NITOFLON™

NO.903UL

Outline

NITOFLON™ NO.903UL is an adhesive tape made by coating a polytetrafluoroethylene (PTFE) film with a silicone adhesive. It has excellent properties such as heat resistance, electrical insulation, and low friction.

Structure

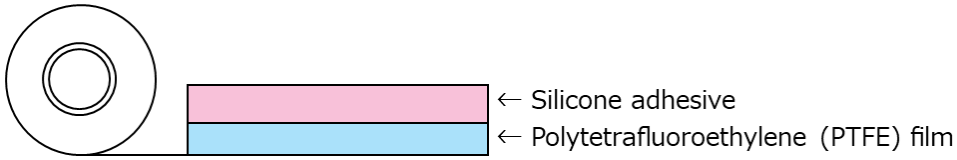

Fig.1 Structure

Features

- It has excellent properties such as heat resistance, electrical insulation, low friction, water repellency, and back releasability.
- Continuous use is possible in a wide temperature range of from -60℃ to 200℃ (recommended value), and even it can be used at higher temperatures for short periods of time.
- Certified under UL510A standard for flame retardant (E34833).
- It exhibits good adhesion to various materials.

Applications

- Insulation of wires, cables, and coils
- Insulation of electrodes for secondary battery and electrical storage device
- Heat-resistant sliding of printer paper passage
- Insulation and sliding of motor drive systems
- Solder masking
- Reduce squeaking noise and prevent chafing in automobile cabins
- Mold release for molding process

Standard Products Size

Table.1 Standard Products Size

Product Name	Thickness（mm）	Width（mm）	Length（m）
NO.903UL	0.08	5、9、10、13、15、18、19、20、22、25、30、38、40、50、75、80、100、150、200、250、300、350、400、450	10
	0.13		
	0.18		
	0.23		

*Contact us for information concerning sizes other than standard sizes.

Properties

Table.2 General properties

Property	Unit	Characteristic value			
Thickness	mm	0.08	0.13	0.18	0.23
180°Peeling strength (Substrate: SUS)	N/19mm	5.6	7.1	7.4	8.7
Unwinding force	N/19mm	4.4	5.8	7.1	8.9
Tensile strength	N/19mm	55	93	160	210
Elongation	%	180	220	220	220
Breakdown voltage	kV	8	11	14	15
Coefficient of kinetic friction	–	0.1			
Flame resistance	–	UL510A Flame Retardant（E34833）			
Color	–	Greyish brown			
Continuous use temp.	℃	-60～200			

Table.3 Chemical resistance

Chemical	Condition	Test results
20% H_2SO_4	80℃×24hours	○
Concentrated sulfuric acid	20℃×6days	×
Concentrated hydrochloric acid	20℃×27days	○
Concentrated hydrochloric acid	80℃×14hours	○
Concentrated nitric acid solution	20℃×25days	○
Glacial acetic acid	20℃×24hours	△
20% NaOH	80℃×24hours	×
20% NaOH	20℃×17days	$○_{△}$
Ammonia water	20℃×25days	○
Toluene	80℃×14hours	×
Butanol	20℃×15days	$○_{△}$
Acetone	20℃×15days	○
Transformer oil	80℃×24hours	○
Machine oil	20℃×15hours	○

The product affixed to stainless steel plate was immersed in each chemical.
The appearance change was confirmed.

Test results
○:No change、$○_{△}$:Peeling at the edge、△:Peeling in some place、×:Peeling completely

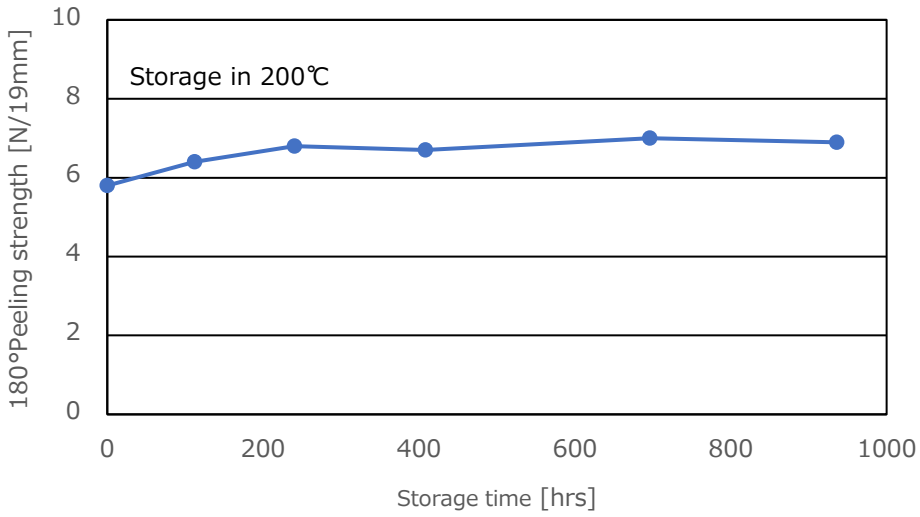

Fig.2 200℃ heat resistance

(0.08mmt、adherend : SUS、Room temperature measurement)

Table.4 Back releasability

Adhesive tape	Unit	180° Peeling strength
Rubber adhesive tape	N/25mm	3.7
Acrylic adhesive tape		1.2
Silicone adhesive tape		2.9

Each adhesive tape was affixed to the back of the product and the peeling strength was measured.

Notes

- Remove oil, moisture, and dust from the surface of the adherend.
- Hold the part to be pasted well and crimp it sufficiently.
- It takes some time for the tape to exhibit its original adhesive strength. After pasting, leave it for several hours before use.
- Please note that the mechanical properties, adhesive performance, etc. will deteriorate at high temperatures.
- When disposing of this product, please dispose of it according to the local regulations. When incinerating it, please use an appropriate disposal equipment otherwise harmful fluorine gas would be generated.
- Do not heat it above 400°C as fluorine gas may be generated.
- This product is for industrial use. Please do not use it on the human body.
- Store in a cool place away from direct sunlight.