



### NITTA CORPORATION

### NITTA CORPORATION

4-4-26 Sakuragawa Naniwa-ku, Osaka 556-0022 Japan Phone:+81-6-6563-1225 Fax:+81-6-6563-1242 https://www.nitta.co.jp/en

NITTA CORPORATION OF AMERICA 7605 Nitta Drive, Suwanee, GA 30024, U.S.A. Phone:+1-770-497-0212 Fax:+1-770-623-1398 http://www.nitta.com

NITTA CORPORATION OF HOLLAND B.V. Berenkoog 25, 1822 B.H. Alkmaar,The Netherlands Phone:+31-72-5622234 Fax:+31-72-5613238 http://www.nitta.nl

NITTA (SHANGHAI) MANAGEMENT CO., LTD Room2705, Shenggao International Building, No.137 Xianxia Road,Shanghai 200051 CHINA Phone:+86-21-6229-6000 Fax:+86-21-6229-9606 http://www.nitta-cn.com

NITTA CORPORATION INDIA PVT. LTD. Gat No 191, 192, and 193, Plot No B, Village Vadhu Khurd, Taluka Haveli Dist Pune-412216, INDIA Phone:+91-20-6731-3400 Fax:+91-20-6731-3401 http://www.nitta.co.in

KOREA NITTA MOORE CORP. 53, Suchul-daero 5-gil, Gumi-si, Gyeongsangbuk-do, 39266, KOREA Phone:+82-54-461-5575 Fax:+82-54-461-5350 http://www.nitta.co.kr/

TAIWAN NITTA FILTER CO. LTD. Headquarters: Chia Hsin Building 10FL Room No. 1005, 96 Chung Shan North Road Section 2, Taipei, Taiwan Phone:+886-2-2581-6296 Fax:+886-3-469-0260 http://www.nitta.com.tw

#### NITTA INDUSTRIES EUROPE GmbH Heerdter Lohweg 35, 40549 Dusseldorf, Germany Phone:49-211-537535-0 Fax:+49-211-537535-35 http://www.nitta.de

#### NITTA CORPORATION OF SINGAPORE PTE LTD.

120 Lower Delta Road, #05-07/08 Cendex Centre, Singapore 169208 Phone:+65-6438-8738 Fax:+65-6438-8793 http://www.nitta.com.sg <Liaison Office> Indonesia, Vietnam

#### NITTA CORPORATION (THAILAND) LIMITED

7/472 Moo 6, Tambol Mabyangporn, Rayong Province 21140, THAILAND Phone:+66-38-018-301 Fax:+66-38-018-304 http://www.nittathai.com

#### NITTA BRASIL

Rua Francisco Mommenshon,50B,Galpão 02 Laranjeiras, Caieiras, São Paulo, Brazil Phone/Fax:+55-11-4441-2922 http://www.nitta.com.br

CONNECT CONVEYOR BELTING INC. 405 Industrial Drive Unit 3-8, Milton, Ontario Canada L9T 5B1

Phone:+1-905-878-5552 FAX:+1-905-878-0344 https://www.connectbelting.com

# Belts for **Textile Industries**



## **Product Specifications**

%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 (%)	Recommend Elongation Range (%)	Temperature Range (°C)	Maximum length (m)	Card	Draw Frame	Ring Spinning	OE Spinning	Winding	TFO	DTY	Covering	Circular Knitting	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
	TFL-10S	2.6	NBR/NBR	Dark Blue/Gray	PA	100	19.5	2	1~3	-20~+80	105*4	•	•		•		•		•					TFL-10S
	TFL-12S	2.85	NBR/NBR	Dark Blue/Gray	PA	125	24.5	2	1~3	-20~+80	105	•			•		•				Low Noise, Excellent Durability			TFL-12S
	TFL-15S	3.1	NBR/NBR	Dark Blue/Gray	PA	150	30.0	2	1~3	-20~+80	105			•	•			•			Low Noise, Excellent Durability			TFL-15S
	TFL-18S	3.35	NBR/NBR	Dark Blue/Gray	PA	175	34.0	2	1~3	-20~+80	105							•				$\bullet$		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											ullet		LA-750S ±
olyBelt	L-1000S	2.45	NBR/NBR	Blue/Black	PA	100	19.5	2	1~3	-20~+80	105	•			•		•		•			$\bullet$		L-1000S M-1000S
Po	M-1000S	3.0	NBR/NBR	Blue/Black	PA	100	19.5	2	1~3	-20~+80	105			•				•			Stable Coefficient of Friction, Abrasion Resistance, Excellent Durability	ullet		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	105*4				•									M-1000GS
	MB-1000GSR	2.6	NBR/NBR	Black/Black	PA	100	19.5	2	1~3	-20~+80	105*4				•									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	$\bullet$		IRS-6S
	IR-500	1.3	NBR/NBR	Green/Green	PA	40	3.8	1	1~3	-20~+80	105										For Circular Machine, High Friction	$\bullet$		IR-500
	KSG-250	0.85	NBR/PA	Green/White	PA	20	3.0	2	1~3	-20~+80	105			$\bullet$							Spindle Tape	$\bullet$		KSG-250
		0.0		Dark Dhua/Dhash	DE	40	45		0 - 0	0 100	000													
	TFL-15E20	2.0	NBR/NBR	Dark Blue/Black	PE	40	15	1	0.5~2	0~+60	200	•	•	•									-	TFL-15E20
	TFL-15E25 TFL-22E26-2	2.5 2.6	NBR/NBR	Dark Blue/Black	PE PE	40 50	15 22	1	0.5~2 0.5~2	0~+60 0~+60	200				•						Less Power Consumption			TFL-15E25 TFL-22E26-2
	TFL-22E26C-2	2.0	NBR/NBR	Dark Blue/Gray	PE	50	22	1	0.5~2	0~+60	200			•	•		•		•		Easy to Make Endless, Low Noise, Shorter Take-up		-	TEL 005000 0
Sprint		3.0	NBR/NBR	Dark Blue/Black	PE	50	22	1	0.5~2	0~+60	100			-		_	•				Shoher Take-up			TL-22E30
olyS	TLA-30E30-2	3.0	NBR/NBR	Dark Blue/Dark Blue	PE	70	30	1	0.5~2	0~+60	100			_					•				-	TFL-22E26C-2         till           TL-22E30         %           TLA-30E30-2         G
	TA-S6	0.9	TPU/TPU	Blue/Black	Knit	25	0.7	5	5~8	-20~+60	100	•		-			-						-	TA-S6
	TA11-TF	1.1	TPU/TPU	Blue/Black	-	25	0.7	5	5~8	-20~+60	100	•		-						_				TA11-YF
			11 0/11 0	Dide/Didok		20	0.1	Ū	00	20 .00	100	•											•	
TG	CFTG-40F	3.0	NBR/NBR	Blue/Blue	AR	100	40	0.5	0.2~0.5	-10~+60	200						•		•		Less Power Consumption			CFTG-40F
Р	CFTG-60F-3.9	3.9	NBR/NBR	Blue/Blue	AR	150	60	0.5	0.2~0.5	-10~+60	200			•			•		•		Easy to Make Endless, Low Noise, Shorter Take-up			CFTG-60F-3.9 <sup>년</sup>
					55				0.5.4		4 50 545													
m	SE-A-PB	1.2		Black/Black	PE	15	7.4	1	0.5~1	-20~+80	4.525*5					•						-		SE-A-PB
SEE	SE-B-PB	1.4 • 1.6		Black/Black	PE	25	14.7	1	0.5~1	-20~+80	4.525*5		•					•			Seamless	-		SE-B-PB
	SE-D-PB	1.7	NBR/NBR	Black/Black	PE	35	29.4	1	0.5~1	-20~+80	4.525*5		•					•				-	-	SE-D-PB

 \*1 Depending on the application, top and bottom covers can be reversed.
 \*4 Please ask us if the belt length over 105M needed.

 \*2 PE : Polyester
 PA : Polyamide
 AR : Aramid
 \*5 SEB length depends on the mold.

 \*3 Tensile Force is measured after running 200 hours in internal test.
 \*5 SEB length depends on the mold.

**PolyBelt**<sup>™</sup> *PolySprint* <sup>™</sup> **SEB**<sup>™</sup>

### **The NITTA Advantage - Innovative Products and Solutions**



(MA-1500S)

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### PolyBelt <sup>TM</sup>

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.

### **PolySprint** ™

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

#### 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.

#### • Less Power Consumption

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

### **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.



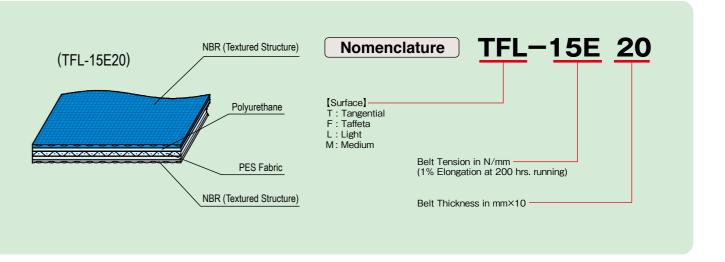
### NBR (Textured Structure) [Surface] L : Light M : Medium H : Heavy (Tension Member)

PA Film

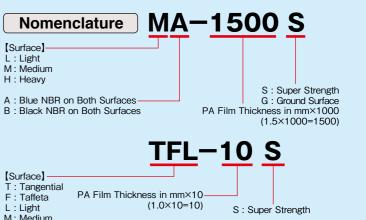
PA Fabric

NBR (Textured Structure)

[Surface] T: Tangential F: Taffeta L : Light M: Medium







## **Splicing Tools** (*PolySprint*<sup>™</sup>• **PolyBelt**<sup>™</sup>)

### Splicing Tools for PolySprint<sup>™</sup>

# *PolySprint*<sup>™</sup>

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

Туре	Appearance	Features	Max. Width	Max. Thick.		Size (mm)	Wt. (kg)	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	1	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.	S (	Wt. (kg)	Finger Length	Power	Temp. (°C)					
				(mm)	(mm)	Width	Length	Height	(16)	× Pitch		(0)			
NPS-1210A-1	20.	Automated heating	(PS) E	100	7.0	230	320	180	9.2	120×10	100V	~200			
NPS-1210A-2		and cooling press	CE	100	7.0	230	320	100	9.2	120×10	200V				
NPS-1205H1	2.		PSE			Press Body 165	320	115	3.6		100V	~210			
NPS-1205H2		Quick finishing	Quick finishing			CE	50	6.0	Controller 90	225	45 3.6		70x10	200V	~210
NPS-1205C	C.	just in 10 minutes.	_		0.0	165	295	110	1.22	120x10	_	_			

### • Other Tools

Туре	Appearance	Features							
Presetter	4	Guide rails to hold joint straight when pressing							
Clamp (2 Pieces)	YV	Clamps for holding presetter together when pressing							

### Splicing Tools for PolyBelt<sup>™</sup>

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

Туре	Appearance	Features	Marking	Max. Width	Max. Thick.	Size (mm)			Wt. (kg)	Power	Temp	
				(mm)	(mm)	Width	Length Height		(Kg)			
PP051	<b>X</b>	PolyBelt press for skived joining. Lightweight, easy to use and well-regarded in the industry.	(PS)	50	2.5	112	160	90	1.3	100V or 200V		
PP103	Nº.	PolyBelt press for skived joining. Reliable, easy to use and well-regarded in the industry.	(PS)	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.

## **PolyBelt**<sup>™</sup>

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



### **TROUBLESHOOTING & SOLUTIONS**

On all spindles, the required revolution is not obtained.	Belt slippage occurring on the motor drive pulley.	The belt tension should be increased.				
		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.				
(1,2)	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	Increase belt tension.				
	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 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.		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:



#### 1. Function and Performance

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• 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 • After replacing a belt with a new one, perform a test operation to adjust be exceeded due to frictional heat, potentially causing premature belt tension, elongation rate and operation • Do not attach belts forcibly; use a motor slide, a tension pulley or a special 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.

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- 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.

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

Indicates situation that may lead to high risk of death or serious injury if ignored or incorrectly handled.

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

### 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.

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- 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.

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• 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.



- 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.

# 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 engineered 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.



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.

Fitting for Autor



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

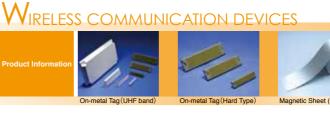


### ACTILE SENSOR PRODUCTS



### HERMOSENSITIVE ADHESIVE TAPE





NITTA GROUP

### **Integrated Systems Enhance Quality** Conveyance and transmission systems harness the power in products

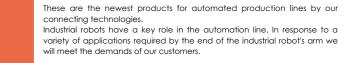
For the automobile and beyond. Gates Unitta Asia (GUA) is the leader in power transmission



9



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





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



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



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 taas (non-contact IC cards)





NITTA HAAS 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."