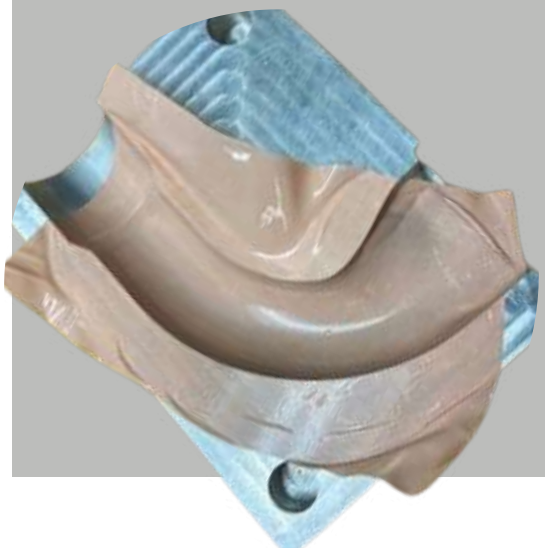
GROUPE RUBANS

Teflon® (PTFE) adhesive tapes



Nitto

Innovation for Customers

What is Teflon® (PTFE) tape?

Teflon® tape, also known as PTFE (polytetrafluoroethylene) tape, is an engineering adhesive designed to withstand extreme conditions.

Composed of a PTFE support covered with a high-performance adhesive (often silicone or acrylic),
It is widely used in industrial sectors for its exceptional properties.

Teflon, a registered trademark of DuPont, is a material known for its extreme thermal, chemical and non-stick resistance, making PTFE tape an essential product in many applications.

Nitto
Innovation for Customers

NITOFLON®

Characteristics of fluoroplastics

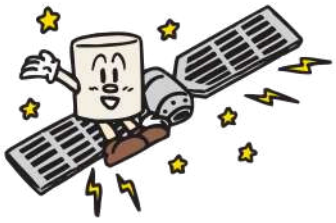
Excellent heat resistance

These materials offer exceptional resistance to heat and cold. Their continuous service temperatures range from –100°C to +260°C, with a melting point of 327°C.

Best sliding properties among all

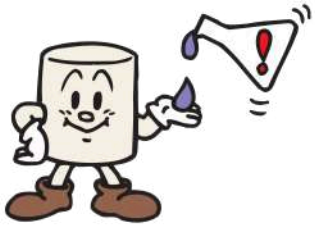
Fluoroplastics have the lowest coefficient of friction of any solid material, giving them excellent self-lubricating properties.

Exceptional electrical insulation



The stable molecular structure of NITOFLON means that fluoroplastics are unaffected by virtually all industrial chemicals and solvents.

Excellent chemical resistance

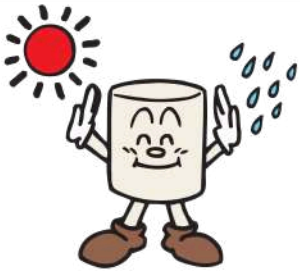


Fluoroplastics have the lowest dielectric constant and dissipation factors of any solid material. They are stable over a wide range of frequencies and external environments, making them ideal high-frequency insulation materials.

Non-adhesion properties

Adhesives do not readily adhere to fluoroplastics, making them ideal for use in mold release applications.

Weather resistance



Fluoroplastics are virtually insensitive to visible and UV light as well as moisture, making them suitable for long-term outdoor use.

NITOFLON® is the registered trademark of Nitto's fluoroplastic products.

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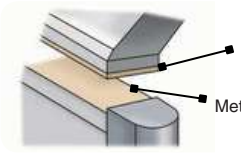
Applications

PTFE tapes are widely used in demanding environments where thermal, chemical or mechanical resistance is crucial.

Packaging/heat sealing industry

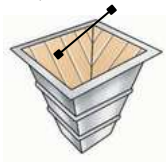
Welding jaw coating to prevent plastic film adhesion



Food sector

Surface protection in cooking equipment, conveyor belts

Sliding assistance for hoppers no. 903UL



Electrical and electronics industry

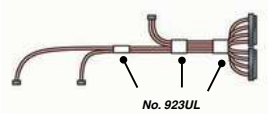
Thermal and electrical insulation of cables or components

Electrical insulation inside laptops

Aeronautics and automotive sector

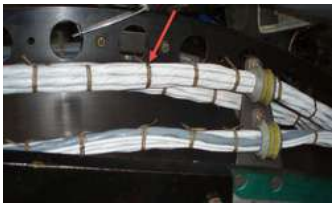
Protection of parts exposed to extreme temperatures or friction

Heat resistant cables around the car engine



Industry

Masking and leak prevention

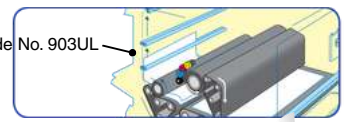


Plastic or composite molding

Mold coating for easy demolding

Sliding assistance when feeding paper

Printer blade No. 903UL



Impression et textile

Sliding surfaces for delicate, anti-friction materials

GROUPE RUBANS

NITOFLON® Films Series No. 900
900UL - 901UL - 902UL

Wide range of fluoroplastic (PTFE) films with thicknesses from 0.03 to 1.5 mm

Features

▸ Excellent chemical resistance. Resistant to most acids, alkalis and organic solvents

▸ Excellent electrical properties such as high dielectric breakdown voltage and low dielectric loss

▸ Can be used continuously in a wide temperature range from -100°C to 260°C (recommended value) and can be used at higher temperatures for short periods

▸ The lowest coefficient of friction among all solid materials

▸ Adhesive substances do not adhere easily and can be easily removed from the mold even if they come into contact with it.

▸ No hygroscopicity and almost no characteristic deterioration due to ultraviolet rays, etc.

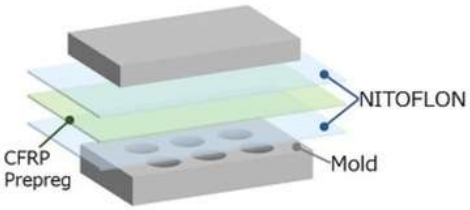
▸ Certified to UL94 flame retardancy (V-0 and VTM-0, Registration No. E52859).

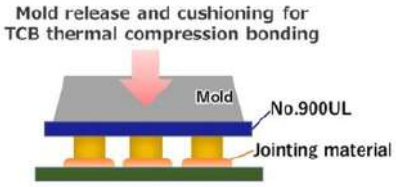
900UL Properties		Unit	Characteristic value								
Épaisseur		mm	0,03	0,05	0,08	0,10	0,13	0,18	0,3	0,5	1,0
Résistance à la traction		MPa	47	50	50	50	50	50	50	45	40
Élongation		%	300	300	300	310	320	330	330	370	400
Tension de claquage		kV	4,2	6,0	8,3	9,6	11,6	14,1	19,5	26,7	37,7
Constante diélectrique (1MHz)		-	2,1								
Résistance volumique		Ω・cm	plus de 1×10^{17}								
Résistance chimique	HNO_3(60 %)	%	0								
	NaOH(40 %)	%	0								
	Acétone	%	0								
Densité spécifique		-	2,1 à 2,3								
Coefficient de friction cinétique		-	0,1								
Résistance à la flamme		-	UL94(E52859) VTM-0 (0,03 à 0,24 mmt) / V-0 (plus de 0,25 mm)								

Applications

Improves release capability during the molding process

▸ Thrust washers ▸ Insulation for motor and transformer coils ▸ FRP and CFRP release agent ▸ Elastomeric composites ▸ Compression release agent for anisotropic conductive films (ACF) ▸ Chain tensioners ▸ Elevator sliding guide pads





NITOFLON® High Resistance Film 920UL Range

NITOFLON® No.920UL is an ultra-thin, non-adhesive film that contains no sealants.
It offers excellent characteristics of polytetrafluoroethylene (PTFE).
Several thicknesses from 0.020 to 0.100 mm

Approximately twice the tensile strength and 1.5 times the breakdown voltage of NITOFLON film

Suitable for insulation of electrical parts, especially insulating coverings such as motors, transformers and field coils, as well as interlayer insulation such as spacers and slot insulation

Available to make ultra-thin film with a thickness of 20 µm Suitable for sliding surfaces of precision equipment such as cameras, calculators and cassette recorders, as well as die-cut packaging.

Smooth, non-stick surface; suitable for sliding parts.

			Unit	Properties	
				NO.920UL	
Thickness			mm	0.05	0.02
Tensile strength	Lengthwise direction		MPa	80	77
	Width direction		MPa	39	-
Elongation	Lengthwise direction		%	117	111
	Width direction		%	335	-
Breakdown voltage			kV	11.3	5.4
			kV	9.9	4.5
Shrinkage rate due to heating	100℃	Lengthwise direction	%	3.3	-
		Width direction	%	-0.8	-
	200℃	Lengthwise direction	%	11.6	-
		Width direction	%	-2.4	-
	260℃	Lengthwise direction	%	18.5	-
		Width direction	%	-2.5	-
Water absorption			%	0	0
Thermal conductivity			W/(m·K)	0.23	0.23
Flame resistance			—	UL94（E52859） VTM-0／V-0	

NITOFLON® Films Series No. 903
903UL - 903T - 902SC

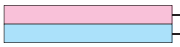
Features

With polytetrafluoroethylene resin film as the base material, it has excellent heat resistance, chemical resistance, electrical characteristics, weather resistance, waterproof (water repellent) performance and strong non-stick properties.

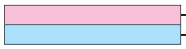
A silicone-based adhesive allows continuous use over a wide temperature range from –60°C to 200°C (except No. 903SC).

Structure

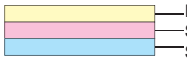
No. 903UL



N° 903SC



N° 903-T



Applications

- Insulation of electrical wires, cables and coils (for class H electrical insulation)
- Friction control in the sliding section of a mobile phone or digital camera
- Insulation of batteries in storage devices such as secondary batteries
- Insulation and lubrication of linear motor systems
- Heat-resistant lubrication in the paper feed section of a printer (jam control)
- Solder masking (heat resistant masking)
- Control of friction noise inside automobiles or control of friction in sliding sections

Properties

Thickness	mm N/19	No. 903UL				N° 903-T				N° 903SC
		0,08	0,13	0,18	0,23					0,11
Tensile strength	mm N/19	55	93	160	210	0,08	0,13	0,18	0,23	40
Adhesion strength	mm N/19	5,6	7,1	7,4	8,7	55	93	160	210	12
Unwinding force	mm kV °C	4,4	5,8	7,1	8,9	5,6	7,1	7,4	8,7	3,5
Dielectric breakdown voltage		8	11	14	15	8	11	14	15	—
Temperature range			-60~200°C				-60~200°C			0~80°C

NITOFLON® Films Series No. 923 using high strength film as substrate
923UL - 923S - 903SL - 923UT

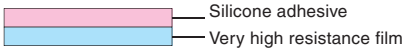
Features

With polytetrafluoroethylene resin film as the base material, it has excellent heat resistance, chemical resistance, electrical characteristics, weather resistance, waterproof (water repellent) performance and strong non-stick properties.

Has high tensile strength

Structure

N° 923S



Applications

- Packaging of polyethylene laminated rolls (protection and prevention of adhesion)
- Cable bundling for mobile devices
- Insulation of electrical wires, cables and coils (for class H electrical insulation)
- FRP and CFRP release agent

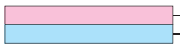
Properties

		No. 923UL	N° 923S	No. 923SL	No. 923UT
Thickness Tensile strength Adhesion	mm N/19	0,1	0,1	0,17	0,04
strength Unwinding force Dielectric	mm N/19	100	120	280	65
breakdown voltage Temperature range	mm N/19	6,4	6,5	7,9	3.7
	mm kV °C	5,3	2,1	7,1 19	--
		11,2	11		5.3
		-60~200°C			

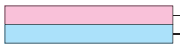
NITOFLON® Films Series No. 973 using PTFE-impregnated glass fabric as substrate
923UL-S - 973UL - 973SC

Structure

No. 973UL-S



No. 973USC



Features

With polytetrafluoroethylene resin composite and high-strength glass cloth as the base material, it has excellent heat resistance, chemical resistance, electrical characteristics, weather resistance, waterproof performance (water repellent), strong non-stick properties and mechanical strength.

A silicone-based adhesive agent allows continuous use over a wide temperature range from –60°C to 200°C.

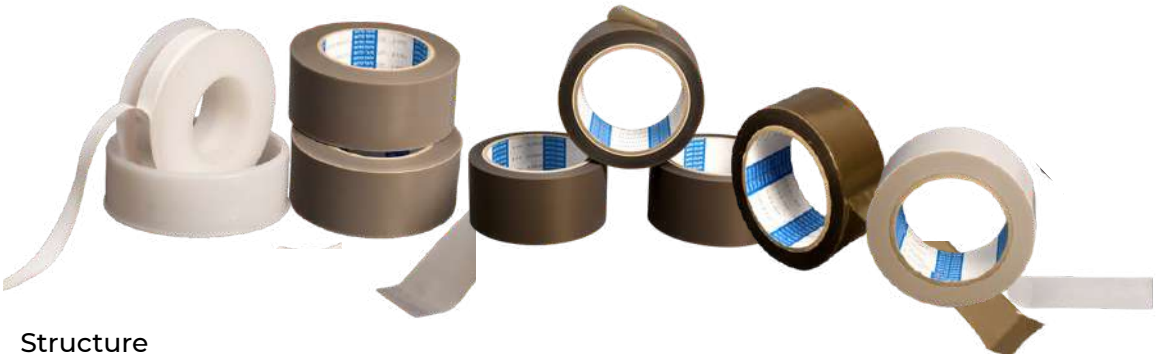
Applications

- Heat resistant release agent for heat sealing bags
- Conveyor belts for food processing
- Heat-resistant lubrication in heated parts of a printer
- Lubrication of shooters or hoppers
- Method of transporting liquid crystal panels (No. 973SC)

Properties

			No. 973UL-S	No. 973UL		N° 973SC
Thickness		mm N/19	0,13	0,15	0,18	0,18
Tensile strength		mm N/19	240	590	530	610
Adhesive force	25°C	mm	6,8	9	9.7	9.9
	100°C		3,2	3.9	4.7	--
	150°C		2,2	2.6	3	--
Unwinding force		N/19mm °C	5,9	5,9	7.5	7.2
Temperature range			-60~200°C			

Crosslinked silicone PTFE range P-412 - P-421 - P-422 - P-423 -P-424 - P-430

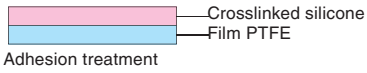


Structure

P-412

P-421 - P-422 - P-424 - P-430

P-423



Features

- Chemically inert with excellent high temperature resistance
- Operates over a wide temperature range
- Immune to most chemical attacks, including acids, solvents, fuel and most alkalis
- Economical and high-performance

Propriétés	P-412	P-421	P-422	P-423	P-424	P-430
Type	-	-	-	*Simple face*	-	-
Épaisseur (MIL)	97µ	170µ	100µ	100µ	295µ	91µ
Adhésif	Sans adhésif (PTFE extrudé)	Silicone	Silicone	Silicone	Silicone	Acrylique
Classe d'isolation UL	180°C / 356°F	180°C / 356°F	180°C / 356°F	180°C / 356°F	180°C / 356°F	155°C / 311°F
Certifications	CID A-A-58092	UL-510	UL-510	UL-510	UL-510	UL-510
Rigidité diélectrique	17.8 KV	10.5 KV	9.4 KV	9.4 KV	22.8 KV	12 KV
Commentaires	Enrobage de tuyaux	Support 125µ	Support 50µ	Gravure au NaCl (inscriptible)	Support 250µ	Support 50µ

SC-140 AEROSEAL® Features

Protection of floors and panels in cargo aircraft against corrosion. Adheres easily and is easy to remove during maintenance checks.

Applications

- Anti-friction/Roll winding
- Cable harness/Thermal insulation
- Heat Sealing/Packaging Equipment
- Masking/Leak Prevention
- Non-stick surface/Molds