



Belts for  
**Textile Industries**

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The specification is subject to change for improvement without notice.

B-TI-10E 2511PDFU



**NITTA CORPORATION**

# Product Specifications

PolyBelt™ PolySprint™ SEB™ Conveyor Belt

※All belt types listed below have antistatic properties except for KSG-250

Category	Belt Type	Thickness (mm)	Surface (Top/Bottom) *1	Color (Top/Bottom)	Tension Member *2	Minimum Pulley Diameter (mm)	Tensile Force for Standard Elongation (N/mm) *3	Standard Elongation(%)	Recommended Elongation (%)	Temperature Range (°C)	Maximum Length (m)	Card	Draw Frame	Ring Spinning	OE Spinning	Winding	TFO	DTY	Covering	Cleaner	Circular Knitting	Conveyor	Features	Category
PolyBelt™	TFL-7S	2.4	NBR/NBR	Dark Blue/Gray	PA	75	15.0	2	1~3	-20~+80	105		●			●	●	●					Low Noise, Excellent Durability	● TFL-7S
	TLR-9S	2.45	NBR/NBR	Red/Gray	PA	90	17.0	2	1~3	-20~+80	105			●	●		●	●						● TLR-9S
	TLR-10SA	2.55	NBR/NBR	Red/Black	PA	100	19.5	2	1~3	-20~+80	216			●	●		●							● TLR-10SA
	TFL-10S	2.6	NBR/NBR	Dark Blue/Gray	PA	100	19.5	2	1~3	-20~+80	210		●	●		●	●	●						● TFL-10S
	TFL-12S	2.85	NBR/NBR	Dark Blue/Gray	PA	125	24.5	2	1~3	-20~+80	105		●		●	●	●	●						● TFL-12S
	TFL-15S	3.1	NBR/NBR	Dark Blue/Gray	PA	150	30.0	2	1~3	-20~+80	105			●	●		●	●						● TFL-15S
	TFL-18S	3.35	NBR/NBR	Dark Blue/Gray	PA	175	34.0	2	1~3	-20~+80	105			●				●						● TFL-18S
	TFM-15S	3.7	NBR/NBR	Dark Blue/Gray	PA	150	30.0	2	1~3	-20~+80	105				●			●						● TFM-15S
	L-500	1.55	NBR/NBR	Blue/Black	PA	50	7.5	2	1~3	-20~+80	105		●	●										● L-500
	LA-750S	2.25	NBR/NBR	Blue/Blue	PA	75	15.0	2	1~3	-20~+80	105								●	●				● LA-750S
	L-1000S	2.45	NBR/NBR	Blue/Black	PA	100	19.5	2	1~3	-20~+80	105		●		●		●	●						● L-1000S
	M-1000S	3.0	NBR/NBR	Blue/Black	PA	100	19.5	2	1~3	-20~+80	105			●				●						● M-1000S
	MA-1500S	3.5	NBR/NBR	Blue/Blue	PA	150	30.0	2	1~3	-20~+80	105					●	●							● MA-1500S
	M-1000GS	2.6	NBR/NBR	Blue/Black	PA	100	19.5	2	1~3	-20~+80	210				●									● M-1000GS
	MB-1000GSR	2.6	NBR/NBR	Black/Black	PA	100	19.5	2	1~3	-20~+80	210				●									● MB-1000GSR
	IRS-6S	1.35	NBR/NBR	Green/Black	PA	60	11.5	2	1~3	-20~+80	105								●					● IRS-6S
	IR-500	1.5	NBR/NBR	Green/Green	PA	40	3.8	1	1~3	-20~+80	105								●					● IR-500
	KSG-250	0.85	NBR/PA	Green/White	PA	20	3.0	2	1~3	-20~+80	105				●									● KSG-250
PolySprint™	TFL-15E20	2.0	NBR/NBR	Dark Blue/Black	PEs	25	15.0	1	0.5~2	0~+60	200		●	●	●								Less Power Consumption Easy to Make Endless, Low Noise, Shorter Take-up Higher Antistatic *4	● TFL-15E20
	TFL-15E25	2.5	NBR/NBR	Dark Blue/Black	PEs	30	15.0	1	0.5~2	0~+60	200				●			●						● TFL-15E25
	TFL-22E26-2	2.6	NBR/NBR	Dark Blue/Black	PEs	50	22.0	1	0.5~2	0~+60	200			●	●	●		●						● TFL-22E26-2
	NEW TFLBK-15E20	2.0	NBR/NBR	Black/Black	PEs	25	15.0	1	0.5~2	0~+60	200		●	●	●									● NEW TFLBK-15E20
	TFLBK-22E26-2	2.6	NBR/NBR	Black/Black	PEs	50	22.0	1	0.5~2	0~+60	200			●	●	●		●						● TFLBK-22E26-2
	TL-22E30	3.0	NBR/NBR	Dark Blue/Black	PEs	50	22.0	1	0.5~2	0~+60	100							●	●					● TL-22E30
	TLA-30E30-2	3.0	NBR/NBR	Dark Blue/Dark Blue	PEs	70	30.0	1	0.5~2	0~+60	100					●	●	●						● TLA-30E30-2
	TA11-TF	1.1	TPU/TPU	Blue/Black	—	25	0.5	5	3~8	-20~+60	100		●											● TA11-TF
SEB™	SE-A-PB	1.2	NBR/NBR	Black/Black	PEs	15	7.4	1	0.5~1	-20~+80	4.525*5			●		●							High Stiffness, Seamless	— — SE-A-PB
	SE-B-PB	1.4	NBR/NBR	Black/Black	PEs	25	14.7	1	0.5~1	-20~+80	4.525*5		●					●						— — SE-B-PB
	SE-D-PB	1.7	NBR/NBR	Black/Black	PEs	35	29.4	1	0.5~1	-20~+80	4.525*5		●				●							— — SE-D-PB
	NEW SE-B-PSS-G	2.0	NBR/NBR	Blue/Blue	PEs	25	14.7	1	0.5~1	-20~+80	4.525*5		●				●							— — NEW SE-B-PSS-G
	NEW SE-D-PSS-G	2.3	NBR/NBR	Blue/Blue	PEs	35	29.4	1	0.5~1	-20~+80	4.530*5		●				●							— — NEW SE-D-PSS-G
Conveyor Belt	3 XR 905 / 905 LSQ	4.5	PVC/PVC	Black/Black	PEs	150	10.0	0.5	0.5~1	-10~+80	100						●		High Stiffness		● ● 3 XR 905 / 905 LSQ	Conveyor Belt		

\*1 Depending on the application, top and bottom covers can be reversed.

\*2 PEs : Polyester PA : Polyamide AR : Aramid

\*3 Tensile Force is measured after running 200 hours in internal test.

\*4 These are features of TFLBK-15E20 and TFLBK-22E26-2.

\*5 SEB length depends on the mold.



## PolyBelt™

*Super-strong polyamide core, extended-life skived joining, high operating duty cycles*

- **High Strength, Long Life**

High flexibility and rugged design for heavy-duty applications.

Polyamide core accommodates shock loads, and wide choice of covers provide abrasion resistance, giving long, dependable service.

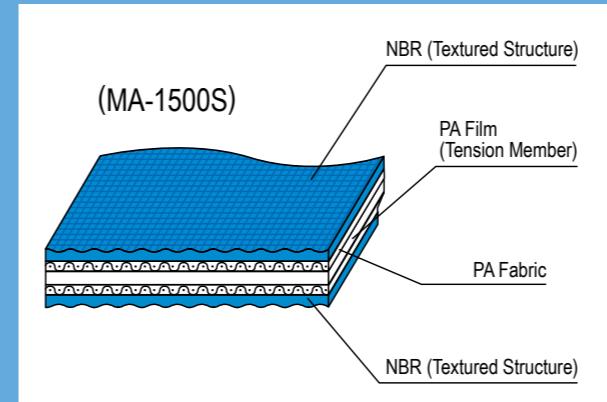
- **Electrically Conductive**

Materials with anti-static properties are used in specific layers to provide permanent conductivity, eliminating build-up of electro-static charges.

Selected materials are not susceptible to oil contamination.

- **Environmental Resistance**

Selected materials are not susceptible to oil contamination.



### Nomenclature

**MA-1500 S**

【Surface】  
L : Light  
M : Medium  
H : Heavy

A : Blue NBR on Both Surfaces  
B : Black NBR on Both Surfaces

S : Super Strength  
G : Ground Surface  
PA Film Thickness in mm×1000  
(1.5×1000=1500)

**TFL-10 S**

【Surface】  
T : Tangential  
F : Taffeta  
L : Light  
M : Medium

PA Film Thickness in mm×10  
(1.0×10=10)

S : Super Strength

## PolySprint™

*Finger-spliceable, easy installation, high-strength polyester core*

- **Less Power Consumption**

PolySprint's flexibility enables machines to run more efficiently, reducing power consumption.

- **Ease of Joining**

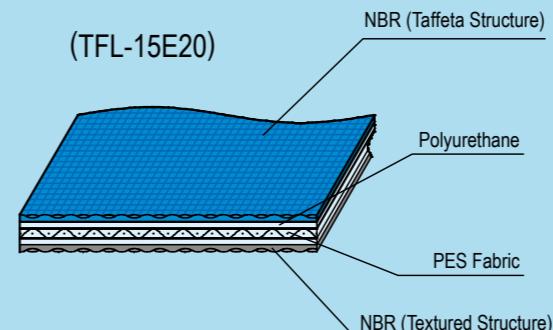
A single action Nitta cutter eliminates the tedious task of multiple cuts that can lead to mismatched and non-aligned joints. Finger-splice joints are completed without adhesive.

- **Dimensional Stability**

Polyester fabric used as tension member provides high dimensional stability.  
Selected materials are temperature and humidity tolerant.

- **Abrasion Resistance**

Friction resistant covers and fabric are exclusively designed for textile machinery.



### Nomenclature

**TFL-15E 20**

【Surface】  
T : Tangential  
F : Taffeta  
L : Light  
M : Medium

Belt Tension in N/mm  
(1% Elongation at 200 hrs. running)

Belt Thickness in mm×10

## SEB™ (Super Endless Belt)

- **Seamless**

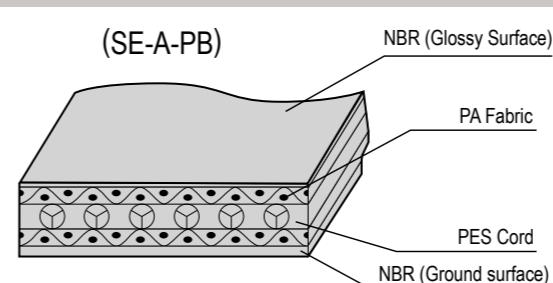
Splice free belts made by molded forming with excellent dimensional stability.

- **Excellent flexibility, bending resistance and abrasion resistance**

Excellent flexibility, long flex life and abrasion resistance can be expected even with power transmission and carrying equipment using very small pulleys.

- **High rotation accuracy**

High rotation accuracy is available as pitch line is stable.



### Nomenclature

**SE - A - P B**

Series Name

Cord type A : Tension at 1% elongation 14.7(N/mm)

Surface shape : Plane Surface

Surface material : Black NBR

### Splicing Tools for PolySprint™

# PolySprint™

**Quick and Easy Endless  
(No Experience Required)**

**Finger Joint  
(No Adhesive Needed)**

PolySprint tools make replacing broken belts quick and easy, with minimal disassembly of the machine.



#### ● Finger Puncher

Type	Appearance	Features	Max. Width (mm)	Max. Thick. (mm)	Size (mm)			Wt. (kg)	Finger Length x Pitch
					Width	Length	Height		
FP120-10-50		Precise indexing system	50	6.0	180	600	250	9.0	120x10
FP120-10-100		Precise indexing system	100	6.0	230	610	250	10.5	120x10

#### ● Heating and Cooling Press

Type	Appearance	Features	Marking	Max. Width (mm)	Max. Thick. (mm)	Size (mm)			Wt. (kg)	Finger Length x Pitch	Power	Temp. (°C)
						Width	Length	Height				
NPS-1210A-1		Automated heating and cooling press		100	7.0	230	320	180	9.2	120x10	100V	~200
NPS-1210A-2											200V	
NPS-1205H1		Quick finishing just in 10 minutes.		50	6.0	Press Body 165	320	115	3.6	70x10 120x10	100V	~210
NPS-1205H2						Controller 90	225	45			200V	
NPS-1205C						165	295	110	1.22		—	—

#### ● Other Tools

Type	Appearance	Features
Presetter		Guide rails to hold joint straight when pressing
Clamp (2 Pieces)		Clamps for holding presetter together when pressing

### Splicing Tools for PolyBelt™

# PolyBelt™

Nitta provides well-made, reliable tools for effective and efficient fabrication of our belts.

#### ● Poly Skiver

Type	Appearance	Features	Max. Width (mm)	Max. Thick. (mm)	Size (mm)			Wt. (kg)	Power
					Width	Length	Height		
PS153		PolyBelt skiver for making skived ends. Highly reliable and widely accepted.	150	3.0	400	380	435	33.0	100V or 200V

#### ● Poly Press

Type	Appearance	Features	Marking	Max. Width (mm)	Max. Thick. (mm)	Size (mm)			Wt. (kg)	Power	Temp. (°C)
						Width	Length	Height			
PI-50		PolyBelt press for skived joining. Lightweight, easy to use and well-regarded in the industry.		50	2.5	112	160	90	1.3	100V or 200V	110
PP103		PolyBelt press for skived joining. Reliable, easy to use and well-regarded in the industry.		100	5.0	140	295	150	3.1	100V or 200V	

### Sonic Belt Tension Meter U-550



Measurement of tension has depended greatly on the measurer's instinct, sometimes with very subjective results. Now, the sonic belt tension meter allows anyone to measure tension easily and correctly. Acoustic waves (natural frequency) generated by a belt are captured by the meter's sensor, and a digital processor uses the reading to calculate tension to a high degree of accuracy. The precise results are displayed on-screen.

## TROUBLESHOOTING & SOLUTIONS

Issue	Cause	Solution
On all spindles, the required revolution is not obtained.	Belt slippage occurring on the motor drive pulley.	The belt tension should be increased.
	Oil adhering to the belt.	Wipe away the oil which has adhered to the belt surface.
	The diameter of some pulleys is not correct.	Replace the pulley with one suitable for the spindle revolution required.
	Belt slippage occurring on motor-drive belt or the belt driving the tangential-drive pulley.	Increase belt tension. Wipe away the oil which has adhered to the belt surface.
	Yarn's "Balloon-load" exceeds the transmitted power of the belt.(In this situation, the belt slips on the drive pulley or spindle wharves.)	Check the belt tension and or the intruding depth of the contact pulley.
On the slack side, the required revolution is not obtained.	The pressure load of the belt against the spindle wharves on the slack side is insufficient.	Increase the belt tension.
	Yarn particles are wound up in the spindle wharves and as a result, the spindle load is increased.	Adjust the intruding depth of the contact pulley (thus increasing the spring force).
	Something is wrong with the bearing rotation.	Remove the yarn particles.
Incessant noise.	Some foreign materials have adhered to the belt surface.	Replace the bearing or the spindle with a new one.
	Some foreign materials have adhered to the spindle wharves.	Wipe away the foreign materials.
Intermittent noise.	The spliced section of the belt is beginning to tear.	Grind the belt surface lightly with fine sand paper.
	A section of the belt surface is deformed.	Wipe away the foreign materials.
		Rejoin the spliced section. Immediately replace the belt with a new one if too much damage has occurred.
Noise at certain places(such as at spindles).	Something is wrong with the bearing rotation.	Check the cause. Take appropriate corrective action if such deformation is caused by abnormal abrasion of the belt.
	Belts are bumping or rubbing somewhere.	Replace the spindle or the belt if the belt is unusually heated due to an issue with spindle revolution and is burned at the time of belt stoppage.
Belt tends to deviate in either upper or lower direction from the proper tracking position.	Something is wrong with the belt tracking.	Replace the bearing.
Belt tends to run zigzag against the pulley axis.	Something is wrong with the belt tracking.	Adjust the belt tracking by adjusting contact pulleys or guide pulleys.
	Spindles are not securely fixed.	Adjust the belt tracking by adjusting contact pulleys or guide pulleys.
	Pulley has a small crown.	Check the bearings.
	Spindle wharves, contact pulleys or other pulleys are not horizontally aligned.	Make pulley crown larger. Align pulleys properly.

## Product Usage Safety Guidelines

\* Before use, carefully read and follow the safety precautions below.

For safe use, this documentation and Nitta's products utilize various symbols and signal words. After reviewing the "Severity of Risk" section below to understand the meanings of those symbols and signal words, read the safety precautions and follow the instructions listed.

■ Improper use (ignoring the symbols and signal words) may result in the following risks:

Severity of Risk	
 <b>DANGER</b>	Indicates situation that may result in imminent risk of death or serious injury if ignored or incorrectly handled.
 <b>WARNING</b>	Indicates situation that may lead to high risk of death or serious injury if ignored or incorrectly handled.
 <b>CAUTION</b>	Indicates situation that may lead to injury and physical damage if ignored or incorrectly handled.
Meaning of Signs	
 Signs Prohibited Action	Indicates actions that must never be taken under any circumstances when handling products.
 Signs Mandatory Action	Indicates actions that must always be taken when handling products, without exception.

### 1. Function and Performance

#### **DANGER**



- Do not use belts as hoisting or towing equipment.

#### **WARNING**

- Do not use belts beyond the acceptable ranges specified in this catalogue.
- In situations where static electricity generating in the transmission or conveying device could risk causing a fire or causing the control device to malfunction, use an antistatic belt. Install a neutralization apparatus in the device.
- If belt encounters friction against frame or table, temperature range may be exceeded due to frictional heat, potentially causing premature belt wear.
- If water, oil, chemicals, dust, etc. adhere to belts or pulley, it may decrease transmission efficiency or cause premature belt wear.
- Do not use belts for conveying unpackaged food.

### 2. Storage and Shipping

#### **WARNING**

- Keep belts away from fire.
- Belts are combustible; do not store or use them near fire or a high-temperature heat source.
- When storing heavy belts, fix them in place using appropriate jigs or stoppers to prevent falling or rolling.

#### **CAUTION**

- When storing and shipping belts, do not distort them excessively. Bending deformation may occur, potentially causing belts to become damaged or break prematurely.
- When storing belts, keep them under a textile covering such as a sheet and put them in a well-ventilated, low-humidity place free from direct sunlight.
- Store belts in their original packaging until needed.

### 3. Installation and Daily Use

#### **DANGER**



- Be sure to put a safety cover over the rotating part of the machine including the belt; hair, gloves or clothes may get caught in the belt pulley.
- Before maintenance, inspection or replacement, be sure to turn off the switch and confirm that the machine has stopped.

#### **WARNING**

- When cleaning belts, do not use chemicals harmful to humans.

#### **CAUTION**

- After replacing a belt with a new one, perform a test operation to adjust tension, elongation rate and operation.
- Do not attach belts forcibly; use a motor slide, a tension pulley or a special pulling device.
- If abnormal noise, snaking, deviation, slipping, etc. occur, stop the belt immediately for inspection.

### 4. Installation, Endless Processing, etc.

#### **WARNING**

- When using solvent or adhesive, fully ventilate the workspace and keep away from fire.
- Do not leave solvent or adhesive on site. Return them to storage immediately after finishing use.

#### **CAUTION**

- Perform endless joining of belts by using the materials, methods and procedures specified by Nitta.

### 5. Handling Used Belts

#### **WARNING**

- Do not leave belts near fire.

#### **CAUTION**

- Do not burn used belts; harmful gases may be generated.
- Lawfully dispose of used belts as industrial waste.

# THE EXCELLENCE OF NITTA TECHNOLOGY

Nitta Corporation turns dreams into reality. Our combination of dynamic imagination and creativity with an organic corporate structure enables us to cover a wide-range of products from the most advanced semiconductors and space development to everyday commodities. We are continuously seeking new products and new frontiers. This new technology, not immediately obvious to the naked eye, is vital to the continued growth of every industry. Our objective is to develop the extraordinary. Then to translate the extraordinary into the everyday.

## BELTING PRODUCTS



The Nitta tradition of manufacturing belting products began in 1888, with the power transmission leather belts that were the first of their kind to be produced in Japan. Today, our power transmission and conveyor belts continue to be utilized in a wide variety of machines. By meeting society's needs with products including high-function and high added-value belts that convey power and objects more rapidly and reliably than ever, Nitta uses its technical capabilities to make a contribution to our society.

## CONVEYOR PRODUCTS



know-how to promote conveyance speed and safety, and also offer advice on issues including the placing of conveyors to accommodate machines or installation environment. In a world where manufacturing and product logistics are becoming more important than ever, let us at Nitta provide the ideal solutions to your conveyor product needs.

## ENGINEERED RUBBER PRODUCTS



molding. They are made from high quality rubber with our own unique and special technology. Cities are full of amenities, and we are supporting the safety and comfort of city life by supplying high quality products.

## HOSE & TUBE PRODUCTS



we have succeeded in fusing new materials and technologies to create a wide variety of products. At Nitta, we will continue to offer new solutions to expand the possibilities of next-generation technology.

## AIR FILTRATION PRODUCTS



New technology innovation is required everyday in high-technology industries. Nitta has been contributing significantly to the fields of semiconductor production and nuclear application by using unique air filter systems to create totally dust-free environments. These fields are at the forefront of our era. Nowadays, our filter systems are broadly used not only these fields but also FPD (flat panel display), pharmaceuticals, foods, office buildings, and so on. Furthermore, we are developing ecological products which aim to reduce industrial waste and save resources, energy and costs. We are creating comfortable and dust-free environments, as well as protecting the earth and the natural environment, giving consideration to all environments and the realization of a perfect ecosystem.

## MECHATRONIC PRODUCTS



These are the newest products for automated production lines by our connecting technologies. Industrial robots have a key role in the automation line. In response to a variety of applications required by the end of the industrial robot's arm we will meet the demands of our customers.

## TACTILE SENSOR PRODUCTS



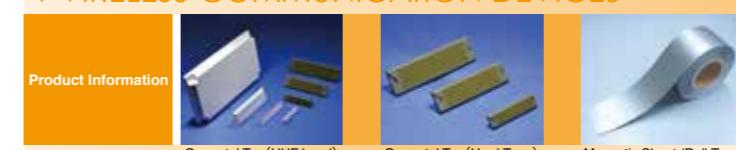
0.1mm thin film sensor supports the quality improvement and product development needs of our customers. In various fields, such as industry and medical, our thin film sensor shows the pressure distribution on the contact area in real time, and contributes to advanced quality control, prompt development and high customer satisfaction.

## THERMOSENSITIVE ADHESIVE TAPE



Intelimer® Tape is an adhesive tape utilizing a special polymer which responds to temperature to become adhesive or non-adhesive. As an industrial-use tape, Intelimer® Tape brings labor-saving efficiency to work operations, and its ability to be reusable under the right conditions helps promote resource conservation and cost savings.

## WIRELESS COMMUNICATION DEVICES



By integrating our original rubber and resin technologies, we have developed high-performance magnetic sheets for wireless communication of mobile equipment as well as RFID tags (non-contact IC cards).

NITTA GROUP

GATES UNITTA ASIA COMPANY

## Integrated Systems Enhance Quality

Conveyance and transmission systems harness the power in products. For the automobile and beyond, Gates Unitta Asia (GUA) is the leader in power transmission.



NITTA GROUP

NITTA DuPont Incorporated

## A Well Sharpened Future is Just Around the Corner

Polishing Systems, which are progressing toward "Nano-Structures." The world of human technology that keeps seeking "Beauty and Difference."