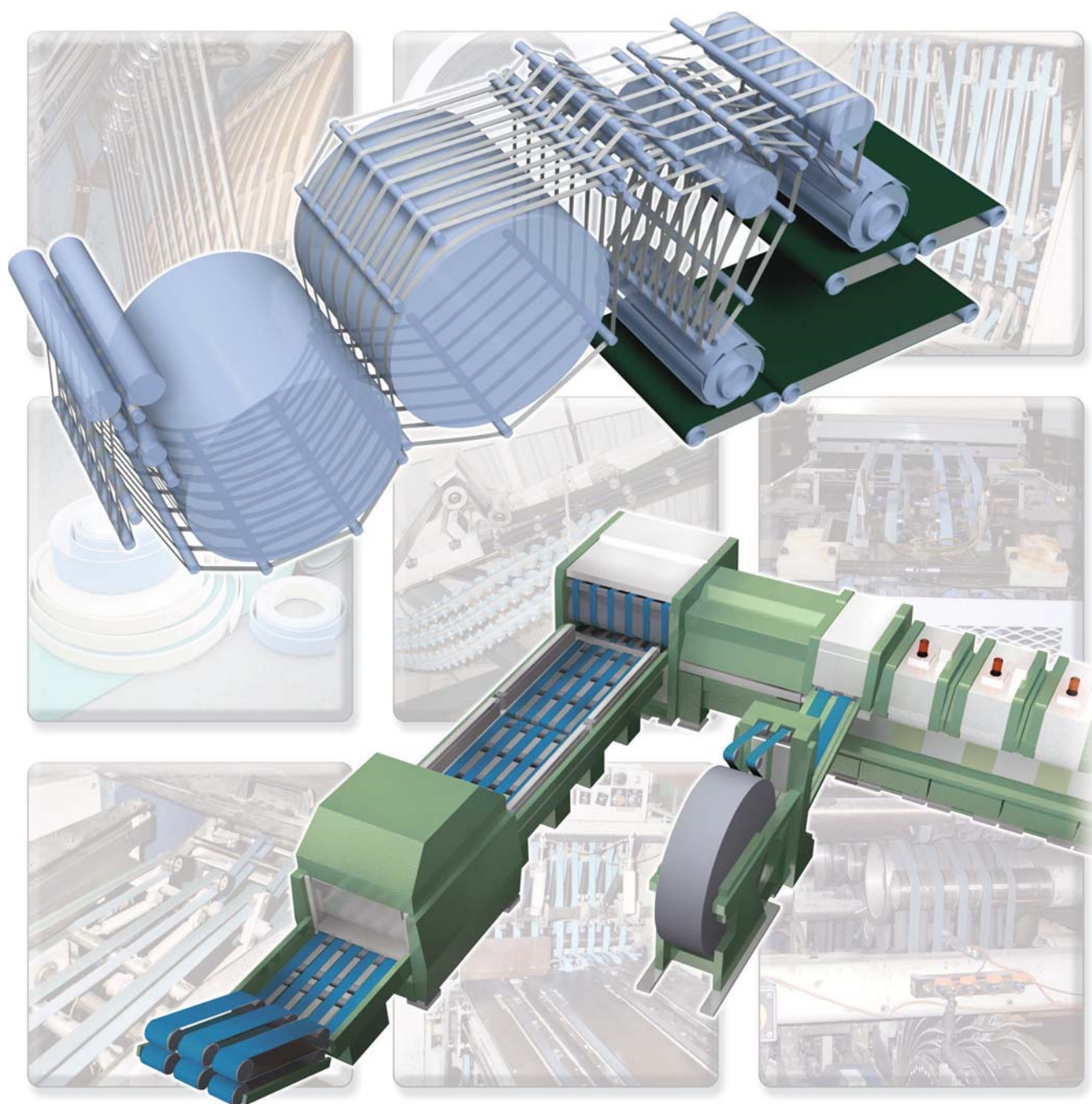




NITTA

Belts for Printing and Applications Guide for the **Printing Industry**

U-PI-08



Who We Are

- Technology leader in **finger spliceable polyester power transmission machine tapes and belts**
- Your source for reliable **high-strength skived nylon core tapes and belts with highly abrasion-resistant rubber covers**
- Provider of the unique **finger spliceable Aramid Cord V-Guide unitized polyurethane overhead conveyor belt**

Printing Businesses Who Use Our Products

- **Commercial Printers**
- **Publication Printers**
- **Insert Advertising Printing**
- **Direct Mail Printing**
- **Newspapers**
- **Business Forms Printing** (i.e., Check Printers)
- **Flexible Packaging Printing** (i.e., Film, Foil and Paper)
- **Saddle-Stitching and Perfect Binding Finishing Operations**
(Independent of Printing Firms)



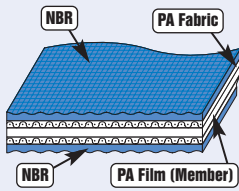
The NITTA Advantage – Innovative Products and Solutions

- **High quality products** – rugged, durable, long-lasting and quick to install. Nitta belting **minimizes costly machine downtime** to maximize productivity and revenue, allowing printers to be more competitive in today's demanding economy.
- **Customer-back approach** – Nitta partners with end users and OEMs to diagnose trouble spots on machines and throughout facilities. **Nitta works with customers to find the right belting for each application**, even creating new types of belting when needed.
- **Dedicated research** – Nitta R&D has developed **exclusive products** for the printing industry, including belts **designed to overcome** the degrading **overheating conditions** encountered in high-speed press folders and bindery machinery
- **“Value-added” solutions** – Nitta belts **survive heavy-duty loads** and **faster machine speeds**, where other power transmission products fail early and often

Nitta ensures that printers realize higher profits and greatly improved efficiencies by providing extended service-life and easy installation

PolyBelt™

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



Standard Elongation = 1~2%

Nomenclature

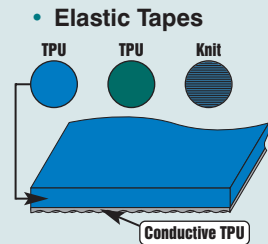
SG - 500 Member Film Thickness in mm x 1000
L - 350 (.5 x 1000 = 500)

Surface:
SG: Coated Fabric L: Light
M: Medium H: Heavy

- **High Strength, Long Life** – High flexibility and rugged design for heavy-duty applications. Nylon core accommodates shock loads, and wide choice of covers provide abrasion resistance, giving long, dependable service.
- **Quick Splice Option** – Much of the PolyBelt used in printing can be joined in **just three minutes**, plus four for cooling, with Nitta's quick option for skive-splicing
- **Electrically Conductive** – Materials with anti-static properties are used in specific layers to provide permanent conductivity, eliminating build-up of electro-static charges
- **Environmental Resistance** – Selected materials are not susceptible to oil contamination. They demonstrate high energy efficiency and maintain high friction resistance. Covers and nylon core are designed for printing and paper processing with high tear resistance in folder, sheeter and finishing line paper jams.

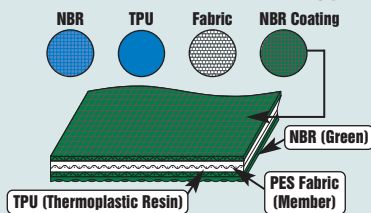
PolySprint™

Finger-spliceable, easy installation, quick-melt urethane, high-strength polyester core



Standard Elongation = 5%

PES Fabric Member Types



Standard Elongation = 1%

Nomenclature

Surface:
LA: Blue NBR on Both Surfaces
TTE: Special Fabric
FZ: Special Fabric + Green NBR on Back Surface

LA - 4E 14
TTE - 4E 18
FZ - 5E 12

Belt Thickness in mm x 10
(1.4 x 10 = 14)

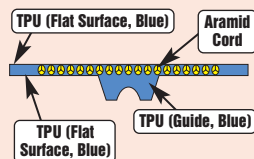
Belt Tension in N/mm
(1% Elongation at 200 hrs running)

- **Elastic Tapes**
- **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. Nitta presetter guide rails ensure alignment.
- **Dimensional Stability** – Polyester fabric used as tension member provides high dimensional stability. Selected materials are temperature and humidity tolerant.
- **Abrasion Resistance** – High temperature friction resistant covers and fabric exclusively designed for printing and paper

Aramid Cord V-Guide

Unique molded V-Guide design for reliable long-term product delivery

- **CFTG-18Gxx** – 40, 50, 60, 80mm widths

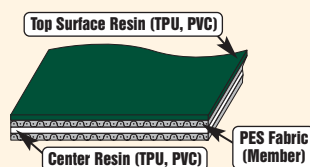


Standard Elongation = .5%

- **Ease of Joining** – Finger-splice, quick-melt process (no adhesive). Special Nitta presetter guide rails with V-Guide notch ensure alignment of prepared ends.
- **Dimensional Stability** – Aramid cord is used as the tension member to provide strength and high dimensional stability. Resistant to oil, temperature and humidity.
- **High Strength, Long Life** – High flexibility and rugged design for heavy-duty use. Integral V-Guide designed for continuous use over small high-speed pulleys.
- **Environmental Resistance** – High energy efficiency, high temp. friction resistance.

PVC, PU & Rubber Conveyor Belting

Hundreds of configurations, wide variety of surfaces



Standard Elongation = .5% (Depending on type)

Nomenclature

GUH - 12 A
GUF - 12 AK

Surface: GUH: Green Polyurethane (Hard)
GUF: Green TPU + Fluororesin
GUTW: Green TPU + TW

Belt Construction:

A: Resin/Fabric
K: Not Anti-Static
D: Fabric/Fabric

Strength (N/mm ÷ 10)

- **Extensive Selection** – Nitta **NLG** (New Light Grip) and other product categories offer many possible options
- **Many Applications** – Light-/medium-duty use throughout pressrooms and binderies

PolyBelt™ Application and Specification Data

Application Data

Super-strong nylon core, highly abrasion-resistant extended-life rubber covers, high-operating duty cycles

PolyBelt outperforms all competitive nylon core skived products and is available in a wide range of styles to suit numerous printing applications. PolyBelt machine tapes and belts are widely used in gravure, web offset, sheetfed, and bindery operations where endless applications permit the use of this wear-resistant product. PolyBelt can sustain high abrasion friction machine tape and belt installations better than any competitive product.



Specifications – Nylon Core Film Types

Perfectly suited for light- to medium-duty high-speed small pulley diameter applications

Belt Style	Thickness (mm)	Min. Pulley (mm)	Antistatic	Shaft Load @ 1% (N/mm)	Applications
KCS-350S	1.1	30	yes	6.8	medium-duty conveyor, stacker
KSG-250	.85	20	no	3.0	medium-duty accum., slider-table
TAIR-350	1.15	30	yes	5.2	medium-duty accum., slider-table
TTA-500	1.3	40	no	7.5	medium-duty accum., slider-table
TTA-1000	1.8	60	no	15	heavy-duty accum., slider-table
SG-350	.95	25	yes	5.2	medium-duty accum., stacker
SG-500	1.1	35	yes	7.5	heavy duty accum., stacker
SG-750-2P	1.1	50	no	11.2	transport for cold set ink

Specifications – Nylon Core Film Carboxylated Rubber Types

Best applied in high-speed medium- to extreme-duty small/medium/large pulley diameter applications. They are laterally stable and maintain a high coefficient of friction.

Belt Style	Thickness (mm)	Min. Pulley (mm)	Antistatic	Shaft Load @ 1% (N/mm)	Applications
LA-250	1.25	15	yes	3	light-duty stacker
LA-350	1.4	25	yes	5.2	medium-duty stacker
LA-350NI2	1.35	25	yes	5.2	medium-duty accum., stacker
LA-500	1.55	35	yes	7.5	heavy-duty transport
SGLA-350S	1.2	30	yes	6.8	light-duty conveyor, stacker
MA-500	2.5	35	yes	7.5	heavy-duty transport
TFL-10S	2.6	70	yes	19.5	heavy-duty transport
GMTA-500	1.9	40	yes	7.5	heavy-duty conveyor, slider table
HUT-250	1.3	20	yes	3	medium-duty accumulation



Application Data

High-strength polyester core, finger-spliceable quick-melt urethane, and easy installation

PolySprint outperforms all competitive finger-spliceable products and is available in a wide range of styles. PolySprint machine tapes and belts are widely used in gravure, web offset, sheetfed, and bindery operations. PolySprint products greatly reduce costly downtime when an alternative replacement is required for time-consuming skived machine tape installations.

Specifications – Elastic Types

Perfectly suited for light- to medium-duty high-speed small pulley diameter applications. Endless applications can be reliably accommodated in bindery machines when take-up adjustments are not available.

Belt Style	Thickness (mm)	Min. Pulley (mm)	Antistatic	Tension @ 5% (N/mm)	Applications
TA	1.2	25	yes	0.7	medium-duty accum. & transport
TC	1.4	40	yes	0.8	medium-duty accum. & transport
STC-10	1.35	25	yes	0.5	light-duty accum. & slider-table
DBTW-0514	1.4	25	yes	0.5	medium-duty conveyor & transport

Specifications – Polyester Fabric Types

Best applied in high-speed medium- to extreme-duty applications. They are dimensionally stable, not affected by humidity, and demonstrate high friction (heat) resistance.

Belt Style	Thickness (mm)	Min. Pulley (mm)	Antistatic	Tension @ 1% (N/mm)	Applications
DB-4E14	1.4	25	yes	4	medium-duty stacker & transport
FZ-5E12	1.25	35	yes	5	medium-duty transport, bookbinding
GLTE-4E18	1.8	40	yes	4	heavy-duty accum., slider-table
LA-4E14	1.4	25	yes	4	heavy-duty stacker & transport
LA-15E20	2.0	40	yes	15	heavy-duty accumulation
TTE-4E18	1.8	40	yes	4	heavy-duty high-speed folder
TTF-4E10	1.0	15	yes	4	heavy-duty high-speed folder & transport

Specifications – Polyester Belts with Textured Covers (Conveyor)

Utilized in medium- to heavy-duty delivery conveyor applications: press folder delivery and streamfeeder delivery in binderies

Belt Style	Thickness (mm)	Min. Pulley (mm)	Antistatic	Working Load* @ 1% (N/mm)	Applications
BLM-7A	1.0	20	yes	4	light-duty accumulation, slider-table
DGGP-16A	2.8	50	yes	10	medium-duty, slider-table
GYLD-12AK	2.2	30	no	8	heavy-duty, slider-table

*Working Load = Static Tension

Belts for Printing Press

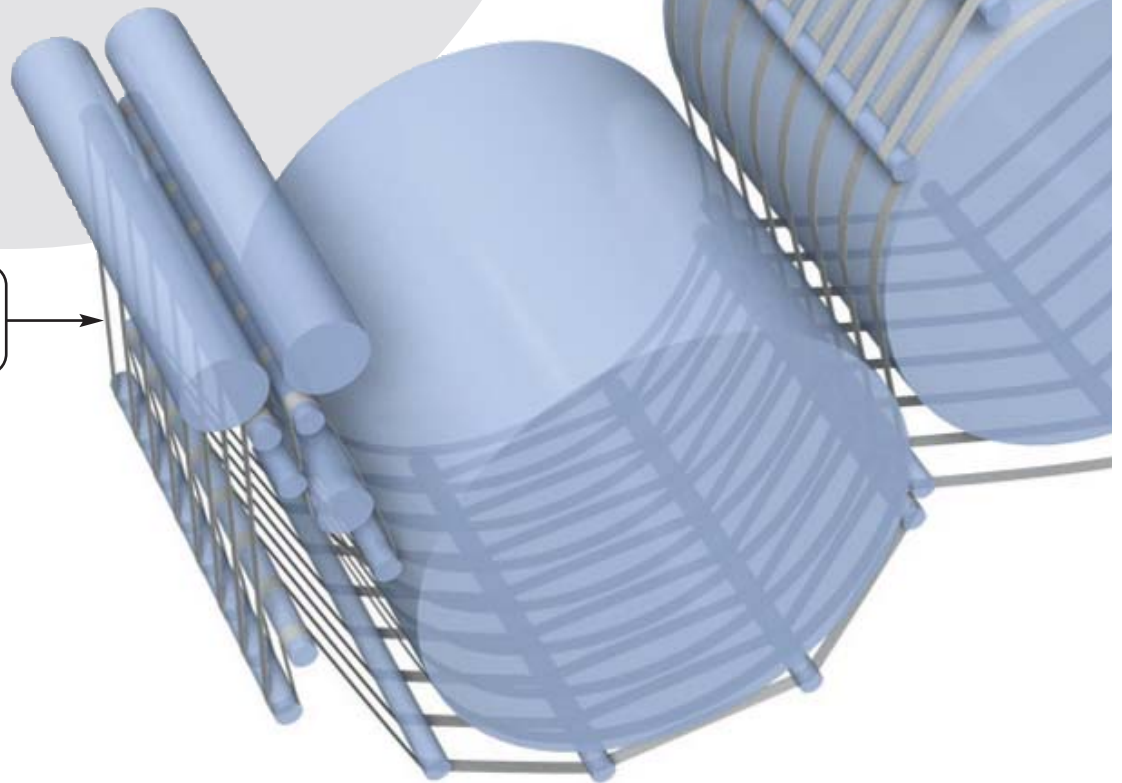
Abrasion Resistance

**High Accuracy
in Conveyance**

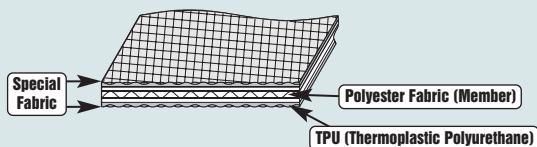
Long Life

**No. 2:
Delivery Part**

**No. 1:
Acceleration Part
(Short/Long)**

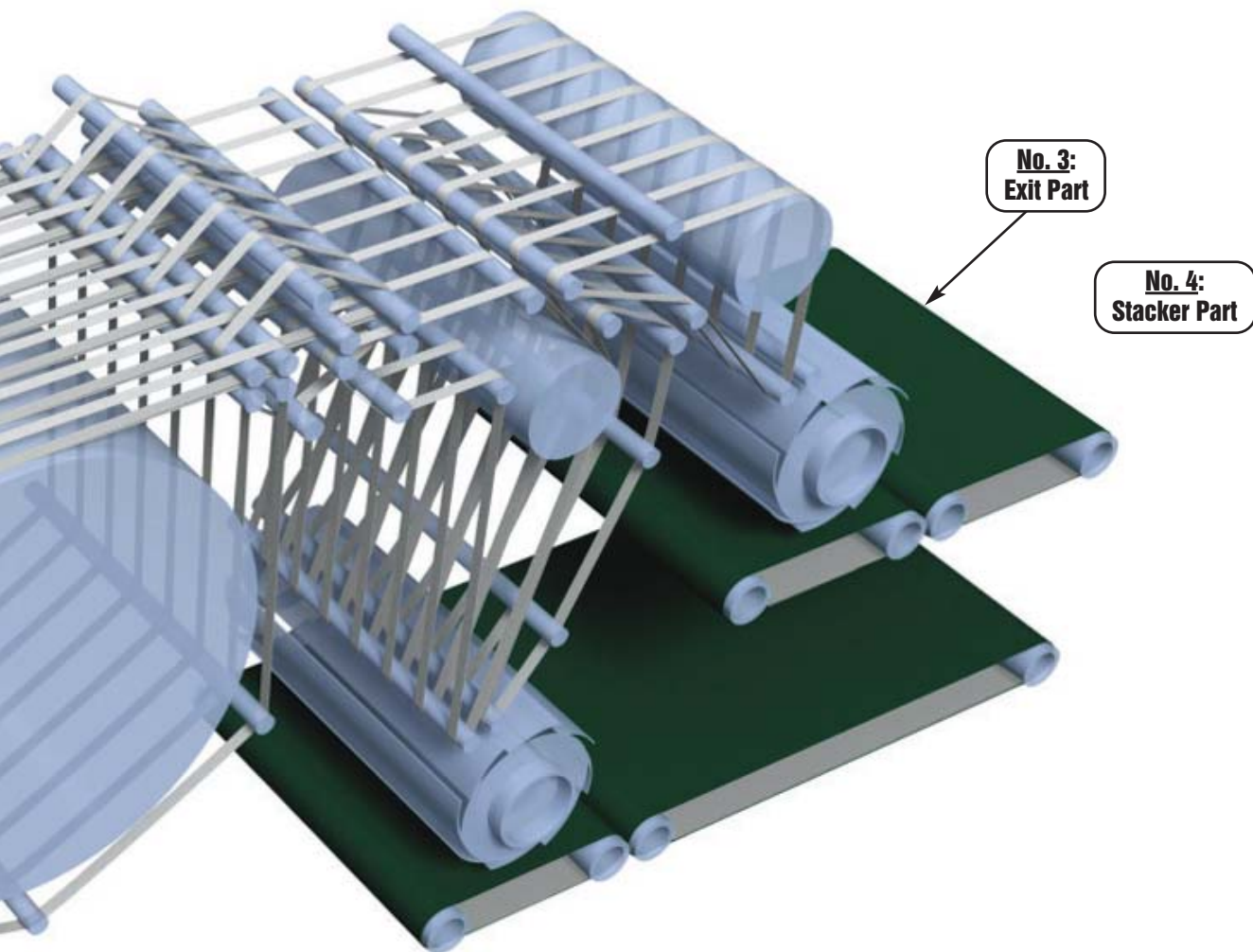


PolySprint™ TTE-4E18



- Highly abrasion-resistant fabric on the surface
- Polyester fabric member protected by the inner layers

**Prevent drastic
tension change due
to worn fabric on
the surface**



Gravure Rotary Press

No.	Part	Recommended Belt Type	Features
1	Acceleration (Short/Long)	PolySprint TTE-4E18	Durable joints and abrasion-resistant covers
2	Delivery	PolySprint TTE-4E18	Durable joints and abrasion-resistant covers
3	Exit	Conveyor	Strong grip due to coefficient of friction (depending on type), general use
4	Stacker	PolySprint FZ-5E12, PolyBelt SG-500, etc.	Moderate slip, abrasion resistance, flange resistance, high tension

Offset Sheet-Fed Press

Part	Recommended Belt Type	Features
Sheet Feeder	PolyBelt SG type, KCS-350S, etc., PolySprint FZ-5E12, TTF-4E10, etc.	Abrasion resistance, stable friction coefficient

Offset Rotary Press

Part	Recommended Belt Type	Features
Folder	PolyBelt SG type, KCS-350S, SGLA-350S, L type, etc.	Moderate slip, abrasion resistance, flange resistance
Chopper	PolySprint FZ-5E12, PolyBelts	Moderate slip, abrasion resistance, flange resistance, high tension
Exit	Conveyor	Strong grip due to coefficient of friction (depending on type), general use
Stacker	PolySprint FZ-5E12, PolyBelt SG-500, etc.	Moderate slip, abrasion resistance, flange resistance, high tension

Features:

Friction Coefficient Suitable for Converting Paper

- Stable conveyance, abrasion resistance

Soft Fabric on the Surface Avoids Damage to Conveyed Items

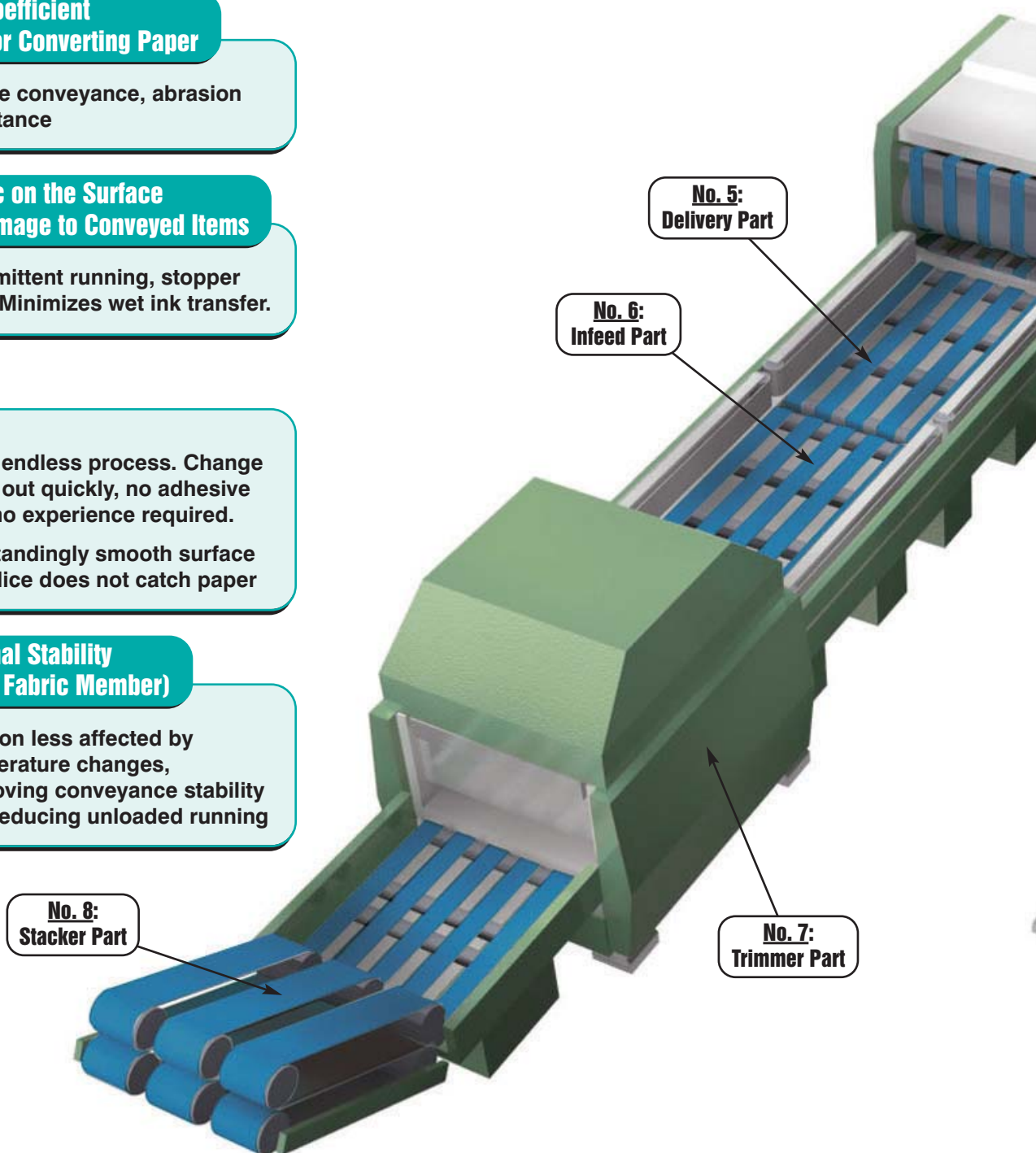
- Intermittent running, stopper part. Minimizes wet ink transfer.

Finger Joints

- Easy endless process. Change belts out quickly, no adhesive and no experience required.
- Outstandingly smooth surface of splice does not catch paper

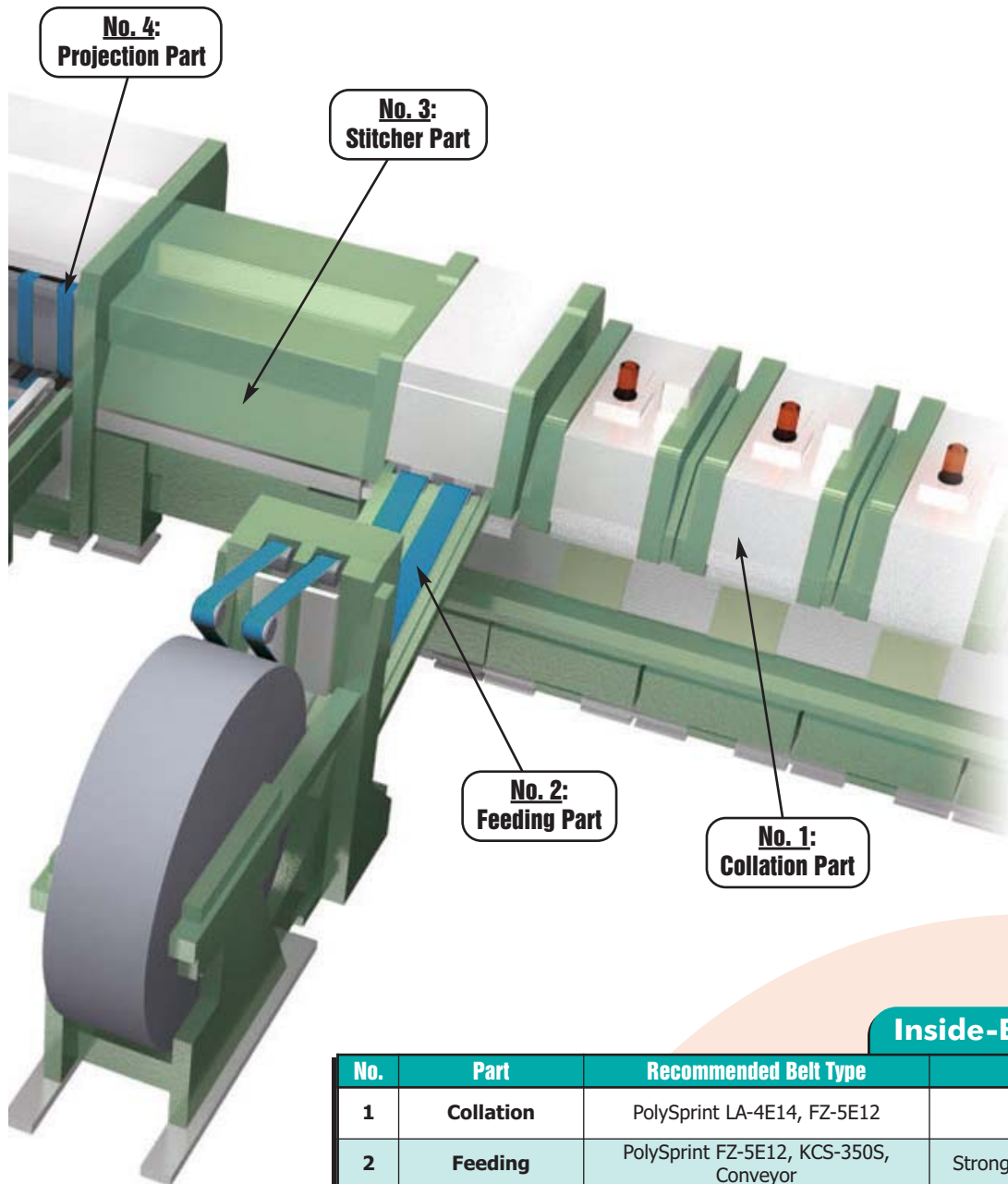
Dimensional Stability (Polyester Fabric Member)

- Tension less affected by temperature changes, improving conveyance stability and reducing unloaded running



Collator

Part	Recommended Belt Type	Features
Vertical Conveyance	PolySprint LA-4E14, SLA-8E14	Stable friction coefficient
Exit	PolySprint TA, etc.	Fixed pulley shafts, stable tension



Inside-Binding Bookbinder

No.	Part	Recommended Belt Type	Features
1	Collation	PolySprint LA-4E14, FZ-5E12	Bend resistance
2	Feeding	PolySprint FZ-5E12, KCS-350S, Conveyor	Strong grip due to coefficient of friction
3	Stitcher	_____	_____
4	Projection	PolySprint FZ-5E12	Strong grip, abrasion resistance
5	Delivery	PolySprint FZ-5E12	Stable friction coefficient, flange resistance
6	Infeed	PolySprint FZ-5E12, LA-4E14	Stable friction coefficient, twist resistance
7	Trimmer	PolySprint TTF-4E10, FZ-5E12	Scratch resistance, bend resistance
8	Stacker	PolySprint FZ-5E12	Stable friction coefficient, flange resistance

Box-Folder

Part	Recommended Belt Type	Features
Feeding	PolySprint LA-4E14, SLA-8E14, FZ-5E12, PolyBelts	Stable friction coefficient
Chopper	PolySprint FZ-5E12, etc., PolyBelts	Moderate slip, abrasion resistance, flange resistance, high tension

Aramid Cord V-Guide Belt CFTG-18G – Application and Specification Data

For overhead conveying of signatures to stackers and finishing machinery; for streamfeeders and trimmers in binderies

Nitta's uniquely designed Polyurethane V-Guide Aramid Cord conveyor belt has repeatedly proven its superiority over every competitive belt used in the printing industry. No other belt matches the integrity of this rugged heavy-duty belt with its integral, molded-in guide. The belt is an extrusion that is injection molded in our plant to exacting standards to meet the requirements of the printing industry.



Belt Style	Width (mm) xx denotes	Thickness (mm) belt/total	Min. Pulley (mm)	Tension @ 0.5% (N/mm)	Tension Member
CFTG-18Gxx	40, 50, 60, 80	2.4 / 7.5	90	18	Aramid Cord

Endless Tools for Aramid Cord V-Guide Belt CFTG-18G

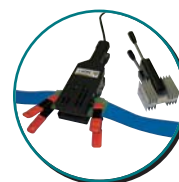
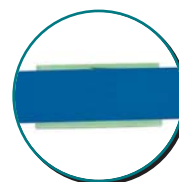
	Item and Type	Appearance	Features	Max. Width (mm)	Max. Thick. (mm)	Size (mm)			Wt. (kg)	Finger Length x Pitch	Power	Temp. (°C)
						Width	Length	Height				
Finger Puncher	FP-120-10-80G Finger Puncher		Designed with slot to fit molded v-guide when punching fingers	80	8	230	610	260	10.8	120 x 10	N/A	N/A
Heat Press	PCF-2210 Heat Press		Automated heating and cooling press for joining CFTG	80	8	250	280	180	9	120 x 10	110V or 220V	~200
Other Tools	Gammerler Presetter		Guide rails to hold joint straight when pressing, slot for v-guide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Quick and Easy Endless (No Experience Required)

Finger Joints (No Adhesive Needed)

PolySprint™ tools make replacing broken belts quick and easy, with minimal downtime and no need to disassemble the machine



Endless Tools for PolySprint™

	Item and Type	Appearance	Features	Max. Width (mm)	Max. Thick. (mm)	Size (mm)			Wt. (kg)	Finger Length x Pitch	Power	Temp. (°C)
						Width	Length	Height				
Finger Puncher	FP-30-10-50N Finger Puncher		Single action punching system	50	2.0	135	400	390	3.4	30 x 10	N/A	N/A
	FP-30-10-100 Finger Puncher		Single action punching system	100	2.0	200	500	504	7.0	30 x 10	N/A	N/A
	FP-70-10-50 Finger Puncher		Precise indexing system	50	6.0	180	600	250	9.0	70 x 10	N/A	N/A
	FP-120-10-50 Finger Puncher									120 x 10		
	FP-70-10-100 Finger Puncher		Precise indexing system	100	6.0	230	610	250	10.4	70 x 10	N/A	N/A
	FP-120-10-100 Finger Puncher									120 x 10		

Endless Tools for *PolySprint™*

Item and Type	Appearance	Features	Max. Width (mm)	Max. Thick. (mm)	Size (mm)			Wt. (kg)	Finger Length x Pitch	Power	Temp. (°C)	
					Width	Length	Height					
NPS-3050 H1 Heat Press		Heat press with digital temperature readout	50	2.0	84	250	100	1.5	30 x 10	100V	~200	
NPS-3050 H2 Heat Press										200V		
NPS-0310 H1 Heat Press		Heat press with digital temperature readout	100	2.0	107	365	107	4.1	30 x 10	100V	~200	
NPS-0310 H2 Heat Press										200V		
PCF-157D-1 Heat Press		Heat press with digital temperature readout	50	6.0	165	325	122	3.2	70 x 10 120 x 10	100V	~200	
PCF-157D-2 Heat Press										200V		
NPS-3050C Cooling Press		Cooling press for finger joints – no power required	50	2.0	80	224	92	0.6	30 x 10	N/A	N/A	
NPS-0310C Cooling Press		Cooling press for finger joints – no power required	100	2.0	85	311	102	2.4	30 x 10	N/A	N/A	
PCF-157C Cooling Press		Cooling press for finger joints – no power required	50	6.0	165	325	122	2.4	70 x 10 120 x 10	N/A	N/A	
Presetter		Guide rails to hold joint straight when pressing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Clamps (2 Pieces)		Clamps for holding presetter together when pressing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PolySprint Toolkit Complete 30mm Finger Joining Kit		FP-30-10-50N, NPS-3050H, NPS-3050C, Presetter, Clamps and Case	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Endless Tools for *PolyBelt™*

Item and Type	Appearance	Features	Max. Width (mm)	Max. Thick. (mm)	Size (mm)			Wt. (kg)	Finger Length x Pitch	Power	Temp. (°C)	
					Width	Length	Height					
S-300R PolyBelt Skiver		Lightweight portable skiver, designed to skive all Nitta PolyBelt	300	7.0	533	660	355	20.9	N/A	120V	N/A	
PP-103 PolyBelt Press		Highly reliable and widely accepted	100	5.0	140	295	150	3.1	N/A	100V or 200V	110	

Additional tools and accessories, not shown here, may also be available. Please consult factory for available tools and accessories, and for pricing.

