	16AUGE HS
SL-SY035	3	2.9	2.8	100	100	125	○	○	△	0.3	0.15	○	–	△	–	−10~80	2500	12UG5E HS
【19】Belts suitable for conveyance of items easily affected by static electricity, such as paper, fiber or electrical components																		
SL-S3726	1	1	0.9	25/R8	30/R10	35	○	○	×	0.3	0.15	○	○	△	○	−10~80	600	4DUBKE NF HS
SL-S3827	2	1.5	1.4	35	40	45	○	○	△	0.25	0.15	○	–	△	○	−10~80	1800	8HUBKE FS

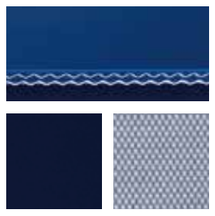
○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. × : Not suitable – : Not functional

■ SL-S2632



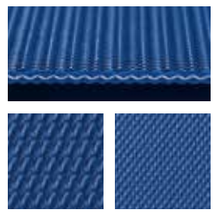
Top/Backside	
Material	PVC/PET
Color	Dark blue/White
Profile	Smooth and glossy/Impregnated

■ SL-S2634



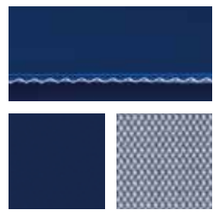
Top/Backside	
Material	PVC/PET
Color	Dark blue/White
Profile	Smooth and glossy/Impregnated

■ SL-SY533



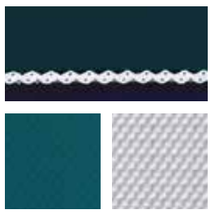
Top/Backside	
Material	PVC/PVC
Color	Dark blue/Dark blue
Profile	Grainy(N3)/Grainy(N)

■ SL-SY534



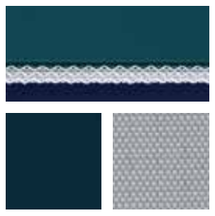
Top/Backside	
Material	PVC/PET
Color	Dark blue/White
Profile	Smooth and glossy/Impregnated

■ SL-S5425



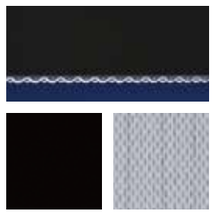
Top/Backside	
Material	PU/PET
Color	Green/White
Profile	Smooth and glossy/Impregnated

■ SL-SY035



Top/Backside	
Material	PU/PET
Color	Green/White
Profile	Smooth and glossy/Impregnated

■ SL-S3726



Top/Backside	
Material	PU/PET
Color	Black/White
Profile	Smooth and glossy/Impregnated

■ SL-S3827

Top/Backside	
Material	PU/PET
Color	Black/White
Profile	Smooth and matte/Impregnated

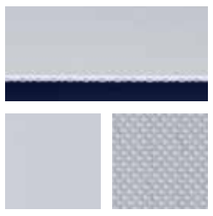
PU : Polyurethane PET : Polyester PVC : Polyvinyl chloride

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Unpackaged food	Non-fray	Antibacterial Antifungal	incline	Applicable operating temperature (℃)	Maximum applicable width (mm)	Previous product, remarks
				Finger	Hot lap	Cold lap	Table	Roller	Trough									
【20】Flexible in width direction, suitable for trough or curved conveyors																		
SL-S7100 (※1)	1	0.9	0.8	25/R5	30	–	○	○	○	0.25	0.15	○	–	○	△	−40~80	600	
SL-S7200 (※1)	2	1.5	1.4	35	40	45	○	○	○	0.25	0.15	○	–	○	△	−40~80	1800	
SL-S7300	1	0.9	0.8	25/R5	30	–	○	○	○	0.25	0.15	○	–	–	△	−10~80	600	
SL-S7436	2	1.5	1.4	40	40	45	○	○	○	0.3	0.15	○	–	–	△	−10~80	1800	C2UGE BEL1 HS
【21】Low noise belts, suitable for use at airports and logistics centers																		
SL-M0409	2	2.2	2.1	50	50	55	○	○	△	1.7	0.1	○	–	–	○	−10~80	1800	8MUGE R10
SL-M4100	1	0.9	0.8	15/R3	25/R8	30	○	○	×	0.3	0.1	○	–	–	△	−10~80	600	4MUWE HO
SL-M6423	2	1.5	1.4	35	40	40	○	○	△	0.3	0.1	○	–	–	△	−10~80	1800	8MUGE HO
SL-M9409N	2	3.5	3.2	50	50	50	○	○	△	0.7	0.1	–	–	–	○	5~60	3000	8MCGE R10
SL-SY455N	2	2.2	2.0	50	50	50	○	○	△	0.4	0.1	–	–	–	△	5~60	3000	8MCGE HO

○: Suitable (functional) △: May be suitable. Please contact Bando or your distributor. × : Not suitable – : Not functional

※1 Not suitable for curved conveyors as cleat process adhesion is low

■ SL-S7100

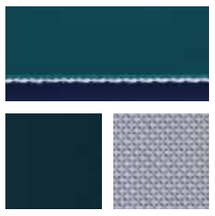


Top/Backside	
Material	PU/PET
Color	White/White
Profile	Smooth and matte/Impregnated

■ SL-S7200

Top/Backside	
Material	PU/PET
Color	White/White
Profile	Smooth and matte/Impregnated

■ SL-S7300



Top/Backside	
Material	PU/PET
Color	Green/White
Profile	Smooth and matte/Impregnated

■ SL-S7436

Top/Backside	
Material	PU/PET
Color	Green/White
Profile	Smooth and matte/Impregnated

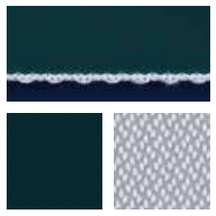
■ SL-M0409

Top/Backside	
Material	PU/PET
Color	Green/White
Profile	Grooved(R1)/Fabric surface

■ SL-M4100

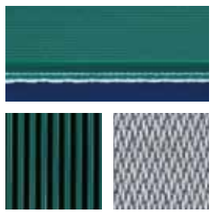
Top/Backside	
Material	PU/PET
Color	White/White
Profile	Smooth and glossy/Fabric surface

■ SL-M6423



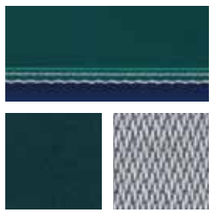
Top/Backside	
Material	PU/PET
Color	Green/White
Profile	Smooth and glossy/Fabric surface

■ SL-M9409N



Top/Backside	
Material	PVC/PET
Color	Green/White
Profile	Grooved(R1)/Fabric surface

■ SL-SY455N



Top/Backside	
Material	PVC/PET
Color	Green/White
Profile	Smooth and glossy/Fabric surface

PU : Polyurethane PET : Polyester PVC : Polyvinyl chloride

S·CS Series Belts for Specialty Applications

S·CS series

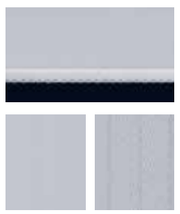
Specialty Belts

Please contact Bando or your distributor about delivery lead time.

Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Unpackaged food	Non-fray	incline	Applicable operating dry heat temperature (℃)	Maximum applicable width (mm)	Previous product, remarks
				Finger	Hot lap	Cold lap	Table	Roller	Trough								
【22】Belts with non-sticky covers impregnated with heat resistant rubber, or made using silicon or felt.																	
SL-S1239	2	1.8	1.6	–	75	–	○	○	×	1.7	0.25	○	○	△	−40～180	1200	5SWE KS
SL-S1831	2	2.2	2.0	–	50	–	○	○	△	0.15	0.15	–	–	–	−20～150	1200	8EE SS
SL-S8231N	2	2.3	2.3	50	50	55	○	○	△	0.25	0.15	○	–	△	−10～80	1800	4PCE OO
SL-SY137N	1	2.2	2.6	–	40	40	○	○	△	0.4	0.15	○	–	△	−10～80	600	4DUMFE OS
【23】Belts resistant to mold propagation, meeting food sanitation needs																	
SL-S9200	2	2.3	1.8	60	60	60	○	○	△	0.5	0.15	○	○	△	5～60	1800	8CWJE NF HS
SL-S9235	2	2.6	2.4	80	80	80	×	○	△	0.4	0.4	○	–	△	5～60	1200	8CW5/ W5JE FF
SL-SY292	2	3.2	2.9	100	100	100	×	○	○	0.4	0.5	○	–	△	5～60	1800	8YCW FN
【24】Belt suitable for detection devices（Weight Checker, X-ray inspection apparatus, electronic scan）																	
SL-SY045	2	1.4	1.3	35	40	–	△	○	○	0.25	0.25	○	–	△	−10～80	1500	5UTOMEI FF
SL-M4100	1	0.9	0.8	15/R3	25/R8	30	○	○	×	0.3	0.1	○	–	△	−10～80	600	4MUWE HO
SL-M4300	1	0.9	0.8	15/R3	25/R8	30	○	○	×	0.3	0.1	○	–	△	−10～80	600	4MUGE HO
SL-M4329	1	0.9	0.8	15/R3	25/R8	30	○	○	×	0.25	0.15	○	○	△	−10～80	600	
【25】Belts suitable for cutting of conveyed items on the belt surface																	
SL-SY245	2	4.4	4.0	–	150	150	×	○	△	1.7	0.3	○	–	△	−10～80	1800	8YUSW15/ W12E FN

○: Suitable (functional)　△: May be suitable. Please contact Bando or your distributor.　×: Not suitable　–: Not functional

■ SL-S1239



	Top／Backside
Material	Silicon／PET
Color	White／White
Profile	Mirror type／Impregnated

■ SL-S1831

	Top／Backside
Material	PET／PET
Color	Black／Black
Profile	Impregnated／Impregnated

■ SL-S8231N

	Top／Backside
Material	Cotton／PET
Color	White／White
Profile	Cotton fabric／Impregnated

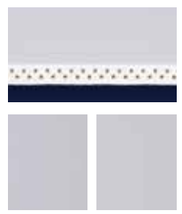
■ SL-SY137N

	Top／Backside
Material	Felt／PET
Color	White／White
Profile	Felt／Impregnated

■ SL-S9200

	Top／Backside
Material	PVC／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

■ SL-S9235



	Top／Backside
Material	PVC／PVC
Color	White／White
Profile	Smooth and matte／Smooth and matte

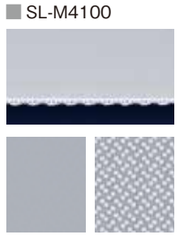
■ SL-SY292

	Top／Backside
Material	PVC／PVC
Color	White／White
Profile	Smooth and matte／Grainy(N)

■ SL-SY045

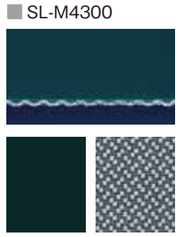
	Top／Backside
Material	PU／PU
Color	Transparent／Transparent
Profile	Smooth and matte／Smooth and matte

■ SL-M4100



	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Fabric surface

■ SL-M4300

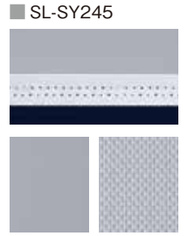


	Top／Backside
Material	PU／PET
Color	Green／White
Profile	Smooth and glossy／Fabric surface

■ SL-M4329

	Top／Backside
Material	PU／PET
Color	Green／White
Profile	Smooth and matte／Fabric surface

■ SL-SY245



	Top／Backside
Material	PU／PU
Color	White／White
Profile	Smooth and matte／Grainy(N)

PU：Polyurethane　PET：Polyester　PVC：Polyvinyl chloride

Belts for Unpackaged Food Conveyance (meets overseas food satitation low)

Please contact Bando or your distributor about delivery lead time.

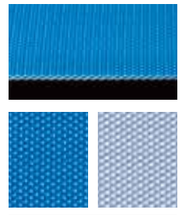
Product	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Non-fray	Antibacterial Antifungal	Applicable operating temperature(℃)		Maximum applicable width (mm)
				Finger	Hot lap	Cold lap	Table	Roller	Trough					Dry heat	Wet heat	
【26】Belts meets food satitation low of USA, EU and Japan. ※CS series meets European PIM.																
SL-CS020	2	0.9	0.8	10/R5	15/R8	25	○	○	△	0.15	0.25	○	–	-40～70	60	400
SL-CS060	2	1.1	1.1	30/R10	40	45	○	○	△	0.15	0.15	–	–	-10～70	60	1,700
SL-CS110	1	0.9	0.8	15/R3	20/R8	25	○	○	×	0.25	0.15	○	–	-40～70	60	600
SL-CS111	1	0.8	0.7	20/R5	25/R8	30	○	○	×	0.30	0.10	–	–	-40～70	60	600
SL-CS120	2	1.3	1.1	10/R3	15/R5	25	○	○	△	0.30	0.15	○	–	-40～70	60	1,800
SL-CS150	1	0.9	0.8	15/R3	20/R8	25	○	○	×	0.25	0.15	○	–	-40～70	60	600
SL-CS151	1	0.9	0.8	15/R3	25/R8	30	○	○	×	0.30	0.10	–	–	-40～70	60	600
SL-CS160	2	1.3	1.1	10/R3	15/R5	25	○	○	△	0.30	0.15	○	–	-40～70	60	1,800
SL-CS162	2	1.3	1.1	20/R5	25/R10	30	○	○	△	0.20	0.15	○	–	-10～70	60	1,800

※: Hot joint is recommended. Delicate fabric material is used, and unprocessed belt edge and cold joint may result in unstable joint strength.

■ SL-CS020

	Top／Backside
Material	PET／PET
Color	White／White
Profile	Impregnated／Impregnated

■ SL-CS060



	Top／Backside
Material	PET／PET
Color	Blue／White
Profile	Impregnated／Impregnated

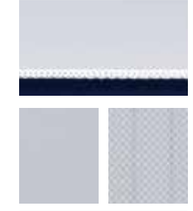
■ SL-CS110

	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

■ SL-CS111

	Top／Backside
Material	PU／PET
Color	Green／White
Profile	Smooth and glossy／Fabric surface

■ SL-CS120

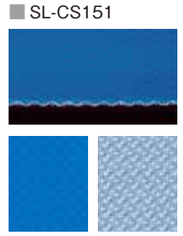


	Top／Backside
Material	PU／PET
Color	White／White
Profile	Smooth and glossy／Impregnated

■ SL-CS150

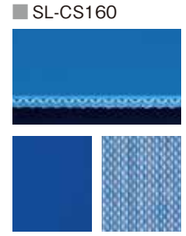
	Top／Backside
Material	PU／PET
Color	Blue／White
Profile	Smooth and matte／Impregnated

■ SL-CS151



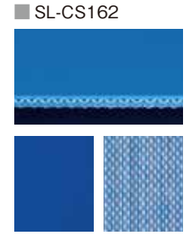
	Top／Backside
Material	PU／PET
Color	Blue／White
Profile	Smooth and glossy／Fabric surface

■ SL-CS160



	Top／Backside
Material	PU／PET
Color	Blue／White
Profile	Smooth and glossy／Impregnated

■ SL-CS162



	Top／Backside
Material	PU／PET
Color	Blue／White
Profile	Smooth and matte／Impregnated

PU：Polyurethane　PET：Polyester

F Series for Food Conveyance Applications

Non-fray specification

Suppresses belt edge fraying without additional processing, and reduces the risk of foreign matter inclusion.

<Edge damage comparison> (after 7months on in-house tester)

Non-fray specification　　Standard specification

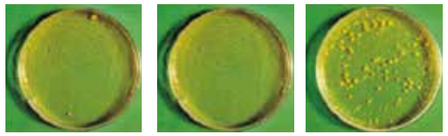
Antibacterial, antifungal

Contributes to belt sanitation by restraining bacterial reproduction and mold generation

<Antibacterial performance>
Test sample: Coliform bacteria
Viable cell count immediately after inoculation: 250,000
After 24 hours at 35℃: 10 or less

<Antifungal performance>
Antifungal test in compliance with JIS Z2911 (5 types of fungi)
After 28 days from cultivation: up to 25% less cultivation overall

<Anti bacteria test>



Pre-test　　Antibacterial and antifungal specifications　　Standard belts

Notes

• Unpackaged food conveyance

A "○" in the tables for F, M and S Series indicates that the belts meet Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare. Please do not use other belts for unpackaged food other than those marked "○." Other belts may be used to convey foods packaged in boxes, trays, etc.

• Ministry of Health, Labour and Welfare Food hygiene Bulletin No. 370

This standard addresses food additives and related topics, which it categorizes as (1) food products, (2)additives, (3) tools and packaging containers, (4) toys, and (5) cleaning agents. Synthetic resin tools and packaging containers are subject to the general standard as well as individual standards that have been formulated for each resin material. Manufacturers must carry out predetermined hygienic tests (material tests and elution tests) using the final product and obtain passing results.

• FDA (Federal Food, Drug, and Cosmetic Act: FFDCA)

This regulation governs tools and packaging containers for food products in the U.S. Indirect food additives are governed by 21 CFR §174 to §186 (Code of Federal Regulations). Materials with which foods make contact as listed in 21 CFR are regulated on the basis of individual materials, products, and applications, and their safety is subject to approval by the FDA.

• PIM (Plastic Implementation Measure): Regulation (EU) No. 10/2011

Basic provisions concerning materials with which foods make contact are set forth in Regulation (EU) No. 1935/2004 to eliminate discrepancies among the regulations of EU member counties. Regulation (EU) No. 10/2011 contains specific rules to ensure the safe use of plastic materials and other products that are intended to come into contact with foods.

Operating temperature range for belts

The operating temperature ranges for SUNLINE belts have been determined so as to take into account the strength of not only the belt itself, but also the joints. Due to the significant deterioration in strength that room-temperature gluing and finger joints exhibit at high temperatures, use of these belts under conditions that would expose them to high temperatures over extended periods of time should be avoided. They can withstand temperatures in excess of the operating temperature range for short periods of time (about 5 min.), for example to allow cleaning of the belt.

In addition, please review the dry- and wet-heat operating temperature ranges as the degree of the effect on the belt varies greatly depending on the amount of humidity present. If the belt surface temperature will range from -10° C to 0° C, choose a model with finger joints or hot lap joints. Models with cold lap joints should not be used under those conditions. If the belt surface temperature will range from -40° C to -10° C, choose a model with finger joints. Models with hot or cold lap joints should not be used under those conditions.

Cleaning and sterilization

Food manufacturing processes incorporate heat sterilization (using hot water or steam) that includes not only food products, but also mechanical equipment (conveyor belts) in order to ensure long shelf life and safety. Exposure of the polyurethane belts that are typically used with food products to wet heat will hasten joint damage as well as the degradation of the belt itself, eventually rendering the belt unusable. If your application includes cleaning and sterilization (with wet heat at temperatures from 80° C to 100° C), use one of the belts listed in the table to the right.

Belt model	
SL-F3102N	SL-F3211
SL-F3106N	SL-F3500
SL-F3202	SL-F3611
SL-F3206N	SL-F3207

※The wet-heat operating temperature range is -10° C to 80° C for continuous operation and 100° C for momentary exposure (around 5 min.).
※If equipped with table supports and a cover for the bottom surface, use at a length of 10 m or less and a belt speed of 10 m/min. or less. The travel resistance increases when the belt is wet, which may lead to issues such as slippage when operation starts.
※SUNLINE belts not designed for use in wet-heat applications should be cleaned using cold or warm water at a temperature of 40° C or less. If using a cleaning agent, avoid use of powerful products such as those that are strongly alkaline.
※The SL-S8935N and SL-S8936N have a fluororesin film surface.

M Series for Logistics and General Purpose Conveyance

Inclined conveyance

Belts with coarse or friction-resistant surfaces are available for inclined conveyance without cleats. Normally, belts with higher friction coefficients can convey at higher angles, but exposure to dust, dirt and moisture may lower performance. SL-MC300 and SL-MC400 ("Mr. Climber" belts) have a high friction coefficient and are resistant to dirt.

Low noise capability

The low noise specification uses a softened belt backside to reduce the abrasive sound generated when the belt touches the belt support, such as an iron plate. The effect is normally about 5db, but this depends on the conveyor, the operating environment and peripheral equipment. Please consider these factors, and consult with Bando or your distributor for effectiveness in a specific application.

Sliding of objects on belts

High-hardness polyurethane-covered models and models with an uncoated canvas surface are often used in applications where the object being transported must be able to slide on the belt, for example to allow alignment, ejection, or quantity-based arrangement of objects. Anti-stick polyurethane models are also sometimes used in such applications. The ease with which transported objects slide on the belt is affected by factors such as the belt' s surface material and shape. If necessary, you can use a sample to check the ease with which your application' s transported object slides on the belt.

S Series for Specialty Conveyance

Heat resistance

Belt surface temperature is the basis for determining heat resistance temperatures. The belt surface temperature is usually lower than the material being conveyed, so belts may be used even if the material temperature exceeds the temperature range for the belt. If ambient temperatures are high, the belt surface temperature should conform to the ambient temperature.

Antifungal PVC for food

Bando offers belts with PVC covers that meet Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare. The properties of these PVC-covered belts are suitable where antifungal performance is required, as mold is less likely to occur.

Oil resistance

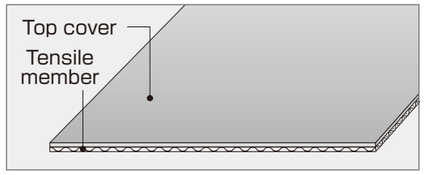
The polyurethane used as a cover material for SUNLINE belts is relatively resistant to mineral oil and food oils. Specially formulated oil-resistant PVC also provides resistance to machine oil and other similar lubricants. See pages 41 and 42 for more information about resistance to specific oils and chemical agents. If the list does not include the substance you' re looking for, we can verify the belt' s resistance if you provide a sample oil or chemical agent for us to test. Please contact a Bando Chemical Industries sales company or dealer for more information.

Antistatic performance

Static electricity is generated when belts move due to friction between the belt and the belt supports. Belts develop an electric charge as the result of this static electricity, but the canvas and resin materials used in SUNLINE belts incorporate features designed to reduce the effect of this phenomenon.

P Series Super SUNLINE Belts

Structure



Features

- Seamless
- Applicable for unpackaged food conveyance
- Built-to-Order sizes available
- Humidity and heat resistance, non-sticky specifications
- Non-fray specification available

How to Read Specifications

SL- P1 1 0 5
①　②　③

① Type :
P1…Urethane　P2…PVC
P3…Humidity and heat resistant urethane
P4…Ultra anti-static
P5…Silicon impregnated
P6…Slide　P7…Polyester
P8…Antibacterial, antifungal urethane

② Fabric :
1…Lateral rigidity　2…Non-fray　3…Flexible

③ Belt color・Top cover thickness・Form :
01…Blue・0.5mm・Smooth/Fabric
02…Blue・0.5mm・Smooth/Impregnated
04…Gray・0.2mm・Smooth/Impregnated
05…Green・0.2mm・Smooth/Impregnated
06…White・0.2mm・Smooth/Impregnated
08…White・0.2mm・Smooth/Smooth
11…White・0.2mm・Smooth/Fabric
12…White・0mm・Impregnated/Impregnated
14…Black・0.2mm・Impregnated/Fabric
16…Green・0.1mm・Smooth/Fabric
18…Green・0.2mm・Smooth/Smooth
23…Black・0.2mm・Smooth/Impregnated
32…White・0.5mm・Smooth/Impregnated

Main Applications

P1 Series : Sweets, bread, snacks, ham, sausage
P2 Series : Paper, fiber, metal chips
P3 Series : Fish cakes, frozen food
P4 Series : IC, LSI, printed circuit boards, electronic components
P5 Series : Sweets, bread, prepared foods, non-sticky material
P7 Series : Sweets, bread, dairy products
P8 Series : Sweets, bread, dairy products

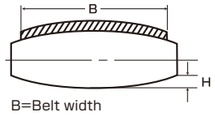
Pulleys

• Crown pulleys

(Unit : mm)

B / H	100 or less	101～300	301～650
H	0.2	0.3	0.4

※ Use crown pulleys for the drive, head and tail pulleys.
※ Use crown pulleys for each belt in multiple belt applications.
※ The crown should be the entire pulley width R.



B=Belt width
H=Crown width

• Pulley diameter

Belt width (mm)	Pulley diameter (common to all)	Belt internal circumference (mm)
Less than 100	20φ	1000 or less
100～400	50φ	1001～2500
401～650	75φ	2501～5000

※ Select the pulley diameter in the table above by belt width and inner circumference.The large pulley should be the "minimum drive pulley diameter" and small pulley should be "minimum pulley diameter".
Example:Belt width 90mm, Belt length 1500mm
For belt width:20Φ minimum pulley diameter
For belt length:50Φ drive pulley diameter
※ For knife edge applications, select 1 rank larger diameter for the minimum drive pulley diameter
※ The winding angle of the drive pulley diameter should be 180°or more.
※ If the pulley gets wet or it is used in temperatures of 0°C or less, use pulley lagging on the drive pulley surface to avoid slipping.

Dimensional tolerance

	Belt dimensions (mm)	Allowance (mm)
Belt inner circumference	400～1000 1001～5000	±2(Non-fray ±3) ±5
Belt inner circumference lateral difference	400～5000	1
Belt width	100以下	±1
	101以上	±2
Belt thickness	0.5～1.0	±0.15

Manufacturing range

Belt inner circumference (mm)	Belt width (mm)
400～5000　※1 100mm intervals	10～650 1mm intervals

※1 The inner circumference is 700～5000mm for belts with covers on both surfaces.
※ Please contact Bando or your distributor if you would like us to manufacture non-standard belt sizes.
※ Please tell us when ordering if it is a multi-belt application.

Minimum order lot

Please order at least the minimum lot as shown below.

Belt width (mm)	Minimum lot (pcs)	Belt width (mm)	Minimum lot (pcs)	Belt width (mm)	Minimum lot (pcs)
10	60	41～60	10	111～130	5
11～15	40	61～70	9	131～160	4
16～20	30	71～80	8	161～220	3
21～30	20	81～90	7	221～330	2
31～40	15	91～110	6	331～650	1

Products

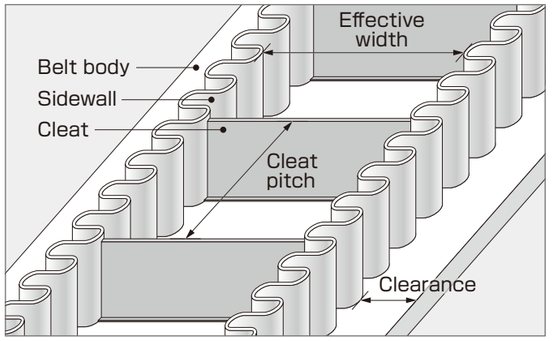
Belt	No. of plies	Total thickness (mm)	Top cover Material	Top cover Color	Top cover Form	Backside Material	Backside Form	Minimum pulley diameter (mm)	Belt support Table	Belt support Roller	Friction coefficient Top surface	Friction coefficient Backside surface	Anti-static	Unpackaged food	Non-fray	Slide	Low noise	Reference (previous product name)
【P1】Meets Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare, suitable for general food conveyance, such as sweets, bread, snack food, etc. ※ Continuous use temperature range (belt surface temperature) −10～80℃																		
SL-P1105	1	0.8	PU	Green	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	○	○	—	—	—	SP-EUGFS
SL-P1106	1	0.8	PU	White	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	○	○	—	—	—	SP-EUWFS
SL-P1108	1	1.0	PU	White	Smooth (matte)	PU	Smooth (matte)	10	△	○	0.2	0.2	○	○	○	—	—	SP-EUW2/W2FF
SL-P1118	1	1.0	PU	Green	Smooth (matte)	PU	Smooth (matte)	10	△	○	0.2	0.2	○	○	○	—	—	SP-EUG2/G2FF
SL-P1132	1	1.1	PU	White	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	○	○	—	—	—	SP-EUW5FS
SL-P1206	1	0.8	PU	White	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	○	○	◎	—	—	New product
SL-P1311	1	0.7	PU	White	Smooth (matte)	PET	Fabric	4(R2)	○	○	0.2	0.15	○	○	—	—	○	SP-EMUWFO
SL-P1310	1	0.7	PU	Green	Smooth (matte)	PET	Fabric	4(R2)	○	○	0.2	0.15	○	○	—	—	○	SP-EMUGFO
SL-P1318	1	1.0	PU	Green	Smooth (matte)	PU	Smooth (matte)	10	△	○	0.2	0.2	○	○	○	—	—	SP-EMUG2/G2FF
【P2】General purpose food conveyance, except unpackaged food, with a PVC cover. ※ Continuous use temperature range (belt surface temperature) +5～60℃																		
SL-P2102	1	1.0	PVC	Blue	Smooth (matte)	PET	Impregnated	5	○	○	0.3	0.15	○	—	—	—	—	SP-ECBFS
SL-P2301	1	0.9	PVC	Blue	Smooth (matte)	PET	Fabric	5	○	○	0.3	0.15	○	—	—	—	○	SP-EMCBFO
【P3】High resistance to humidity and heat, and meets Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare, suitable for the conveyance of kneaded goods, frozen foods, processed meats and steamed products. ※ Continuous use temperature range (belt surface temperature) −10～80℃																		
SL-P3105	1	0.8	PU	Green	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	○	○	—	—	—	SP-EKAGFS
SL-P3106	1	0.8	PU	White	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	○	○	—	—	—	SP-EKAWFS
SL-P3206	1	0.8	PU	White	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	○	○	◎	—	—	New product
SL-P3311	1	0.7	PU	White	Smooth (matte)	PET	Fabric	4(R2)	○	○	0.2	0.15	○	○	—	—	○	SP-EMKAWFO
【P4】Ultra anti-static specification, ideal for process conveyance of electronic components sensitive to static, IC boards, etc. ※ Continuous use temperature range (belt surface temperature) −10～80℃																		
SL-P4123	1	0.8	PU	Black	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	◎	—	—	—	—	SP-EUBKFS
SL-P4314	1	0.7	PU	Black	Smooth (matte)	PET	Fabric	4(R2)	○	○	0.2	0.15	◎	—	—	—	○	SP-EMUBKFO
【P5】Low friction coefficient, ideal for conveyance of sticky materials. Meets Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare. ※ Continuous use temperature range (belt surface temperature) −10～80℃																		
SL-P5112	1	0.5	SPET	White	Impregnated	PET	Impregnated	4(R2)	○	○	0.15	0.15	○	○	—	○	—	SP-EPS SS
SL-P5212	1	0.6	SPET	White	Impregnated	PET	Impregnated	4(R2)	○	○	0.15	0.15	○	○	◎	○	—	New product
SL-P5312	1	0.4	SPET	White	Impregnated	PET	Impregnated	4(R2)	○	○	0.15	0.15	○	○	—	○	—	SP-EMPS SS
【P6】Ideal belt for alignment, sorting and accumulation applications ※ Continuous use temperature range (belt surface temperature) −10～80℃																		
SL-P6104	1	0.8	Rigid PU	Gray	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.15	0.15	○	○	—	◎	—	SP-EGUGRFS
SL-P6304	1	0.7	Rigid PU	Gray	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.15	0.15	○	○	—	◎	—	SP-EMGUGRFS
【P7】Belts use polyurethane-impregnated fabric, suitable for slide applications. ※ Continuous use temperature range (belt surface temperature) −10～80℃																		
SL-P7112	1	0.5	PET	White	Impregnated	PET	Impregnated	4(R2)	○	○	0.15	0.15	○	○	—	○	—	SP-EPSS
SL-P7212	1	0.6	PET	White	Impregnated	PET	Impregnated	4(R2)	○	○	0.15	0.15	○	○	◎	○	—	New product
SL-P7312	1	0.4	PET	White	Impregnated	PET	Impregnated	4(R2)	○	○	0.15	0.15	○	○	—	○	—	SP-EMPSS
【P8】Antibacterial and antifungal polyurethane belts ※ Continuous use temperature range (belt surface temperature) −10～80℃																		
SL-P8111	1	0.8	PU	White	Smooth (matte)	PET	Impregnated	4(R2)	○	○	0.2	0.15	○	○	—	—	○	SP-EUBWFO

◎: Ideal　○: Suitable (functional)　△: May be suitable. Please contact Bando or your distributor.　×: Not suitable　—: Not functional
PU : Polyurethane　PET : Polyester　SPET : Silicon impregnated fabric　PVC : Polyvinyl chloride
For unpackaged food conveyance
○: Meets Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare
×: Do not use for unpackaged food, but may be used to convey food packed in bags, boxes or trays

SUNLINE Steep Incline Conveyer Belts

SUNLINE Belts are used for steep incline conveyance with a combination of cleats and sidewalls on the belt body.
Vertical conveyance of bulk materials and powders is also possible in narrow-space installations.

Belt structure



Features

- Steep incline conveyance
- Contributes to minimizing conveyor system size
- The same belt can be used on a line with different angles
- Little spillage
- Use in various applications and amounts of materials conveyed

Main Applications

- Steep incline conveyance of food, especially powder or bulk
- Steep incline conveyance of raw materials, components
- Withdrawing applications from hoppers, etc.

How to Read Specifications

[Example]

〈Belt〉 **SL-S7233**
① ② ③
400(mm)×12500(mm)

① **Belt** ② **Width** ③ **Length**

〈Sidewall〉 **WA-60U(W)**
① ② ③ ④

〈Cleat〉 **TC-50U(W)** pitch 200(mm)
① ② ③ ④ ⑤

① **Type :** [Sidewall] WA WB WC [Cleat] TC ② **Height**(mm)
③ **Material :** U…PU C…PVC
④ **Color :** W…White G…Green ⑤ **Installation pitch**(mm)

〈Effective width〉 190(mm) Effective width dimensions
〈Clearance〉 60(mm) Clearance dimensions

Belt Products

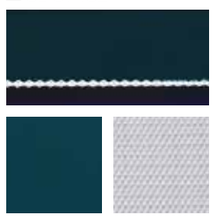
Belt	No. of plies	Weight (kg/m²)	Total thickness (mm)	Minimum pulley diameter (mm)/ Knife edge			Belt support			Top friction coefficient	Backside friction coefficient	Unpackaged food	Notes, previous product name
				Finger	Hot lap	Cold lap	Table	Roller	Trough				
SL-S7233	2	1.9	1.7	55	60	65	○	○	△	0.3	0.15	○	8DUWE HS
SL-S7432	2	1.9	1.7	55	60	65	○	○	△	0.3	0.15	○	8DUGE HS
SL-S7211	2	2.8	2.6	75	75	75	×	○	△	0.5	0.5	—	8DCW5/W5E HN
SL-S7411	2	2.8	2.6	75	75	75	×	○	△	0.5	0.5	—	8DCG5/G5E HN

○: Suitable (functional) ×: Not suitable —: Not functional

■ SL-S7233

Top/Backside	
Material	PU/PET
Color	White/White
Profile	Smooth and glossy/Impregnated

■ SL-S7432



Top/Backside	
Material	PU/PET
Color	Green/White
Profile	Smooth and glossy/Impregnated

■ SL-S7211

Top/Backside	
Material	PVC/PVC
Color	White/White
Profile	Smooth and glossy/Grainy(N)

■ SL-S7411

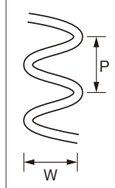
Top/Backside	
Material	PVC/PVC
Color	Green/Green
Profile	Smooth and glossy/Grainy(N)

PU : Polyurethane PET : Polyester PVC : Polyvinyl chloride

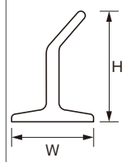
For unpackaged food conveyance

○: Meets Article 370 standards of the Food Sanitation Act of the Ministry of Health and Welfare.
X: Do not use for unpackaged food, but may be used to convey food packed in bags, boxes or trays

Sidewall Standard Specifications

Type	Shape	Name	Color	P Sidewall pitch (mm)	W Sidewall width (mm)	Height (mm)	Minimum pulley diameter (mm)
WA		WA-40U (G)	Green	50	45	40	100
		(W)	White				
		WA-60U (G)	Green			60	150
		(W)	White				
		WA-80U (G)	Green			80	200
		(W)	White				
		WA-40C (G)	Green			40	100
		(W)	White				
		WA-60C (G)	Green			60	150
		(W)	White				
		WA-80C (G)	Green			80	200
		(W)	White				
WB		WB-30U (G)	Green	33	30	30	75
		(W)	White				
WC		WC-40U (G)	Green	45	55	40	80
		(W)	White				
		WC-60U (G)	Green			60	100
		(W)	White				

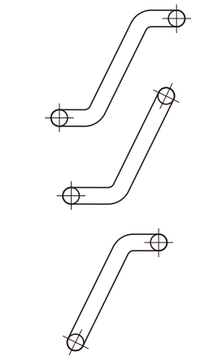
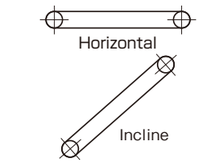
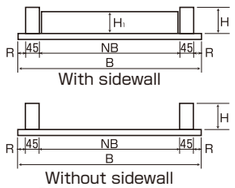
Cleat Standard Specifications

Type	Shape	Name	Color	H Height (mm)	W Width (mm)	Weight (kg/m)	Unpackaged food
TC		SL-TC30U (G)	Green	30	25	0.21	○
		(W)	White				
		SL-TC50U (G)	Green	50	30	0.34	○
		(W)	White				
		SL-TC70U (G)	Green	70	35	0.54	○
		(W)	White				
		SL-TC30C (G)	Green	30	29	0.24	×
		(W)	White				
		SL-TC50C (G)	Green	50	33	0.63	×
		(W)	White				
		SL-TC70C (G)	Green	70	40	1.20	×
		(W)	White				

○: Suitable (functional) ×: Not suitable

※ The gap tolerance in the sidewall and cleat dimension is 0~4mm
※ Standard cleat pitch: 150mm, 300mm, 400mm, 500mm
(Other cleat pitches can be manufactured in intervals of 100~1000mm)
※ If required sidewall height is not standard, please contact us.
※ We can manufacture 5mm and at 10mm intervals from 10mm to 100mm for free zone R. Variable angle line R dimension should be caluculated by R ≧0.1x(B+H). Round up for less than 10mm.
※ Manufacturing dimensions: Maximum belt width B is 1000mm, maximum effective width in variable line is 700mm, straight line is 800mm, maximum length is 60m. Please contact Bando or your distributor if you require other specifications.

Standard combinations

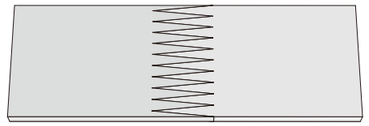
Type	Shape	B (mm)	H (mm)	H_1 (mm)	NB (mm)	R (mm)
Variable angle line	Line view  Belt cross view  With cleat	200	—	—	—	—
		250	—	—	—	—
		300	40	30	110	50
			60	50		
		350	40	30	160	50
			60	50		
			80	70		
		400	40	30	190	60
			60	50		
			80	70		
		450	40	30	240	60
			60	50		
			80	70		
		500	40	30	270	70
			60	50		
			80	70		
		600	40	30	370	70
			60	50		
			80	70		
		800	40	30	530	90
			60	50		
			80	70		
		1000	40	30	710	100
			60	50		
			80	70		
Straight line	Line view  Belt cross view  Recommend horizontal or incline angle of 5° or less	210	40	30	110	5
			60	50		
		250	40	30	150	5
			60	50		
		300	40	30	200	5
			60	50		
		350	40	30	250	5
			60	50		
			80	70		
		400	40	30	300	5
			60	50		
			80	70		
		450	40	30	350	5
			60	50		
			80	70		
		500	40	30	400	5
			60	50		
			80	70		
		600	40	30	500	5
			60	50		
			80	70		
		800	40	30	700	5
			60	50		
			80	70		
		1000	40	30	790	60
			60	50		
			80	70		

Joining Methods

SUNLINE Belts can be joined using hot or cold jointing methods. Joint types include finger, overlap, lace (fastener), but most common are finger or overlap.

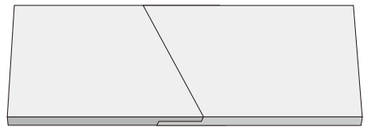
• Finger joints

Small pulleys and knife edges require flexibility, so smooth belt surfaces and precision thickness is required. This type of joint is not appropriate for high temperature areas or for roller applications with clinging matter on the belt.



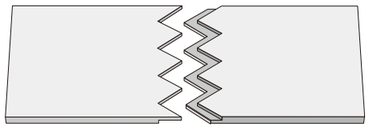
• Overlap joints

Overlap joints include hot joint and cold joint. Hot joint is more durable.Hot wrap is generally used where heat and humidity resistance is required. With one ply belts, finger joint is recommended because of better appearance and higher flexibility compared to hot joint and cold joint, which may cause unevenness on belt surface.



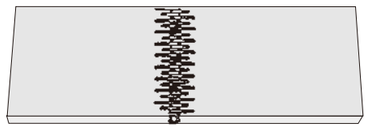
• Double finger joints (specialty)

Combination finger and overlap joint. Easy use on small pulleys, and strong against foreign matter. Applicable for 2 ply belts.



• Lace joints

Simple joining method using metal clips or fasteners to easily join and replace belts. However, joint strength is inferior to hot and cold joints.

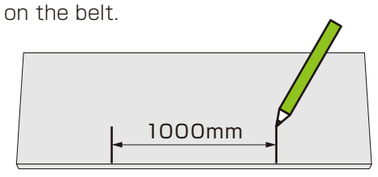


※ Skiver joints are also possible. Please contact Bando or your distributor.

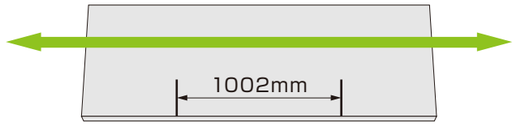
Belt tension adjustment

Proper tension is determined by conveyor structure and materials, and the weight of the materials conveyed, so it is difficult to precisely determine proper tension. It is better not to put more tension than the permanent elongation. Please refer to the procedure below.

①Mark a 1000mm (1m) line on an inconspicuous place on the belt.



②Gradually add tension until the mark is 1002mm.



③Run the belt under this condition, and check for belt slipping. (Also adjust if there is snaking.)
Test conveyance if there is no problem. If there is still no problem, it can be used as it is.

※ Please do step 4 if the belt slips when loading the material.

④If there is belt slipping, add tension to the belt little by little until the belt does not slip or snake. Test conveyance, and use if there is no problem.

Standard Width

Widths are standard for ease of use. Please use standard widths from the table below when ordering.

• Common specifications for SUNLINE Belts (not including Super SUNLINE and inclined conveyer belts)

Belt width range (mm)	Standard width (mm)
50～100	50、60、70、80、90、100
101～200	120、140、150、160、180、200
201～300	220、240、250、260、280、300
301～650	350、400、450、500、550、600、650
700～1000	700、750、800、850、900、950、1000
1001～2500	Every 100mm

※ Please contact Bando or your distributor for non-standard widths.

Dimensional tolerances

• General use belts

Width

Width (mm)	Tolerance (mm)
～100	±2
101～400	±2
401～600	±3
601～800	±4
801～1000	±5
1001～1800	±5
1801～2500	±6

Length

Length (mm)	Joints (mm)	
	Tolerance	Difference in lateral circumference length
～1000	±4	4
1001～3000	±5	6
3001～5000	±7	8
5001～10000	±10	10
10001～	±0.1%	0.1%

※ If the belt length is 20m or longer, joining at site is recommended.

Thickness

Thickness (mm)	Main body tolerance (mm)	Joint tolerance (mm)		
		Lap		Finger
		1ply	2ply	
～1.0	±0.1	+0.7 −0.1	+0.3 −0.2	±0.2
1.1～1.5	±0.2	+0.5	−0.2	±0.3
1.6～2.0	±0.2	+0.5	−0.2	±0.3
2.1～2.5	±0.3	+0.5	−0.2	±0.3
2.6～3.0	±0.3	+0.5	−0.3	±0.3
3.1～3.5	±0.3	+0.5	−0.4	±0.3
3.6～4.0	±0.4	+0.6	−0.4	±0.4
4.1～4.5	±0.4	+0.7	−0.4	±0.4
4.6～5.0	±0.5	+0.7	−0.4	±0.4
5.1～	±0.5	+0.7	−0.4	±0.4

※ Joint thickness tolerance is about the same as main body tolerance.

• Dry heat resistant belts (except heat resistant felt)

Width

Width (mm)	Tolerance (mm)
～100	±2
101～400	±2
401～600	±3
601～800	±4
801～1000	±5
1001～1800	±8

Length

Length (mm)	Joints (mm)	
	Tolerance	Difference in lateral circumference length
～1000	±7	7
1001～3000	±10	10
3001～5000	±15	15
5001～10000	±20	20
10001～	±0.2%	0.2%

※ If the belt length is 20m or longer, joining at site is recommended.

Thickness

Thickness (mm)	Main body tolerance (mm)	Joint tolerance (mm)
		Lap
1.1～1.5	±0.2	+0.5 −0.2
1.6～2.0	±0.25	+0.5 −0.2
2.1～2.5	±0.25	+0.5 −0.2
2.6～3.0	±0.3	+0.5 −0.3

※ Joint tolerance is ± against the finished belt body.

Cleats (Standard)

Cleats are installed on SUNLINE Belts in a wide range of fields to prevent material from falling, for inclined conveyance, and alignment. Heat vulcanization does not limit the use of water or oil in applications. (However, water and oil applications are limited using cold joins.)

Features

- **Effective against spillage and for inclined conveyance**
  Prevents drops and slipping. Conveyance at 30～50° , depending on conditions
- **Nontoxic, odorless**
  Meets Article 370 standards of the Food Sanitation Act of the Health and Welfare Ministry
- **Clean, and stain resistant – washable with water**
  Good appearance and keeps a clean and comfortable work environment

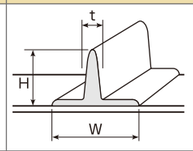
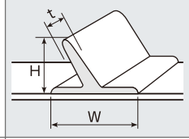
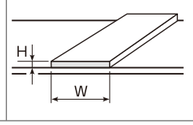
How to Read Specifications

〈T and C〉 **SL- T 2 0 U G**　　〈F〉 **SL- F 5 3 0 U G**

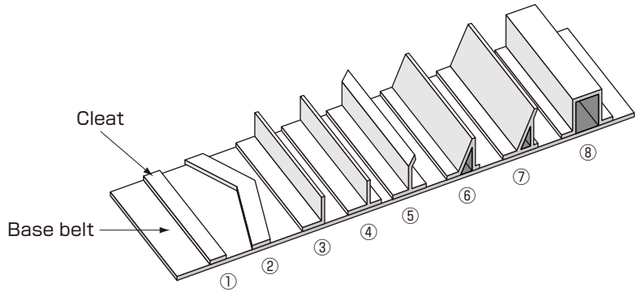
① ② ③ ④ ⑤

① **Cleat shape** ② **Height**：mm ③ **Width**：mm ④ **Material**：Polyurethane ⑤ **Color**：G…Green W…White

Products

Type	Shape	Name	Color	Material	H : Height (mm)	W : Width (mm)	t : Thickness (mm)	Weight (g／m)	Minimum pulley diameter (mm／φ)
T		SL-T20U (G)	Green	Polyurethane	20	20	4	140	50
		(W)	White						
		SL-T30U (G)	Green		30	20	4	180	60
		(W)	White						
		SL-T50U (G)	Green		50	30	7	330	70
		(W)	White						
C		SL-C30U (G)	Green		30	25	5	210	50
		(W)	White						
		SL-C50U (G)	Green		50	30	7	340	70
		(W)	White						
		SL-C70U (G)	Green		70	35	9	540	100
		(W)	White						
F		SL-F530U (G)	Green		5	30	—	185	100
		(W)	White						
		SL-F55U (G)	Green		5	5	—	31	50
		(W)	White						
		SL-F510U (G)	Green		5	10	—	62	50
		(W)	White						

Cleat Types



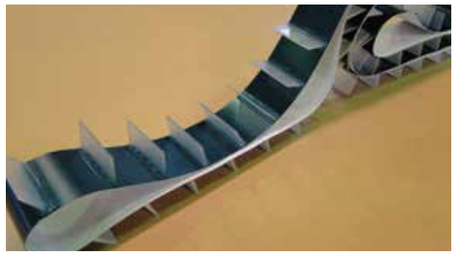
① Flat
② Centering
③ L
④ T
⑤ TC
⑥ V-shaped A
⑦ V-shaped B
⑧ Box

Specialty cleat processing examples

• Vertical cleats for curved conveyance

Vertical cleats fixed with bearings attached to both edges to prevent material spills

• Specialty cleat processing

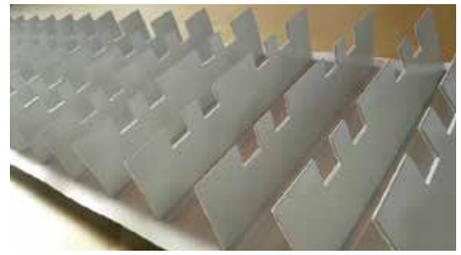


Small pulleys may be used as the belt and cleat are made of the same materials, so the join area is small.

• Centering

Centering cleats on the belt surface for inclined conveyance of bulk materials

• Specialty cleat processing



Different cleat types are available depending on the material conveyed.

• Specialty cleat processing

Cleats made to fit machinery use

V-Guide Processing

V-guides can be used to prevent snaking. They can also be used to prevent products from falling off a conveyor by attaching them to the top of the belt, as V-guides are longitudinally flexible.

Features

- **Effective in snaking and spillage prevention**
- **Heat vulcanization allows for use on small pulleys**
- **Nontoxic and odorless**
  Standard PU and humidity and heat resistant PU meets Article 370 standards of the Food Sanitation Act of the Health and Welfare Ministry

How to Read Specifications

SL- V M 2 C G
① ② ③ ④ ⑤

① **V-guide** ② **Type**
③ **Shape**: 1…trapezoid 2…trapezoid with groove
④ **Material**: C…PVC K…Humidity and heat resistant PU R…Oil resistant PVC U…PU
⑤ **Color**: G …Green W …White AW…White DB…Navy blue

Product Lineup

Type	Shape	Product name	Color	Material ※5	H:Height (mm) ※2	W1: Top width(mm)	W2:Bottom width(mm)	Weight (g/m)	Minimum pulley diameter Normal/ Reverse (mm/φ)	Hardness (JIS-A)	Unpackaged food conveyance
A		SL-VA2CG	Green	PVC	8.5	13	7.5	88	70/60	70	×※1
		SL-VA2CW	White	PVC	8.5	13	7.5	88	70/60	70	×※1
		SL-VA2RDB	Navy blue	Oil resistant PVC	8.5	13	7.5	88	70/60	70	×
		SL-VA1UG	Green	PU	8.5	13	7.5	90	90/70	82	○
B		SL-VB2CG	Green	PVC	10.3	16.7	9.3	147	120/105	70	×※1
		SL-VB2CW	White	PVC	10.3	16.7	9.3	147	120/105	70	×※1
		SL-VB2RDB	Navy blue	Oil resistant PVC	10.3	16.7	9.3	147	120/105	70	×
D		SL-VD1UW	White	PU	3	5	2	19	30/30(15/15)※3	90	○
H ※4		SL-VH4X2UC	Transparent	PU	2.1	4.1	4.1	9	25/25(15/15)※3	85	○
		SL-VH4X2RE	Transparent	PU	2.1	4.1	4.1	9	25/25(15/15)※3	70	○
M		SL-VM2CG	Green	PVC	5.5	10	6	51	45/45	70	×※1
		SL-VM2CW	White	PVC	5.5	10	6	51	45/45	70	×※1
		SL-VM2RDB	Navy blue	Oil resistant PVC	5.5	10	6	51	45/45	70	×
		SL-VM2KAW	Whitish Gray	Moisture/heat resistant PU	5.7	9.7	6	54	60/50	80	○
		SL-VM1KAW	Whitish Gray	Moisture/heat resistant PU	5.5	10	6	54	60/50	80	○
		SL-VM1UG	Green	PU	5.5	10	6	54	60/50	82	○
N		SL-VN2UG	Green	PU	4.1	7	4.2	30	40/40	91	○
		SL-VN2UW	White	PU	4.1	7	4.2	30	40/40	91	○
O		SL-VO2UW	White	PU	3.1	7	5	29	40/40	80	○
S		SL-VS2UG	Green	PU	3.1	9.5	7	26	25/25	91	○
		SL-VS2UW	White	PU	3.1	9.5	7	26	25/25	91	○
		SL-VS2USW	White	PU	3.1	9.5	7	26	25/25(15/15)※3	77	○
		SL-VS2KAW	灰白	Moisture/heat resistant PU	3.1	9.5	7	26	30/30	80	○
		SL-VS2CB	Blue	PVC	3.1	9.5	7	26	30/30	75	×※1

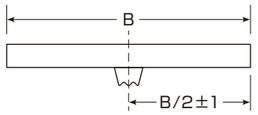
※1 V-guide itself does not conform to Notice No. 370 of Ministry of Health and Welfare. Front side of the belt conforms to Notice No.370 of Ministry of Health and Welfare when the V-guide is attached to the back side of a belt that conforms to the Notice No.370.
※2 The height of the V-guide is the height of the component itself. The mounted height will be shorter by approximately 0.5mm.
※3 When welded, it can be used with the pulley diameter in the parenthesis.
※4 Type H has V-guides of 2 different hardness.
SL-VH4X2UC has excellent abrasion resistance.
SL-VH4X2RE has a poorer abrasion resistance than the UC but has excellent flexibility.
As it is easily joined to the pulley, it is suitable for a mini conveyor with a light weight frame which is difficult to apply belt tension.

※5 Range of operational ambient temperature (℃)

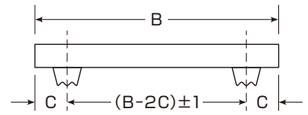
Material	Dry heat (℃)	Wet heat (℃)
PVC	5～60	NA
Oil resistant PVC		
PU	5～80	NA
Moisture/heat resistant PU	−10～80	−10～80

Attachment position

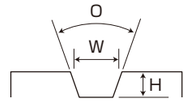
1 V-guide



2 V-guide



Groove dimensions



■Pulley groove

Type	W(mm)	H(mm)	O(度)
D	8	5	60
S	14	5	40
N	11	6	40
M	14	7.5	40
A	17	10.5	40
B	20.7	12.3	40
H	7	4	0
O	11	5	40

■Table groove

Type	W(mm)	H(mm)
D	10	5
S	15	5
N	13	6
M	15	8
A	20	11
B	25	13
H	7	4
O	13	5

Number of attachment

Number of plies	Width(mm) 500 Under	1000 Under	1500 Under	2000 Under	2000 Over
1 ply	1Type S	2Type S	2Type S		
2 plies	1Type M	2Type M	2Type M or 2Type A	2Type A or 2Type B	2Type B
3 plies	1Type A	2Type A			

Cautions on attaching V-guides

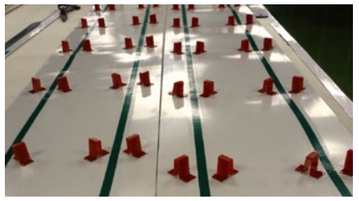
- In the case of jointing the belt on the site, attachment of the V-guide on the joint part will be done by hand at the side, therefore it may make the work difficult. When jointing the belt on the site, it is recommended to scrape down the V-guide diagonally in front and behind the joint press.
- Attaching the V-guide on one side of the belt may destabilize the running of the belt. A single V-guide shall be attached to the center of the belt or 2 V-guide shall be attached one on each side of the belt.

Cleats and Custom Fabrication Examples

• Multi-row V-guides

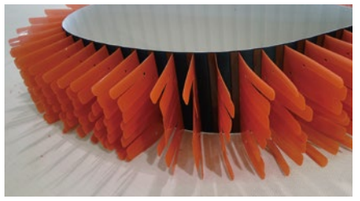
Multi-row V-guides on the belt surface are used to align granular transport.

• Marking + Fixed Cleats



Marking and cleats are used to position the materials being conveyed.

• Bancollan Sheet Cleats

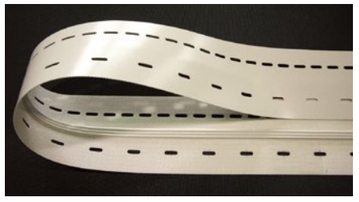


Multiple Bancollan Sheets, made of flexible urethane.

• Cushion (sponge) Fabrication

Sponge on the belt surface and V-guides on the belt backside are used in sandwich conveyance.

• Punched Holes + V-guides

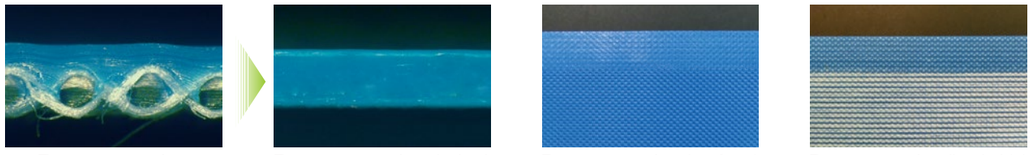


Holes punched through the belt are used in suction conveyance.

• Cushion (strand material) Fabrication

Cushion on the belt surface prevents product rolling and damage to materials conveyed.

• Edge Seals



Pre-processing　Post-processing (edge)　Post-processing (surface)　Post-processing (backside)

Covering the belt edges with resin suppresses foreign matter entry and fraying.

The table below shows belt suitability for conveying products containing chemicals and oil at room temperature.

Chemical

Chemical \ Belt cover material	PU	PVC	Polyester (impregnated, canvas surface) PET	Oil resistant chloride vinyl	Specialty rubber Special R	Heat resistant rubber Silicon rubber	Fluorine resin Surface	Fluorine resin Backside	Specialty synthetic resin
Isopropyl alcohol	○	△	△	△	△	○	○	○	○
Ethyl alcohol (ethanol)	○	△	○	○	△	○	○	○	○
Potassium chloride	○	○	○	○	○	○	○	○	○
Calcium chloride	○	○	○	○	○	○	○	○	○
Hydrochloric acid (gas)	×	△	×	△	△	○	○	○	○
Hydrochloric acid (5-36%)	×	○	×	○	○	○	○	○	○
Hydrochloric acid (5% or less)	○	○	○	○	○	○	○	○	○
Caustic soda (sodium hydroxide)	△	○	○	○	○	○	○	○	○
Sodium hydroxide solution (50%)	△	○	×	○	○	×	△	×	△
Volatile oil	○	△	○	○	△	△	○	△	○
Strong alkali	△	△	×	△	△	△	△	×	△
Strong acid	×	△	×	△	△	○	○	○	○
Light oil	○	×	△	△	×	△	○	×	○
Ethyl acetate	×	×	×	×	×	△	○	×	○
Sodium hypochlorite (undiluted)	△	○	△	○	○	○	○	○	○
Sodium hypochlorite (600PPM)	○	○	○	○	○	○	○	○	○
Weak alkali	○	○	○	○	○	○	○	○	○
Weak acid	○	○	○	○	○	○	○	○	○
Soap	○	○	○	○	○	○	○	○	○
Cutting oils	△	×	△	○	×	×	○	×	○
Diesel oil	○	△	△	○	△	×	○	×	○
Toluene	△	×	△	×	×	×	○	×	○
Naphthalene	△	△	△	△	△	×	○	×	○
Paraffin oil	○	△	○	○	△	○	○	○	○
Phenol	△	△	△	△	△	△	○	△	○
Anti-rust oil	△	×	△	○	×	×	○	×	○
Machine oil	△	×	△	○	×	×	○	×	○
Methyl alcohol (methanol)	○	△	○	○	△	○	○	○	○
Sulfuric acid (10%)	△	△	△	△	△	△	○	△	○
Sulfuric acid (50%)	△	△	△	△	△	△	○	△	○
Sulfuric acid (70%)	×	×	×	×	×	△	○	×	○
Sulfuric acid (98%)	×	×	×	×	×	×	○	×	○

○: No erosion △: Some erosion (brittleness, color change, swelling may occur) × : Complete erosion
※ The SUNLINE Design Manual shows the effectiveness against additional chemicals.
※ Please contact Bando or your distributor if the belt is unsuitable against corrosion or if it is used at temperatures above room temperature.

The table below shows belt suitability for conveying food products at room temperature.

Food

Food \ Belt cover material	PU	PVC	Polyester (impregnated, canvas surface) PET	Oil resistant chloride vinyl	Specialty rubber Special R	Heat resistant rubber Silicon rubber	Fluorine resin Surface	Fluorine resin Backside	Specialty synthetic resin
Yeast	○	○	○	○	○	○	○	○	○
Tea leaves	○	○	○	○	○	○	○	○	○
Olive oil	○	△	○	○	△	△	○	△	○
Fruits	○	○	○	○	○	○	○	○	○
Cashews	×	×	×	×	×	×	○	×	○
Cream	○	△	○	○	△	○	○	○	○
Spices	○	○	○	○	○	○	○	○	○
Cereals	○	○	○	○	○	○	○	○	○
Coffee beans	○	○	○	○	○	○	○	○	○
Flour	○	○	○	○	○	○	○	○	○
Rice	○	○	○	○	○	○	○	○	○
Fish	○	△	○	○	△	△	○	△	○
Sugar	○	○	○	○	○	○	○	○	○
Salt	○	○	○	○	○	○	○	○	○
Salt water	○	○	○	○	○	○	○	○	○
Fats	○	△	○	○	△	×	○	×	○
Cooking oil	○	△	○	○	△	△	○	△	○
Syrup	○	○	○	○	○	○	○	○	○
Soy sauce	○	△	○	○	△	△	○	△	○
Vinegar	○	△	○	○	△	△	○	△	○
Sauces	○	△	○	△	△	△	○	△	○
Molasses	○	○	○	○	○	○	○	○	○
Meats	○	△	○	○	△	△	○	△	○
Butter	○	△	○	○	△	△	○	△	○
Breads	○	○	○	○	○	○	○	○	○
Peanut oil	○	×	○	○	×	×	○	×	○
Beer	○	○	○	○	○	○	○	○	○
Margarine	○	△	○	○	△	△	○	△	○
Mayonaisse	○	△	○	○	△	△	○	△	○
Water (+60 ℃ or less)	○	○	○	○	○	○	○	○	○
Hot water (+60 ℃ or more)	●	×	●	×	×	×	×	×	×
Lard	○	△	○	○	△	△	○	△	○

○: No erosion △: Some erosion (brittleness, color change, swelling may occur) × : Complete erosion
●: Some belt specifications are not applicable for use. Please contact Bando or your distributor for details.
○: May be used. However, please contact Bando or your distributor if the belt has almost constant contact with oils or is used at temperatures above room temperature.
△: May be used if the belt surface has some contact with oil but immediately dries. Please contact Bando or your distributor if this is difficult to assess.
※ ○and△: Unlikely for brittleness, color change or swelling to occur. However, mold might occur.
Although it is difficult to completely prevent the occurrence of mold, it can be delayed by cleaning the belt and wiping off moisture.
The above information indicates belt characteristics. Please refer to products information from page 17 for suitability to convey unpacked food

Safe Use of Sunline Belts

Storage

- Avoid storage in direct sunlight. In particular, store the fluorine film type with the black polyethylene cover completely shielded from direct sunlight.
- Store at temperatures of 0~40℃, with humidity at or below 80%, without exposure to water.
- Do not stack multiple belts or sharply bend belts in storage. Avoid storing the belts directly on the floor; keep them on shelves or pallets.
- Avoid belt contact with oil and chemicals.

Usage Precautions

Symbol and meaning	Contents
⚠ Danger	····· Imminent risk of serious injury or death due to incorrect or improper handling.
⚠ Warning	····· Risk of serious injury or death due to incorrect or improper handling.
⚠ Caution	····· Risk of personal injury or property damage due to incorrect or improper handling.

1 Function and Performance

⚠ Warning ● Do not use SUNLINE Belts outside the permissible operating range shown in this catalog (pulley diameter, elongation, resistance to chemicals, etc.)

⚠ Warning ● When conveying upackaged food, please use belts that meet Food Sanitation Act standards of Ministry of Health and Welfare (Articles s 370 and 85).

2 Notes for Storage and Transport

⚠ Warning ● Use of open flames strictly prohibited

⚠ Warning ● Store heavy belts with appropriate parts or stoppers so that the belts do not fall down or roll.

⚠ Caution ● Avoid direct sunlight and humid areas. Cover belts with cloth or sheet.

⚠ Caution ● Do not allow abnormal distortion to the belt during storage and transport.

3 Notes for installation and daily use.

⚠ Danger ● Do not allow any part of the body or clothing to contact pulleys or rollers during operation.

⚠ Danger ● Switch off the conveyor and related equipment before installation or repair.

⚠ Warning ● Do not use chemicals harmful to the human body while cleaning the belt.

4 Engineering (installation, joins)

⚠ Warning ● Ventilate well when using solvents and adhesives. Open flames are strictly prohibited in the working area.

⚠ Warning ● Do not leave solvents or adhesives at the work site.

⚠ Caution ● Install and join belts in accordance with the materials, methods and steps recommended by Bando.

5 Replace the belt or contact Bando or your distributor if any of the following occur while using SUNLINE Belts.

⚠ Warning ● The join portion comes apart or seems likely to come apart soon.

⚠ Warning ● The belt edge is cut and the tear is growing.

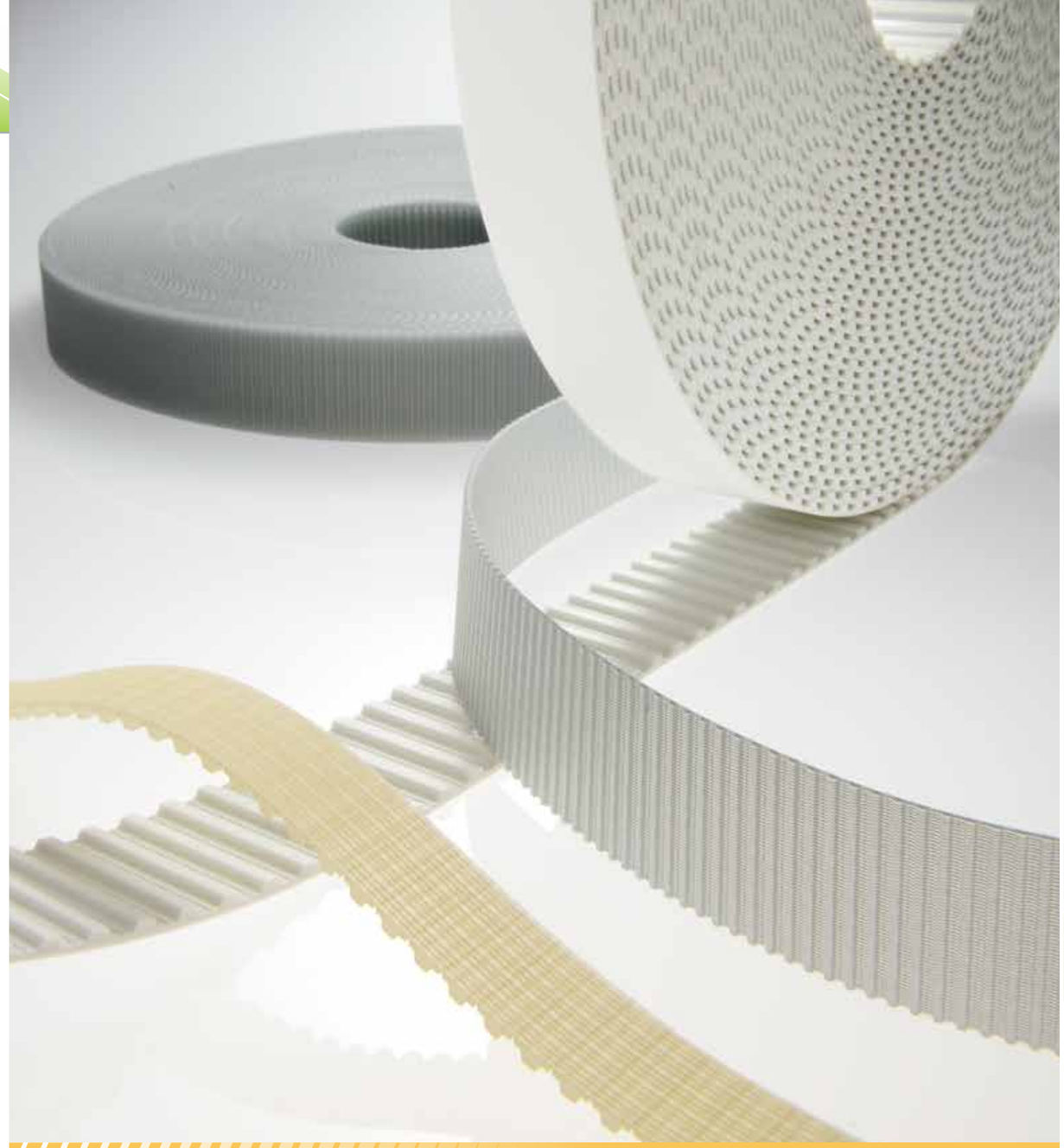
⚠ Warning ● The belt cover material is worn down and the carcass appears.

⚠ Warning ● The belt edge is frayed or there is abrasion debris in the frame guide area that may introduce foreign matter to the products conveyed.

6 Handling of used belts

⚠ Caution ● Lawfully dispose of belts as industrial waste.

⚠ Warning ● Do not expose to fire.

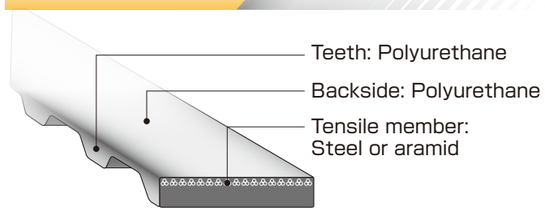


BANCOLLAN™ LONG SYNCHRONOUS BELTS

Bancollan Long Synchronous Belts

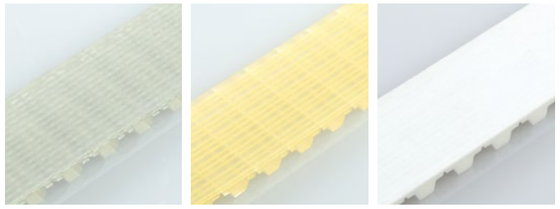
Bancollan Long Synchronous Belts, made from polyurethane, are capable of long-span synchronous transmission and conveyance. They are suitable for food processing machinery and sanitary transmission and conveyance. Various types of cleat profiles may be used to increase conveyor functions.

Construction



Steel is suitable in applications where responsiveness or size and positioning are required.
Aramid is suitable for food applications.

Color



SW: Transparent (Wire tensile member) | SK: Transparent (Aramid) | White

Features

- Excellent cleanliness with less dust
- Join to desired length
- Cleats may be fabricated on the top side of the belt.
- Low elongation of steel cord belts
- May be used for food conveyance (meets Article 370 standards of the Food Sanitation Act of the Health and Welfare Ministry)
- May be used in long-span synchronized transmission

How to read size

【Trapezoid teeth/Inch pitch】(XL・L・H)

037 XL-1015 S W-C

- 037: Nominal wudth (0.37インチ:9.5㎜)
- XL: Type
- 1015: Number of teeth
- S: Polyurethane material (mark)
- W: Cord material (mark)
- C: Joint type

【Trapezoid teeth/mm pitch】(T5・T10・AT5・AT10・AT20)

25 T10-890 S W Z-J (P)

- 25: Belt width (mm)
- T10: Type
- 890: Number of teeth
- S: Polyurethane material (mark)
- W: Cord material (mark)
- Z: Special Specification
- J: Joint type (mark)
- (P): Custom fabrication(mark)

【Round teeth】(S2M・S3M・S5M・S8M・S14M・S25M)

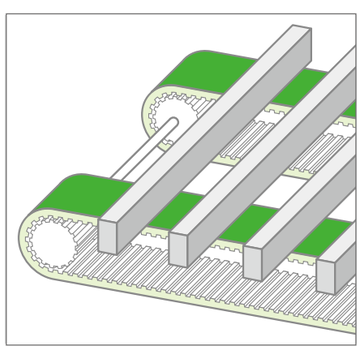
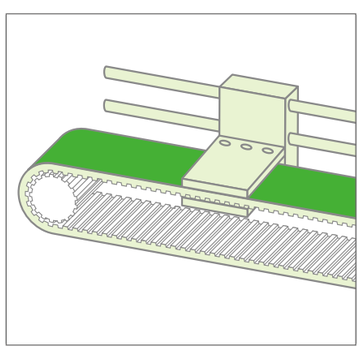
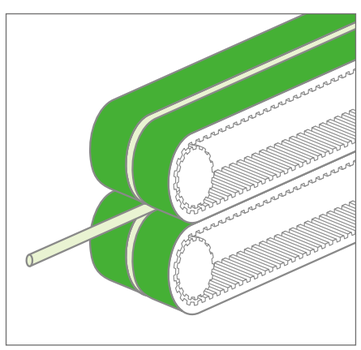
240 S3M-1000 L W-C

- 240: Belt width (240:24㎜)
- S3M: Number of teeth
- 1000: Number of teeth
- L: Polyurethane material (mark)
- W: Cord material (mark)
- C: Joint type

【Polyurethane material mark】Standard・semi-transparent／Standard・white／Low abrasion・white／Low abrasion・blue／Moisture and heat resistance・white
【Cord material mark】W: Steel cord／K: Aramid cord
【Special Specification】Z: Canvas applied to tooth surfaces G: Polished bottom surface
【Joint type mark・Custom fabrication mark】C: Cut (Open end)／J: Jointed／(P): Custom fabrication (ex:Attaching profile)

Usage examples

Bancollan Long Synchronous Belts have various uses. For example, reciprocating motion of automatic doors or printer heads, synchronized conveyance of products on the belt top, panel conveyance by multiple belt drives and pulling products by sandwiching belts. Please contact Bando or your distributor for custom cleat profiles for these versatile belts.

Material combination table

Type	Cord material	Polyurethane material					Fabric screen
		S:Standard	W:Standard	L:Low abrasion	B:Low abrasion	M:Moisture and heat resistance	tooth surfaces
		semi-transparent	White	White	Blue	White	
XL	Steel cord	○	○			○	
	Aramid cord	○					
L	Steel cord	○	○			○	
	Aramid cord	○					
H	Steel cord	○	○			○	
	Aramid cord	○	○			○	
T5	Steel cord	○	○			○	○
	Aramid cord	○	○				
T10	Steel cord	○	○			○	○
	Aramid cord	○	○			○	
AT5	Steel cord	○	○				
AT10	Steel cord	○	○				
AT20	Steel cord	○	○				
S2M	Steel cord			○			
S3M	Steel cord			○			
S5M	Steel cord		○				
	Aramid cord		○				
S8M	Steel cord		○				
	Aramid cord		○				
S14M	Steel cord			○			
S25M	Steel cord			○			
	Aramid cord				○		

Usage Conditions

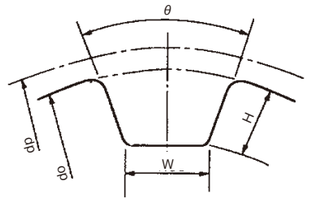
● Ambient temperature, humidity

	Temperature	Humidity
Standard material	-20～70℃	75%以下
Moisture and heat resistance material	-20～90℃	85%以下

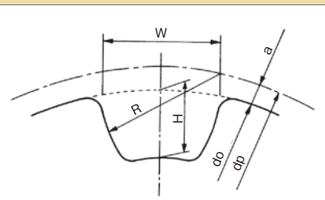
- Do not allow steam, organic solvents, acid or alkali to adhere to the belts
- Do not dip or immerse in oil (a small amount of oil mist is allowable)
- Ozone: Use at 50PPhm or less
- Do not allow dust to accumulate on the belt. Install a dust cover if necessary.
- Meets Article 370 standards of the Food Sanitation Act of the Health and Welfare Ministry

Pulleys

• Synchronous Pulleys

Type	Tooth shape	Dimensions (mm)		
		W	H	θ(°)
XL		1.27	1.40	50
L		3.10	2.13	40
H		4.24	2.59	40
T5		1.50	1.70	50
T10		3.40	3.00	50
AT5		2.70	1.10	50
AT10		5.40	2.35	50
AT20		10.80	4.65	50

• STS Pulleys

Type	Tooth shape	Dimensions (mm)			
		W	R	H	a
S2M		1.30	1.325	0.76	0.254
S3M		1.95	1.975	1.14	0.381
S5M		3.25	3.275	1.77	0.480
S8M		5.20	5.30	2.83	0.686
S14M		9.10	9.28	4.95	1.397
S25M		16.25	16.56	8.65	2.055

Number of teeth of pulley(Minimum・Maximum)

Synchronous pulley			XL	L	H	T5	T10	AT5	AT10	AT20
Pitch (mm)			5.08	9.525	12.7	5	10	5	10	20
Minimum number of teeth	Rotational speed(rpm)	900	10	12	14	12	14	15	15	18
		1200			16		16			
		1800	12	14	18	14	18			
		2360		16	20	16	20			
		3000								
		3600								
		4800	14	18		20				
Maximum number of teeth			30	40	40	69	69	80	80	50

STS pulley			S2M	S3M	S5M	S8M	S14M	S25M
Pitch (mm)			2	3	5	8	14	25
Minimum number of teeth	Rotational speed(rpm)	870	27	27	16	22	26	28
		1160				24		
		1750			20	26		
		2670				28		
		5000			24			
Maximum number of teeth			60	60	60	84	48	38

···Not applicable

Use a pulley whose tooth count is greater than or equal to the minimum number of teeth and less than or equal to the maximum number of teeth.

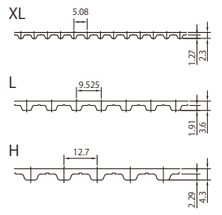
The minimum number of teeth value that applies depends on the rotational speed (rpm).

Models that use synchronous pulleys and models that use STS pulleys belong to different rotational speed (rpm) categories due to the difference in pitch as measured in inches and millimeters.

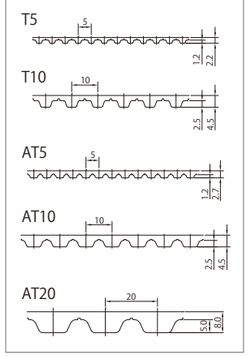
Use S2M and S3M type belts at a speed of 10 m/s or less.

Product Lineup

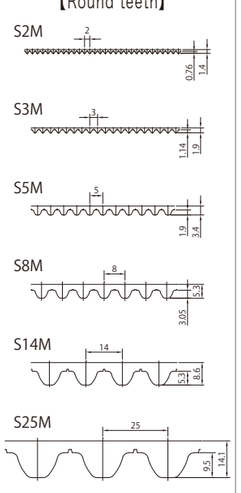
【Trapezoid teeth/Inch pitch】



【Trapezoid teeth/mm pitch】



【Round teeth】



Type	Standard nominal width	width (mm)	Maximum nominal width	Maximum length	Joint	Minimum joint length
XL	025	6.4	200	50m	○	0.5m
	031	7.9				
	037	9.5				
	050	12.7				
	075	19.1				
	100	25.4				
	150	38.1				
	200	50.8				
L	050	12.7	200	50m	○	0.5m
	075	19.1				
	100	25.4				
	150	38.1				
	200	50.8				
H	075	19.1	400	50m	○	0.5m
	100	25.4				
	150	38.1				
	200	50.8				
	300	76.2				2m
	400	101.6				
T5	7	7	50	50m	○	0.5m
	10	10				
	15	15				
	20	20				
	25	25				
	30	30				
	40	40				
	50	50				
T10	15	15	100	50m	○	0.5m
	20	20				
	25	25				
	30	30				
	40	40				
	50	50				
	60	60				2m
	75	75				
	100	100				
AT5	10	10	50	50m	○	0.5m
	15	15				
	20	20				
	25	25				
	30	30				
	40	40				
	50	50				

Type	Standard nominal width	width (mm)	Maximum nominal width	Maximum length	Joint	Minimum joint length
AT10	15	15	100	50m	○	0.5m
	20	20				
	25	25				
	30	30				
	40	40				
	50	50				
	60	60				2m
	75	75				
	100	100				
AT20	25	25	100	50m	×	—
	50	50				
	75	75				
	100	100				
S2M	50	5	400	60m	×	—
	100	10				
	150	15				
	200	20				
	250	25				
	300	30				
	350	35				
	400	40				
S3M	60	6	480	60m	×	—
	120	12				
	180	18				
	240	24				
	300	30				
	360	36				
	420	42				
	480	48				
S5M	100	10	500	50m	○	0.5m
	150	15				
	200	20				
	250	25				
	300	30				
	400	40				
	500	50				
S8M	150	15	1000	50m	○※1	0.5m
	200	20				
	250	25				
	300	30				
	400	40				
	500	50				
	750	75				2m
	1000	100				
S14M	1000	100	1000	30m	×	—
S25M	250	25	1000	20m	×	—
	330	33				
	1000	100				

※ The maximum joint length for models that support joints is 50 m. Please contact a Bando Chemical Industries sales company or dealer if your application would exceed that length.

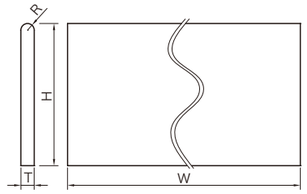
※ Please contact a Bando Chemical Industries sales company or dealer if your application requires a non-standard width.

※1 Constraints apply to product use. Please contact Bando Chemical Industries for more information.

Stanrdard Profile

Various functions are possible with surface profiles on Bancollan Long Synchronous Bels.
Various custom fabrications and profiles are available.Please consult with Bando or your distributor.

●P-0102～P-0108

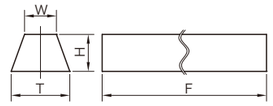


H and W dimensions can be reduced at customer request.

Unit : mm

Profile No.	T	Tolerance	H	W	R
P-0102	2.0	±0.2	50.0	101.6	1.0
P-0103	5.0	±0.25	50.0	101.6	2.5
P-0104	6.0	±0.25	50.0	101.6	3.0
P-0105	8.0	±0.3	50.0	101.6	4.0
P-0106	10.0	±0.4	50.0	101.6	5.0
P-0107	3.0	±0.2	50.0	101.6	1.5
P-0108	4.0	±0.25	50.0	101.6	2.0

●P-0201～P-0203

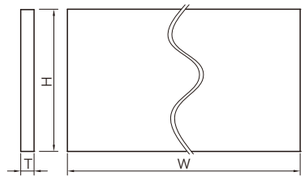


F dimensions can be reduced at customer request.

Unit : mm

Profile No.	T	H	W
P-0201	8.0	5.0	4.4
P-0202	10.0	5.0	6.0
P-0203	12.7	8.0	6.9

●P-0302～P-0308

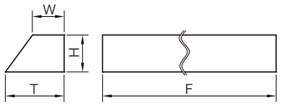


H and W dimensions can be reduced at customer request.

Unit : mm

Profile No.	T	Tolerance	H	W
P-0302	2.0	±0.2	45.0	101.6
P-0303	5.0	±0.25	45.0	101.6
P-0304	6.0	±0.25	45.0	101.6
P-0305	8.0	±0.3	45.0	101.6
P-0306	10.0	±0.4	45.0	101.6
P-0307	3.0	±0.2	45.0	101.6
P-0308	4.0	±0.25	45.0	101.6

●P-0401～P-0403

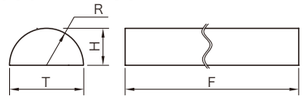


F dimensions can be reduced at customer request.

Unit : mm

Profile No.	T	H	W
P-0401	4.0	5.0	2.2
P-0402	5.0	5.0	3.0
P-0403	6.4	8.0	3.5

●P-0501～P-0504

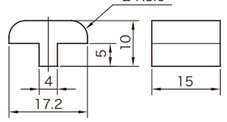


F dimensions can be reduced at customer request.

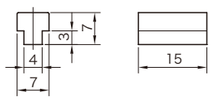
Unit : mm

Profile No.	T	H	R
P-0501	5.0	10.0	5.0
P-0502	3.0	6.0	3.0
P-0503	4.0	8.0	4.0
P-0504	6.0	12.0	6.0

●P-9001



●P-9002



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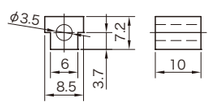

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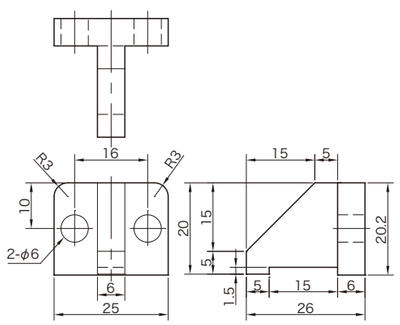
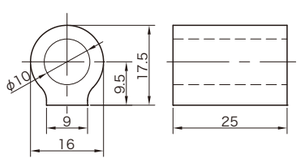
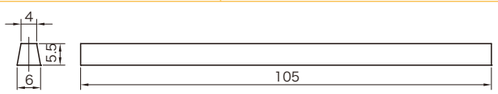


●P-9006



●P-9007



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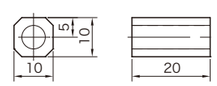
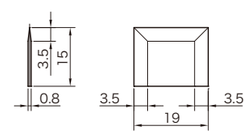
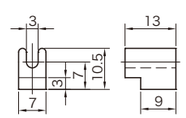


●P-9012



●FUZE-2



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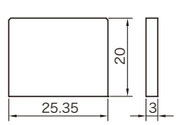

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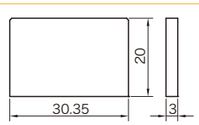
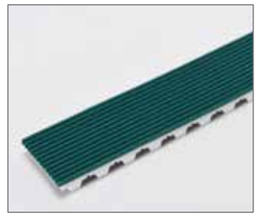
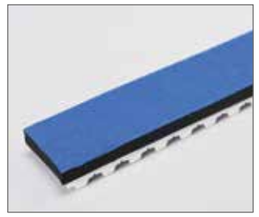


Custom Fabrication

Various custom fabrications are possible with Bancollan Long Synchronous Belts, such as tooth buffing, and hole and sponge fabrications. Please consult with Bando or your distributor.



Grooved profile



Jersey and sponge fabrication

cutting profile

hole profile

Width joints

Type	Standard Maximum width		Width joints Maximum width		Width joint range		
					Polyurethane rubber		Tensile member
	Nominal width	Width (mm)	Nominal width	Width (mm)	S: Standard	M: Moisture and heat resistance	K: Aramid
T5	50	50.0	100	100.0	○	–	○
T10	100	100.0	300	300.0	○	○	○
XL	200	50.8	400	101.6	○	–	○
L	200	50.8	400	101.6	○	–	○
H	400	101.6	800	203.2	○	○	○

Bancollan Long Flat Belts

Features

- Belt elongation is extremely small due to use of steel wire tensile members
- Narrow widths can withstand heavy loads
- High-precision belt thickness accuracy is high, so there is no take-up from position shifts in risers

How to Read Specifications: **25** (①) × **1.2** (②) **G** (③) **W** (④)

①**Width** (mm) ②**Thickness** (mm) ③**Urethane color** : G…gray
④**Tensile member** : W…Steel wire

Products

Belt	Load capacity (kgf)	Width (mm)	Thickness (mm)	Minimum pulley diameter (mm)	Covered tensile member
25×1.2GW	30	25.00±0.80	1.20±0.03	φ33	×
40×1.2GW	50	40.00±0.80	1.20±0.03	φ33	×
40×2.0GW	110	40.00±0.80	2.00±0.05	φ45	○
50×2.0GW	130	50.00±1.50	2.00±0.05	φ45	○

Instruction for safety use of Bancollan Long Synchronous Belts

Usage Precautions

Please read this catalog and our Design Manual, and pay attention to the points below to ensure safe and proper product handling. The impact on safety is described below.

Symbol and meaning	Contents
⚠ Danger	····· Imminent risk of serious injury or death due to incorrect or improper handling.
⚠ Warning	····· Risk of serious injury or death due to incorrect or improper handling.
⚠ Caution	····· Risk of personal injury or property damage due to incorrect or improper handling.

1 Use and Intended Use

- ⚠ Danger ● A safety device must be installed to stop the belt in case it is severed but continues to run, or if it operates in idle, which could cause serious injury or accident.
- ⚠ Danger ● Do not use the belt as a sling or a towing tool.
- ⚠ Warning ● If static electricity is generated by the belt drive, use an anti-static belt and provide a neutralizing mechanism for the drive device to prevent fire or a malfunction of the control equipment.
- ⚠ Caution ● Do not use the belt as insulation. Please contact Bando or your distributor about the insulation properties of different belt types.
- ⚠ Caution ● If the belt comes into direct contact with food, use belts that meet Food Sanitation Act requirements.
- ⚠ Caution ● Do not modify the belt as this may reduce quality and performance.

2 Function and Performance

- ⚠ Caution ● Do not use belts outside allowable ranges or for applications not shown in this catalog or in the Design Manual, as this may lead to premature belt failure.
- ⚠ Caution ● If water, oil, chemicals, paint or dust adhere to the belt or pulley, transmission power will degrade and may cause premature belt failure.
- ⚠ Caution ● Noise may be high for toothed belts in high speed drive applications. If so, please install a soundproof cover.

3 Storage and Transport

- ⚠ Caution ● Use proper equipment to carry or handle heavy belts and pulleys to avoid physical injury.
- ⚠ Caution ● Do not forcibly bend the belt, and do not place heavy objects on the belt during storage or transport, as this may damage the belt and cause premature failure.
- ⚠ Caution ● Please store belts out of direct sunlight at temperatures between -10~40℃ in areas with low humidity.

4 Installation and Operation

- ⚠ Danger ● Install a safety cover over the rotating parts, including the belt and pulley, as hair, gloves or clothing may get caught between the belt and pulleys. Also, injury may occur from flying debris if the belt or pulley breaks.
- ⚠ Danger ● Please observe the following during maintenance, inspection and replacement:
  1) Switch off the equipment, and make sure that the belt and all pulleys have come to a complete stop before maintenance and replacement.
  2) Securely fix the machinery in place if there is any possibility that the machinery will move when the belt is replaced.
  3) Make sure that the machinery is not accidentally switched on during maintenance and replacement.
- ⚠ Caution ● Use same-specification products when replacing belts or pulleys. Use of different products may cause premature belt failure.
- ⚠ Caution ● Check and adjust pulley alignment to avoid premature belt failure due to pulley misalignment.
- ⚠ Caution ● Do not cut a tensioned belt with a knife or scissors, as the belt may snap and cause injury.
- ⚠ Caution ● In multi-belt operations, replace all belts at the same time to avoid premature belt failure.
- ⚠ Caution ● Confirm that the belt correctly enters the pulley groove.
- ⚠ Caution ● Belt and pulleys may be extremely hot immediately after operation. Do not touch them until they have cooled down.
- ⚠ Caution ● Loosen belt tension before replacing belts. Do not use a screwdriver or the like to unreasonably force the new belt over the pulley flange as this may cause premature belt failure.
- ⚠ Caution ● Follow the procedures in this catalog and the Design Manual to give initial belt tension. Improper tensioning may result in premature belt failure or damage to the shaft.
- ⚠ Caution ● Follow the points below if you additionally process the pulleys.
  1) Remove burrs or sharp angles from processed parts. 2) Ensure dimensional accuracy after processing.
  3) Ensure pulley strength after processing.

5 Handling of used products

- ⚠ Caution ● Lawfully dispose of used products as industrial waste.
- ⚠ Danger ● Do not incinerate used belts as they generate toxic gas.

PS Belts (Precision Seamless) are thin, woven flat belts without seams. High-performance flat belts have experienced remarkable developments in response to demand for their use in the low-vibration, rotational transfer of paper, paper currency, tickets and cards. PS Belts are used in automated equipment in offices, factories, banks and other precision equipment applications.

Features

Ideally compact
Thin, seamless and highly flexible, PS Belts can be used with small pulley designs.

Smooth rotation
Positioning is always constant because PS Belts are seamless; rotation is smooth and vibration-free.

No re-tensioning
PS Belts are specially processed for excellent dimensional stability, with almost no elongation.

Contributes to energy conservation
Minimal transmission loss as PS Belts are thin, lightweight and highly flexible.

Wide selection available
Various combinations of body/cover materials and surface profiles are available, so the optimum belt can be selected.

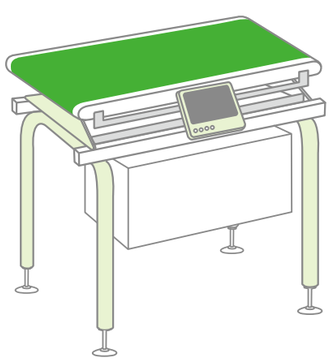
How to Read Specifications

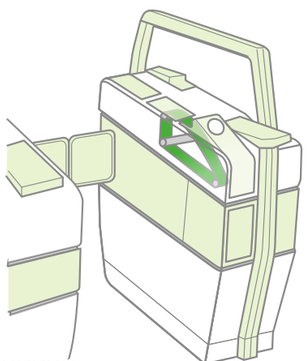
B - 2 U F Gr R/F
① ② ③ ④ ⑤ ⑥

① **Type :** A···Mainly for high-speed transmission, B···Mainly for lightweight transmission of paper, tickets, etc., C···Mainly for precision transmission, Z···Heat resistance, E···Lightweight transmission
② **Tensile strength (N/10mm) :** A, B Series···Number shown x around 100, C Series···Number shown x around 10
③ **Materials :** C···Chloroprene rubber, N···Nitrile rubber, U···Polyurethane, H···Hypalon rubber
④ **Additional capability :** E···100Ω level conductivity, F···Meets Article 370 standards of the Food Sanitation Act of the Health and Welfare Ministry
⑤ **Color :** B···Black, W···White, G···Green, Gr···Gray
⑥ **Surface profile :** R···Rough, F···Smooth, M···Mirror, S···Impregnated, K···Polished, P···Pressed, O···Woven fabric

Usage examples

Precision machinery: Gaming machines, currency transmission, ticket scanners, metal detection devices, scales, factory and office automation equipment, medical devices


Scale


Ticket scanner

Dimensional tolerance

Thickness

A Series (mm)		B Series (mm)		C Series (mm)		Z Series (mm)		E Series (mm)
A-1	±0.05	B-2,B-3,B-6	±0.1	C-8,C-16	±0.1	Z-H250X	±0.1	±0.05
A-4,A-10,A-13	±0.1							

Width

Dimensions (mm)	Tolerance (mm)			
	A-1 – A-13	B Series (mm)	C Series (mm)	Z Series (mm)
Less than 30	±0.5	±0.5	±0.5	±0.5
30~less than 100	±1.0	±1.0	±1.0	±1.0
100~less than 150	±1.5	±1.5	±1.5	±1.5
150~less than 200	±2.0	±2.0	±2.0	±2.0
200 or more	±2.5	±2.5	±2.5	±2.5

Dimensions (mm)	Tolerance (mm)
	E Series (mm)
Less than 12	±0.3
12~less than 20	±0.5
20~less than 100	±1.0
100 or more	±1.5

Inner circumference

Dimensions (mm)	Tolerance (mm)			
	A-1 – A-13	B Series (mm)	C Series (mm)	Z-H250X
Less than 300	±2	±2	±2	—
300~less than 600	±3	±3	±3	±
600~less than 800	±4	±4	±4	±6
800~less than 1000	±5	±5	±5	±7
1000 or more	±0.5%	±0.5%	±0.5%	±0.5%

Dimensions (mm)	Tolerance (mm)
	E Series (mm)
Less than 200	±2
200~less than 400	±3
400~less than 600	±5
600~less than 800	±6
800~less than 1000	±8
1000 or more	±0.8%

※Please consult with Bando or your distributor if tolerances outside those listed above are needed.
※For matched sets of 1000mm or less, the tolerance should be within 1mm for the belts used; and within 2mm if the belts are longer than 1000mm.

Pulleys

Pulley crown height
Pulley crown height may be found in the graph at right.

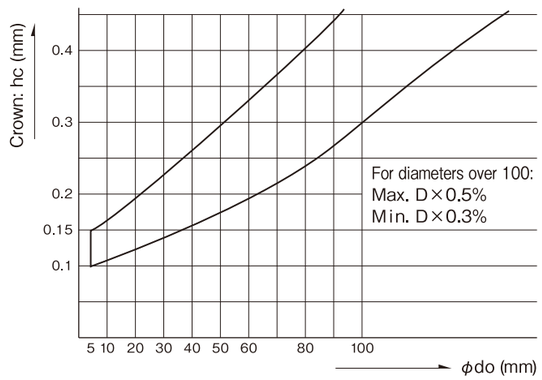
Pulley surface finish
3S to 6S coarseness is recommended.

Pulley width
Use the following formula to determine pulley width:
Pulley width (bp) =1.1×b+5 (mm), where b = belt width (mm)

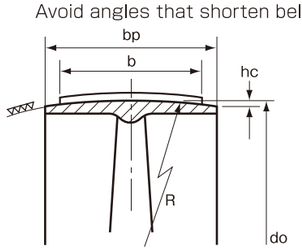
Use the following formula (for A to C types) to determine the radius of curvature of the pulley surface:

$$R \fallingdotseq \frac{bp^2}{8hc} \text{ (mm)}$$

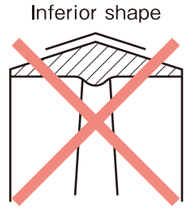
※ To prevent belt deviation in wide belts (length/width<12), greater crown measurements than shown in the graph at right may be needed, which may result in reduced belt life and transmission capacity.



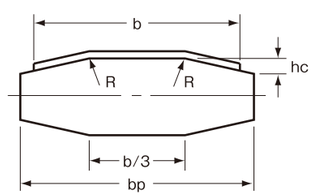
Pulley shape
Use symmetrically-shaped pulleys as shown below.
Avoid angles that shorten belt life.



Inferior shape



Wide conveyor belts



bp : Pulley width
b : Belt width
hc : Crown height
do : Pulley outer diameter
R : Radius of curvature

※ Do not use a pulley flange.

Products

Primary usage	Applications	Belt specifications ※1	Construction						Color	Dimensions ※3		
			Surface ※2			Body		Cover material		Thickness (mm)	Width (mm)	Inner circumference (mm)
			Designation	Top surface	Backside surface	Material	Plies					
Conveyance	Foods	A-1UDW	P/S	Press	Impregnated	Polyester	1	Polyurethane	White	0.2	3~200	400~1500
		A-4UDG	F/R	Smooth	Coarse	Polyester	1	Polyurethane	Green	0.45	5~200	180~2700
		A-4UDGr	F/S	Smooth	Impregnated	Polyester	1	Polyurethane	Gray	0.45	5~200	180~2700
		A-4UDW	P/S	Press	Impregnated	Polyester	1	Polyurethane	White	0.4	5~200	180~2700
		A-4UDBL	P/S	Press	Impregnated	Polyester	1	Polyurethane	Blue	0.4	5~200	400~2700
	Paper (sandwiched conveyance)	B-2CB	R/F	Coarse	Smooth	Polyester	1	Chloroprene rubber	Black	0.80	5~200	250~2600
		C-16UB	R/F	Coarse	Smooth	Polyester	1	Polyurethane	Black	0.60	3~200	160~2500
	Paper (vacuum)	A-4UEB	F/R-A	Smooth	Coarse	Polyester	1	Polyurethane	Black	0.45	~360	180~2700
		E-8UB	M/K-A	Mirror	Polished	Polyester	1	Millable urethane	Black	0.65/0.8/1.0	8~200	50~1457
	Banknotes (sandwiched conveyance)	E-8UB	K/K	Polished	Polished	Polyester	1	Millable urethane	Black	0.65/0.8/1.0	8~200	50~1457
		EXL101B	M/K	Mirror	Polished	Polyester	1	Millable urethane	Black	0.65/0.8/1.0	8~200	50~1457
Power transmission	Low torque (high speed rotation)	A-4CB	R/F	Coarse	Smooth	Polyester	1	Chloroprene rubber	Black	0.60	5~200	180~2700
		A-4NB	R/F	Coarse	Smooth	Polyester	1	Nitrile rubber	Black	0.60	5~200	180~2700
		B-6NB	R/F	Coarse	Smooth	Polyester	1	Nitrile rubber	Black	1.00	10~200	250~2800
	Medium torque (low speed rotation)	A-10CB	R/F	Coarse	Smooth	Polyester	1	Chloroprene rubber	Black	1.00	5~200	300~3000
		A-10NB	R/F	Coarse	Smooth	Polyester	1	Nitrile rubber	Black	1.00	5~200	300~3000
		A-13CB	R/F	Coarse	Smooth	Polyester	1	Chloroprene rubber	Black	1.10	5~200	300~3000
Specialty	Chip cracking	A-1UEW	F/F	Smooth	Smooth	Polyester	1	Polyurethane	White	0.22	3~50	100~1500
		A-1NB	P/M	Press	Mirror	Polyester	1	Nitrile rubber	Black	0.22	3~50	100~1500
		A-4UEW	M/P	Mirror	Press	Polyester	1	Nitrile rubber	White	0.4	5~200	180~2700
	Heat resistant	ZH250X	M/M	Mirror	Mirror	Aramid	1	Silicon rubber	Liver-colored	0.90	10~200	460~1500
	Flex resistance	A-P	S/S	Woven fabric	Woven fabric	Nylon	2,4,8	Impregnated chloroprene rubber	Black	—	10~100	200~2700
		A-PW	O/O	Woven fabric	Woven fabric	Nylon	2,4,8	Contains hardening agent	White	—	10~100	200~2700
	Heat and weather resistance	B-2HW	R/F	Coarse	Smooth	Polyester	1	CSM	White	0.80	5~200	250~2600
		B-2HG	R/F	Coarse	Smooth	Polyester	1	CSM	Green	0.80	5~200	250~2600
	Support for forward and backward operation	A-ESS2W	M/O	Mirror	Woven fabric	Polyester	2	Polyurethane	White	1.10	620	2482
	Non Fray	TA-4UEB	M/D	Mirror	Grainy	Polyester	1	Polyurethane	Black	0.65	4.5~200	350~2700
		TA-4UW	D/D	Grainy	Grainy	Polyester	1	Polyurethane	White	0.45	5~200	350~2700
	Blade compatibility	G-15TSDK	M/O	Mirror	Woven fabric	Polyester	1	Silicon rubber	Light yellow (cloth color)	0.55	200~500	1000~3000

Tensile strength N/10mm	Shaft load at proper tension ratio N/10mm	Minimum pulley diameter (mm)	Wear resistance ※4	Oil resistance ※4	Electrical conductivity ※4	Flame resistance ※4	Ozone resistance ※4	Weather resistance ※4	Water humidity resistance ※4	Food hygiene ※4	Temperature range for use (℃) -40 -20 0 20 40 60 80 100 120 140 160 180 200 220 240 260	Belt specification
150	0.5% 30	5	◎	◎	○	○	◎	○	×	◎		A-1UDW
400	0.5% 45	10	◎	◎	○	○	◎	○	×	◎		A-4UDG
400	0.5% 45	10	◎	◎	○	○	◎	○	×	◎		A-4UDGr
400	0.5% 45	10	◎	◎	○	○	◎	○	×	◎		A-4UDW
400	0.5% 45	10	◎	◎	○	○	◎	○	×	◎		A-4UDBL
250	1% 30 2% 50 3% 60	10	○	○	◎	◎	◎	○	◎	×		B-2CB
160	1% 20 2% 30 3% 40	7	◎	◎	×	○	◎	○	×	×		C-16UB
400	0.5% 45	10	◎	◎	◎	○	◎	○	×	×		A-4UEB
—	5% 10 6% 12 7% 14	8/12/14	◎	○	×	○	◎	○	×	×		E-8UB
—	5% 10 6% 12 7% 14	8/12/14	◎	○	×	○	◎	○	×	×		E-8UB
—	5% 10 6% 12 7% 14	8/12/14	◎	○	◎	○	◎	○	×	×		EXL101B
400	0.5% 45	10	○	○	◎	◎	◎	○	◎	×		A-4CB
400	0.5% 45	10	◎	◎	◎	○	×	○	◎	×		A-4NB
600	1% 180 2% 280 3% 360	25	◎	◎	◎	○	×	○	◎	×		B-6NB
1000	0.5% 110	15	○	○	◎	◎	◎	○	◎	×		A-10CB
1000	0.5% 110	15	◎	◎	◎	○	×	○	◎	×		A-10NB
1350	0.5% 170	20	○	○	◎	◎	◎	○	◎	×		A-13CB
150	0.5% 30	5	◎	◎	○	◎	◎	○	◎	×		A-1UEW
150	0.5% 30	5	◎	◎	◎	○	×	○	◎	×		A-1NB
400	0.5% 45	10	◎	◎	◎	○	◎	○	×	×		A-4UEW
400	1% 120	30	×	○	×	○	◎	◎	◎	×		ZH250X
	1% 130	50	○	○	×	○	○	○	◎	×		A-P
	2% 210		×	◎	×	×	◎	○	×	×		A-PW
250	1% 30 2% 50 3% 60	10	○	○	×	◎	◎	◎	◎	×		B-2HW
250	1% 30 2% 50 3% 60	10	○	○	×	◎	◎	◎	◎	×		B-2HG
780	0.5% 80	10	○	○	×	◎	◎	○	×	◎		A-ESS2W
400	0.5% 40	10	◎	◎	◎	○	◎	○	×	×		TA-4UEB
400	0.5% 45	10	◎	◎	×	○	◎	○	×	×		TA-4UW
800	0.5% 180	30	×	○	○	○	◎	◎	◎	◎		G-15TSDK

◎:Ideal ○:Suitable ×:Not suitable

※1 Other combinations of cover materials, surface shapes and colors are available upon request.
※2 Please select the most appropriate surface to meet your use conditions. (Pulleys with smooth surfaces are generally used.) Other than above surfaces, Impregnated/ Smooth, Smooth/Smooth and Mirror/Mirror (One side polished) are also possible to produce.
※3 Please inquire if necessary belt dimensions are outside the ranges shown.
※4 These indications are for the general physical characteristics of the cover rubber. They are not guaranteed, so please consult with your sales representative and evaluate sufficiently.
※5 Choose white, green, or gray, all of which comply with Japan' s Food Sanitation Act. Only white complies with AFD and PIM.
※6 Figures are provided to aid in belt selection and are not intended to describe product specifications.
※7 E-8U is thickness 1.0㎜, EXL-101 in the case of thickness 0.65mm.

How to Read Specifications

A - 4 U E B
① ② ③ ④ ⑤

①Type:A…Mainly for high-speed transmission, B…Mainly for lightweight transmission of paper, tickets, etc., C…Mainly for precision transmission
Z…Heat resistance, E…Lightweight transmission. ②Tensile strength (N/10mm): A, B Series…Number shown x around 100, C Series…Number shown x around 10
③Materials: C…Chloroprene rubber, N…Nitrile rubber U…Polyurethane, H…CSM
④Additional capability:D…Antistatic effect by conductive yarn, E…100Ωlevel conductivity, Meets Article 370 standards of the Food Sanitation Act of the Health and Welfare ministry, AF…Pass the Food Sanitation Law and FDA, PF…Pass the Food Sanitation Law and PIM ⑤Color:B…Black, W…White, G…Green, Gr…Gray
Friction coefficient:(coarse, top)…low, (polished, smooth, mirror)…high

PS Belt Design and Notes on Use

Environmental conditions

- Use belts within the temperature ranges shown on the previous page.
- Belts may harden at temperatures below the operating range, and belt life may be reduced if used at temperatures exceeding the operating range.
- Avoid use in contact with oils, chemicals and solvents.
- Avoid applications where the belt is in direct contact with food. However, Polyurethane white, green, and grey meet Article 370 standards of the Food Sanitation Act of the Ministry of Health and Wealth, and are suitable for carrying unpacked food.

Pulley shaft misalignment

- Pulley shaft misalignment (parallel, eccentric) can cause belts to snake or separate from the pulley, so align the shafts within 20 degrees of each other.

Safety cover

- Use a safety cover to prevent accidents and belt damage due to the inclusion of foreign matter. However, sealing causes operating temperatures to rise and affects belt life, so provide good ventilation.

Inspection

- Turn off power to the equipment and make sure that rotation has completely stopped before conducting belt inspection and maintenance.

Storage

- Do not allow the belt to become wrinkled or bent in storage.
- The belts are packaged for delivery in polyethylene bags. Do not remove the belts from the bags prior to use, and store in a cool, dark place, without exposure to moisture or direct sunlight.

BANCORD™ ROUND BELTS

Bancord Round Belts

Bancord Round Belts are made from polyurethane “Bancollan”,
and are easily joined by heat fusion.
Bancord is convenient and easy-to-use,
and its superior performance enjoys a good reputation among customers.

Features

Freely set belt length

Instantly get the required belt length as the belts are easily and firmly joined by heat.
There is no need to use “standard” belt lengths as the length can be freely selected.
Designs can take advantage of optimum machinery performance.

Multi-axis transmission, 3-dimensional transmission

Since Round Belts have no cross-sectional direction, design possibilities include multi-axis transmission, changes in idler pulley direction, and complex 3-dimensional transmission.

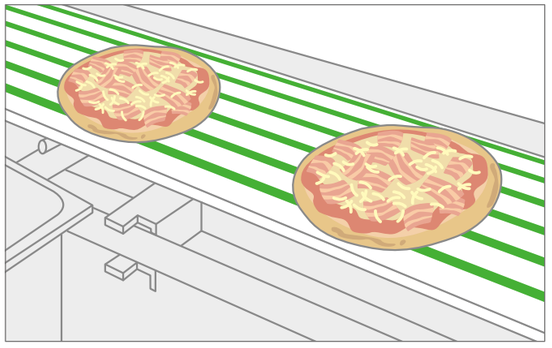
Simple installation and management

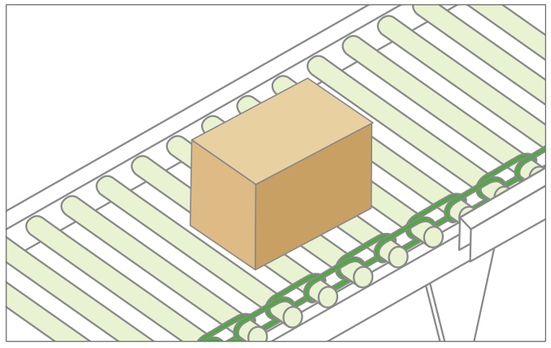
Round Belts can be installed without dismantling the machinery, and less management is required, such as for troublesome tension adjustments.

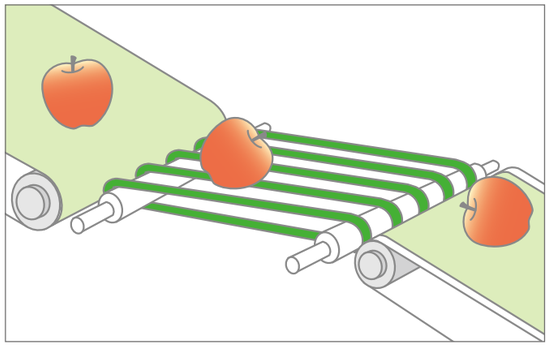
Superior mechanical properties

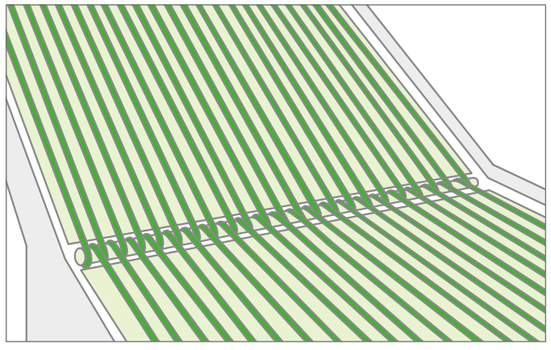
Round Belts are made from Bancollan (polyurethane), with superior resistance to abrasion and tearing.
Bancord Round Belts are widely used in industrial applications.

Usage examples



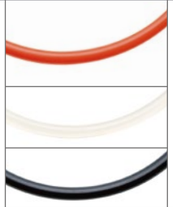
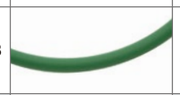
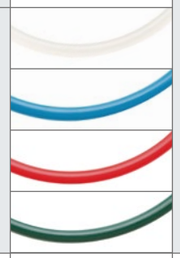


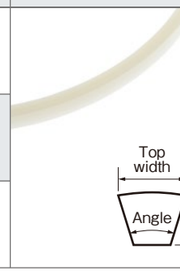




※ Belts are illustrated in green above, which may differ from the actual belt color.

Products

Type	Compound	Product photo	Applications	Color	Cross-sectional diameter (mm) 1.5	2	2.5	3	3.5	4	5	6	7	8	9	10	11	12	15
Round Belts	#480		General purpose and food conveyance	Orange (Standard)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
				Semi-transparent															
				Black															
	#485N		Roller conveyor drive	Semi-transparent	–	–	–	○	–	○	○	○	–	–	–	–	–	–	–
	#485T		Roller conveyor drive (high-durability/anti-wear)	Semi-transparent	–	–	–	–	–	○	○	○	–	–	–	–	–	–	–
	#485RB		Paper, food conveyance ※1	Green	–	–	–	○	–	○	○	○	–	○	–	–	–	–	–
	#489		Wear resistance (high load)	White (Standard)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	–
				Semi-transparent															
	#490			Blue															
				Red															
				Green															
	#494C (antistatic)		Semiconductor field	Black	–	○	○	–	–	○	○	–	–	–	–	–	–	–	–
	Roll length				#480 200m/roll #485N 200m/roll #485T 200m/roll #485RB 200m/roll #489 100m/roll #490 200m/roll #494C 200m/roll														
					100m/roll ※2														

Type						
V belts	M type (#480/#495)		Orange (#480) White (#495)	Top width (mm)	10.0	100m/roll
				Thickness (mm)	5.5	
				Angle (degree)	40	
	A type (#480/#495)			Top width (mm)	12.7	
				Thickness (mm)	8.0	
				Angle (degree)	40	
	B type (#480/#495)			Top width (mm)	16.7	
				Thickness (mm)	10.3	
				Angle (degree)	40	

※1 Coarse surface specification
※2 #480 with a cross-sectional diameter of 15 mm and #494C with a cross-sectional diameter of 5 mm are supplied in 50 m reels.
※ Bando or your distributor can make joints for you. For belts with diameters up to 2.5mm, the minimum length is 125mm.
For belts with diameters of 3mm or more, the minimum length is 50 times belt diameter.
※ Please consult with Bando or your distributor if ϕ15 joints are necessary
※ Round belt meet Article 370 standards of the Fod Sanitation Act of the Health and Welfare Ministry (Except black of #480, #494C)

Mechanical properties

特性	#480	#485N	#485T	#485RB	#489	#490	#494C	#495 (Vタイプ)
Color	Orange,Semi-transparent, Black	Semi-transparent	Semi-transparent	Green	White	Semi-transparent, Blue, Red, Green	Black	White
Hardness (JIS-Hs)	85°	86°	86°	86°	90°		94°	95°
Specific gravity	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.23
Tensile modulus 3% (GPa)	2.9×10^{-4}	2.9×10^{-4}	2.9×10^{-4}	3.3×10^{-4}	9.8×10^{-4}		5.6×10^{-4}	1.7×10^{-3}
Tensile modulus 4% (GPa)	3.9×10^{-4}	3.9×10^{-4}	3.9×10^{-4}	4.4×10^{-4}	1.08×10^{-3}		8.3×10^{-4}	2.2×10^{-3}
Tensile modulus 5% (GPa)	4.9×10^{-4}	4.9×10^{-4}	4.9×10^{-4}	5.6×10^{-4}	1.47×10^{-3}		1.1×10^{-3}	2.6×10^{-3}
Tensile modulus 6% (GPa)	6.4×10^{-4}	6.4×10^{-4}	6.4×10^{-4}	7.3×10^{-4}	1.52×10^{-3}		1.4×10^{-3}	2.8×10^{-3}
Tensile modulus 7% (GPa)	6.9×10^{-4}	6.9×10^{-4}	6.9×10^{-4}	7.9×10^{-4}	1.72×10^{-3}		1.7×10^{-3}	3.1×10^{-3}
Tensile modulus 100% (GPa)	4.9×10^{-3}	5.4×10^{-3}	3.9×10^{-3}	5.4×10^{-3}	7.85×10^{-3}		8.8×10^{-3}	9.8×10^{-3}
Tensile strength at break (GPa)	2.94×10^{-2} or more	2.94×10^{-2} or more	2.94×10^{-2} or more	2.94×10^{-2} or more	2.94×10^{-2} or more		1.96×10^{-2} or more	3.23×10^{-2} or more
Tensile elongation at break (%)	450 or more	300 or more	400 or more	300 or more	350 or more		400 or more	350 or more
Linear expansion coefficient (1℃)	2.6×10^{-4}	2.6×10^{-4}	2.6×10^{-4}	2.6×10^{-4}	2.6×10^{-4}		2.6×10^{-4}	2.6×10^{-4}

• Round Belts

Cross-sectional diameter (mm)	1.5	2	2.5	3	3.5	4	5	6	7	8	9	10	11	12	15
Tensile strength (N/belt)	60	100	160	230	310	410	640	930	1150	1500	1900	2360	2850	3390	5300

• V Belts

Type	M	A	B
Tensile strength (N/belt)	1450	2590	4400

Water resistance

Bancord can be used for long periods under conditions of high humidity.

Daily variation in tensile strength under wet conditions (#489)				
Days immersed in water	20	30	50	70
Residual strength (%)	99	98	96	91

※ The sample was immersed in water at 40℃, with 5% elongation.

Oil and chemical resistance

Oil, chemicals	Suitability
Oil resistance - ASTM#1	○
Oil resistance - ASTM#3	○
Acid resistance - 10% hydrochloric acid	○
Alkali resistance - 10% caustic soda	△
Organic solvent resistance - acetone	×
Organic solvent resistance - benzine	×
Organic solvent resistance - methanol	△

※ In general, avoid use with strong acids, strong alkali, aromatic hydrocarbon (such as benzine, toluene), ester solvents (such as ethyl acetate), and ketone solvents (such as MEK, acetone).

Joints

Bancord is joined using the following procedure.

Photo 1

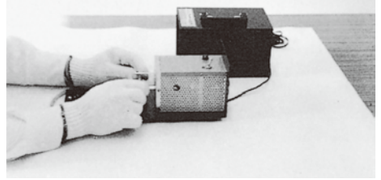


Photo 2

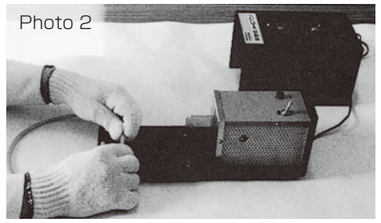


Photo 3

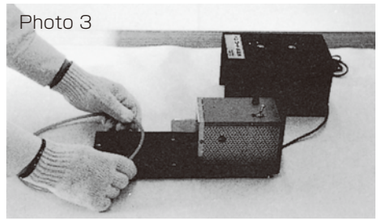
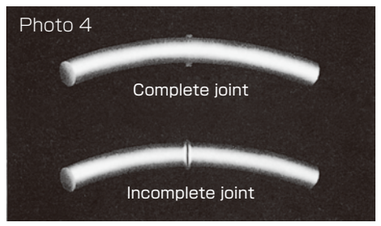


Photo 4



Cutting

①Calculate or measure the length needed for installation.
②The cut should be about 5% less (3% to 7% is acceptable) than the measurement needed. Make a straight cut at a right angle to the belt.
Example: If the required length is 1m, the cut should be at 950mm.
Note: The belt will slip if it is too long, and belt life will be reduced if it is too short.

Bancord Joints

①Lightly and uniformly melt both ends through contact with a heating plate (Photo1). Standard melting times are shown below (heating plate temperature: 240℃±10℃).

Type	Diameter (mm)		
	1.5~5	6~10	11~15
#480	20 seconds	50 seconds	70 seconds
#485N	60 seconds	80 seconds	—
#485RB	60 seconds	80 seconds	—
#489・490	40 seconds	60 seconds	90 seconds

※ Use 90 seconds for long V Belts (M, A, B Types).

②Quickly and evenly press the two melted ends together (Photo 2).
③Hold the two ends together for a minute or two, and allow to cool and solidify (Photos 2 and 3).
④Use scissors, nail clippers or a grinder to cut away any protrusions from the joint.

※ A transparent layer (Photo 4) may be visible if the joint is incomplete (particularly with #489).

Bancord Adhesion Machine

Bando offers a Bancord Adhesion Machine (DX-81), with a standard setting temperature of 240℃±10℃.

※ Width:130mm / Depth:210mm / Height:130mm / Power:AC100V

Wear protective gloves to prevent burns during the joining procedure.

Do not use candles or lighters to make joins.

Operating conditions

Classification	Item	
Round Belts	Belt tension rate	3~7% (typically 5%)
	Pulleys	Bancord Round Belt Pulleys
	Small pulley contact angle	180°
	Belt speed	#480・485N・485RB:2~12m／s #489:2~20m／s
	Operating temperature	0~50℃
V Belts	Belt tension rate	3~7% (typically 5%)
	Pulleys	Bancord V Belt Pulleys
	Small pulley contact angle	180°
	Belt speed	2~20m／s
	Operating temperature	0~50℃

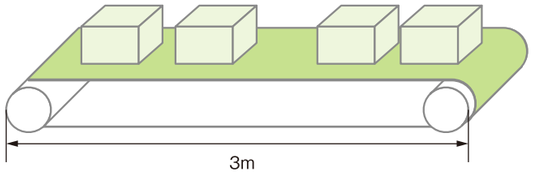
Storage and transportation notes

- Belts and pulleys may be heavy. Use suitable equipment for transport and handling.
- Do not unreasonably bend belts, and do not transport or store with heavy objects on top of belts, as these may cause belt damage or premature belt failure.
- Store at low humidity at temperatures from 10℃~40℃, without exposure to direct sunlight.

Material weight per belt meter

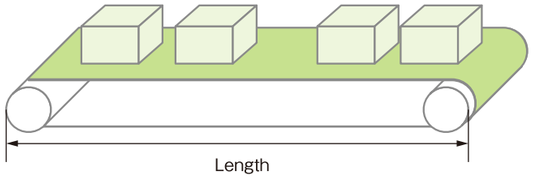
Material weight per belt meter is found by multiplying the weight of each package carried by the number of packages carried, divided by the length of the conveyor.

Example: If the conveyor is 3m long, and carries four packages each weighing 3kg, material weight per belt meter is 4kg/m (3kg x 4 packages ÷ 3 m).



Conveyor length

Conveyor length is the distance from end to end, which differs from actualbelt length.



Cleats

Positioning cleats may be installed on the belt surface to prevent drops or for use in inclined conveyance.

Refer to page 35

Seamless Belts

Seamless Belts have no joints. They have little variation in thickness and weight, and superior bending resistance and small pulley matching. Attention to cost, delivery and manufacturing lot are necessary as belt production begins after receipt of order.

Refer to page 29 for Super SUNLINE and to page 51 for PS Belts

Joints

Joints are the places on the belt where it is joined. There are advantages and disadvantages to SUNLINE Belt joining methods, which affect belt life.

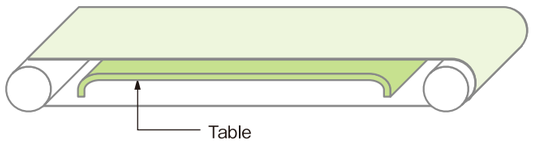
Refer to page 33

Anti-static

Static electricity is generated from friction when the belt contacts the supporting part during operation. The materials in the belt reduce static to prevent sparks and static clinging of electronic components, paper and fibers.

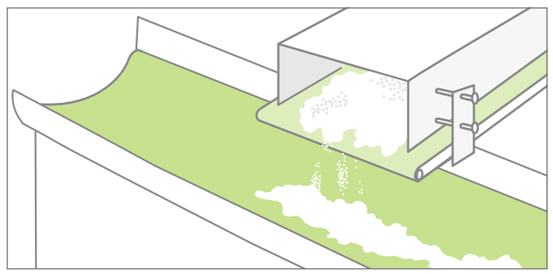
Table support

A support method is used under the belt's backside surface. The support is made of iron plate, stainless steel, plywood or the like.



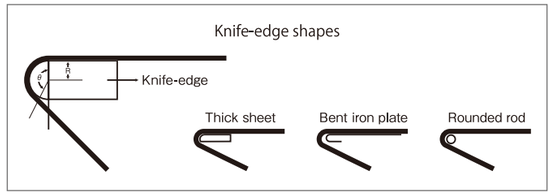
Trough conveyance

Trough-shaped conveyance is a method to prevent spillage of powders or granular loads.



Knife edge

Knife edges are used in place of pulleys so that items do not fall off the conveyor when the belt comes into contact with a pulley or when items have high adhesion to the belt. Rounded iron rods or sheets are typically used, generally with a radius of 2mm to 5mm. (Radius (R) is shown in mm.)



V-Guides

V-guides are cleats added to the belt backside to prevent snaking or bias, or cleats added to the belt surface to prevent drops or spills.

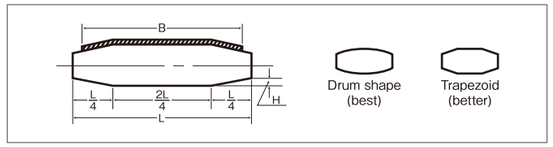
Refer to page 37

Plies

Plies refers to the number of canvas layers containing tensile members.

Crown pulley

Crown pulleys have higher central portions and are narrower at the sides. They prevent snaking or bias when tension is higher in the central portion of the belt.



H(mm)	B(mm)										
	100 or less	300 or less	600 or less	1000 or less	1200 or less	1400 or less	1600 or less	1800 or less	2000 or less	2200 or less	2500 or less
1 ply	0.2	0.3	0.4	0.5	0.6	—	—	—	—	—	—
2-3 plies	0.5	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4

※ Use crown pulleys for the drive, head and tail pulleys.
※ If using crown pulleys when the belt circumference is 5m or less, the circumference at the edge of the belt should be within 0.5% of the circumference at the center of the belt.
※ Use crown pulleys on each belt when using multiple belts.
※ Crown pulleys should reach the entire belt width R (drum type).
※ Using crowns with 1-ply belts causes wrinkles and undulations in the belt.
※ Please consult with Bando for widths over 2500mm.

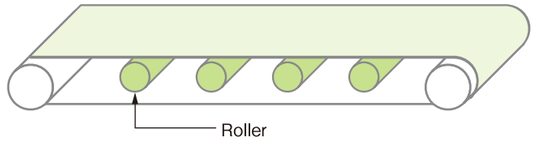
Belt cleats

Pieces added to the top of the belt through a fusing process. Rigidity is obtained through a fusion with the canvas inside the belt. Many heights and shapes are possible. Bonding problems are likely to occur if a different resin from the belt body is used.

Refer to page 36

Rollers

Method of support on the belt backside.



Belt edges

Both sides in the direction of width.