

Belts for

Textile Industries



NITTA CORPORATION

NITTA CORPORATION

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

	**All belt types listed below have antistatic properties except for KSG-250																								
Category	Belt Type	Thickness	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 Range (%)	Temperature Range (°C)	Maximum Length (m)	Card	Draw Frame	Ring Spinning	OE Spinning	Winding	YTQ	Covering	Cleaner	Conveyor	Features	Skiver Splice	Finger Splice	Belt Type	Category
	TFL-7S	2.4	NBR/NBR	Dark Blue/Gray	PA	75	15.0	2	1~3	-20~+80	105		•			•			•					TFL-7S	
	TLR-9S	2.45	NBR/NBR	Red/Gray	PA	90	17.0	2	1~3	-20~+80	105			•		•		ullet						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	•				•					Low Noise, Excellent Durability			TFL-10S	
	TFL-12S	2.85	NBR/NBR	Dark Blue/Gray	PA	125	24.5	2	1~3	-20~+80	105	•				•					LOW Noise, Excellent Burability			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	
ĕ	TFM-15S	3.7	NBR/NBR	Dark Blue/Gray	PA	150	30.0	2	1~3	-20~+80	105			•			•							TFM-15S	∑
PolvBelt™	L-500	1.55	NBR/NBR	Blue/Black	PA	50	7.5	2	1~3	-20~+80	105	•)	•										L-500	PolyBelt™
<u> </u>	LA-750S	2.25	NBR/NBR	Blue/Blue	PA	75	15.0	2	1~3	-20~+80	105								•					LA-750S	<u>></u>
۵	L-1000S	2.45	NBR/NBR	Blue/Black	PA	100	19.5	2	1~3	-20~+80	105	•				•					Stable Coefficient of Friction, Abrasion Resistance, Excellent Durability	•		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								•		Specially Developed for Pneumatic Cleaner	•		IRS-6S	
	IR-500	1.5	NBR/NBR	Green/Green	PA	40	3.8	1	1~3	-20~+80	105										For Circular Machine, High Friction	•		IR-500	
	KSG-250	0.85	NBR/PA	Green/White	PA	20	3.0	2	1~3	-20~+80	105			•							Spindle Tape	•		KSG-250	
	TFL-15E20	2.0	NBR/NBR	Dark Blue/Black	PEs	25	15.0	1	0.5~2	0~+60	200	•	•	•									•	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			•	•	•					Less Power Consumption		•	TFL-22E26-2	Σ
vrini	NEW TFLBK-15E	2.0	NBR/NBR	Black/Black	PEs	25	15.0	1	0.5~2	0~+60	200	•	•	•							Easy to Make Endless, Low Noise, Shorter Take-up		•	NEW TFLBK-15E20	rin
PolySurint	TFLBK-22E26-	2 2.6	NBR/NBR	Black/Black	PEs	50	22.0	1	0.5~2	0~+60	200			•		•					Higher Antistatic *4		•	TFLBK-22E26-2	PolySprin
P	TL-22E30	3.0	NBR/NBR	Dark Blue/Black	PEs	50	22.0	1	0.5~2	0~+60	100					•	•					•	TL-22E30	Pe	
	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	•									Elastic Type		•	TA11-TF	
	SE-A-PB	1.2	NBR/NBR	Black/Black	PEs	15	7.4	1	0.5~1	-20~+80	4.525*5		•			•							-	SE-A-PB	
E	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	E
SEB THE	SE-D-PB	1.7	NBR/NBR	Black/Black	PEs	35	29.4	1	0.5~1	-20~+80	4.525*5		•				•				High Stiffness, Seamless –		-	SE-D-PB	SEB *
	NEW SE-B-PSS-	3 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-	2.3	NBR/NBR	Blue/Blue	PEs	35	29.4	1	0.5~1	-20~+80	4.530*5		•				•				<u>new</u> se-			NEW SE-D-PSS-G	
51	3 XR 905 / 905 L	SQ 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	»IG

^{*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.

 $[\]pm 4\,$ These are features of TFLBK-15E20 and TFLBK-22E26-2.

^{*5} SEB length depends on the mold.

The NITTA Advantage - Innovative Products and Solutions



PolvBelt ™

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.

NBR (Textured Structure) (MA-1500S) PA Film (Tension Member) PA Film (Tension Member) PA Fabric NBR (Textured Structure) PA Fabric NBR (Textured Structure) NBR (Textured Structure)

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.

SEB™(Super Endless Belt)

Seamless

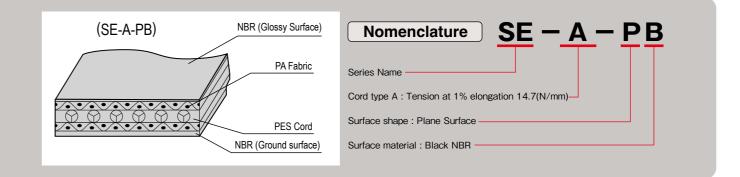
Splice free belts made by molded forming with excellent dimensional stability.

• 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.



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

Heating and Cooling Press

Туре	Appearance	Features	Marking	Max. Width	Max. Thick.	Size (mm)				Finger Length	Power	Temp.	
				(mm)	(mm)	Width	Length	Height	(kg)	× Pitch		(0)	
NPS-1210A-1	000	Automated heating	PS E	100	7.0	230	320	180	9.2	120×10	100V	~200	
NPS-1210A-2		and cooling press	C€								200V	200	
NPS-1205H1	20		PS E	_	6.0	Press Body 165	320	115	3.6	70x10	100V	~210	
NPS-1205H2		Quick finishing	C€			Controller 90	225	45	3.0		200V		
NPS-1205C	C.	just in 10 minutes.			3.0	165	295	110	1.22	120x10	_	_	

Other Tools

Туре	Appearance	Features							
Presetter	11	Guide rails to hold joint straight when pressing							
Clamp (2 Pieces)	K	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

Туре	Appearance	Features	Max. Width	Max. Thick.		Size (mm)		Wt. (kg)	Power
			(mm)	(mm)	Width	Length	Height	(Ng)	
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

Туре	Appearance	Features	Marking	Max. Width	Max. Thick.	Size (mm)			Wt.	Power	Temp. (°C)
7,50				(mm)	(mm)	Width	Length	Height	(Kg)		(0)
PI-50	9.0	PolyBelt press for skived joining. Lightweight, easy to use and well-regarded in the industry.	PS E	50	2.5	112	160	90	1.3	100V or 200V	110
PP103	Me	PolyBelt press for skived joining. Reliable, easy to use and well-regarded in the industry.	PS E	100	5.0	140	295	150	3.1	100V or 200V	110

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.

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TROUBLESHOOTING & SOLUTIONS

Issue	Cause	Solution				
	Belt slippage occurring on the motor drive pulley.	The belt tension should be increased.				
On all spindles, the required revolution is not obtained.	Oil adharing to the helt	Wipe away the oil which has adhered to the belt surface.				
	Oil adhering to the belt.	Replace the belt with a new one if it is not possible to clean it.				
اعن را	The diameter of some pulleys is not correct.	Replace the pulley with one suitable for the spindle revolution required.				
l ~ h	Belt slippage occurring on motor-drive	Increase belt tension.				
5	belt or the belt driving the tangential- drive pulley.	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.				
	The pressure load of the belt against	Increase the belt tension.				
	the spindle wharves on the slack side is insufficient.	Adjust the intruding depth of the contact pulley (thus increasing the spring force).				
On the slack side, the required revolution is not obtained.	Yarn particles are wound up in the spindle wharves and as a result, the spindle load is increased.	Remove the yarn particles.				
	Something is wrong with the bearing rotation.	Replace the bearing or the spindle with a new one.				
	Some foreign materials have adhered	Wipe away the foreign materials.				
Incessant noise.	to the belt surface.	Grind the belt surface lightly with fine sand paper.				
	Some foreign materials have adhered to the spindle wharves.	Wipe away the foreign materials.				
	The spliced section of the belt is	Rejoin the spliced section.				
	beginning to tear.	Immediately replace the belt with a new one if too much damage has occurred.				
Intermittent noise.	A coation of the helt symfons in	Check the cause. Take appropriate corrective action if such deformation is caused by abnormal abrasion of the belt.				
	A section of the belt surface is deformed.	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.				
Noise at certain places(such as at	Something is wrong with the bearing rotation.	Replace the bearing.				
spindles).	Belts are bumping or rubbing somewhere.	Adjust the belt tracking.				
Belt tends to deviate in either upper or lower direction from the proper tracking position.	Something is wrong with the belt tracking.	Adjust the belt tracking by adjusting contact pulleys or guide pulleys.				
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.	Check the bearings.				
	Pulley has a small crown.	Make pulley crown larger.				
	Spindle wharves, contact pulleys or other pulleys are not horizontally aligned.	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.

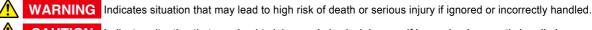
■ Improper use (ignoring the symbols and signal words) may result in the following risks:

Symbol and Signal Word

Severity of Risk



DANGER Indicates situation that may result in imminent risk of death or serious injury if ignored or incorrectly handled.



CAUTION Indicates situation that may lead to injury and physical damage if ignored or incorrectly handled.



Meaning of Signs



Indicates actions that must never be taken under any circumstances when handling products.

Indicates actions that must always be taken when handling products, without exception

1. Function and Performance





• 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
- If belt encounters friction against frame or table, temperature range may be exceeded due to frictional heat, potentially causing premature belt
- 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
- Store belts in their original packaging until needed.

3. Installation and Daily Use



DANGER Mandal



- 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.

• 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.

7

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.

ONVEYOR PRODUCTS









Conveyors, which transport a variety of products from one station to another, must be efficient, capable of making the most of a limited amount of space to convey objects smoothly without any human aid. At Nitta, where we carry out the designto-construction process for production-line conveyor systems, we use our technical

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.

NGINEERED RUBBER PRODUCTS









Skyscrapers, intelligent buildings and a latticelike pattern of highly ordered expressways make city life more comfortable. It is essential for these utilities to be safe and durable as well as aesthetically pleasing. Nitta is providing various kinds of reliable and easily maintained enaineered rubber products such as construction materials and precision

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.

OSE&TUBE PRODUCTS









In the world of industry, there are many situations requiring hydraulic or pneumatic energy transmission or the transfer of fluids and as a pioneer in the field of resin hoses and tubes, Nitta is proud of its role in making this possible. Through our technological innovations and by responding to everdiversifying needs for enhanced functions,

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

$oldsymbol{\mathsf{A}}$ ir 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.







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

HERMOSENSITIVE 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

For the automobile and beyond, Gates Unitta Asia (GUA) is the leader in power transmission





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."