Nitto

Innovation for Customers

Ultra-high molecular weight polyethylene Porous Film

SUNMAP™

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Warnings related to product use:

- This product should not come into contact with a living body, nor should it be used as any form of medical product that may come into contact with bodily fluids or any living organism.
- This product should only be used for its specified purpose and not for any other use therein.
- In the event that this product is stored, please avoid direct sunlight and keep in a cool location.

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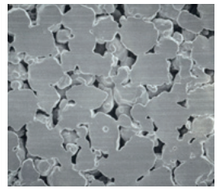
0908F10 Ⓐ Ⓗ
1804R05
2503R

Porous sheets with excellent air permeability, sliding and cushioning properties

SUNMAP™

"SUNMAP™" is ...



a porous sheet of an ultrahigh-molecular-weight polyethylene (UHMW-PE) produced by using Nitto Denko's uniquely developed special manufacturing method.
SUNMAP™'s porous structure realizes unique properties such as air permeability, low friction, and cushioning while keeping excellent properties like chemical resistance, abrasion resistance, and impact resistance which are derived from UHMWPE.

Main features of SUNMAP™

Derived from porous structure

Permeable
Gases such as air or water vapor can penetrate through SUNMAP

Low Friction
SUNMAP has an extremely low co-efficient of friction as well as excellent sliding properties.

Protection
Due to its outstanding resistance to abrasion, SUNMAP has excellent cushioning properties.

+

Derived from UHMWPE

Chemical resistance

Abrasion resistance

Impact resistance

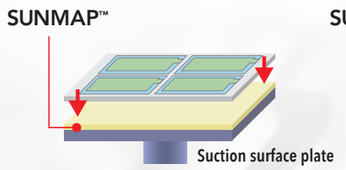
Repels droplets such as water

Low dust generation

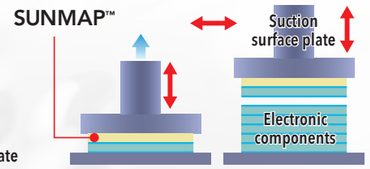
Can be processed into various shapes

Application examples of SUNMAP™

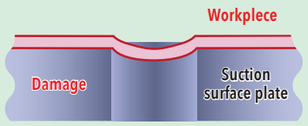
Cushioning for suction fixing application



Suction fixing during electronic material processing



Pick and place of electronic materials (ceramic green sheets, etc.)



Suction pore

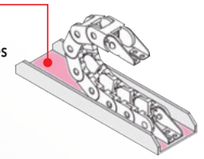
- Reduce damage to workpieces and suction surface plates
- Prevents suction surface plates from clogging

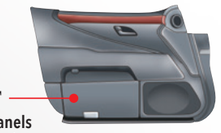
[Purpose]

- Suction conveyance ceramic green sheets
- Pick and place of electronic components
- Fixing of LCD panels during cutting
- Fixing of glass/ceramic substrates during cutting
- Fixing of FPC boards during screen printing
- Fixing of semiconductor wafers during dicing
- Fixing of lenses during polishing

Sliding enhancement・prevention of creaking noise

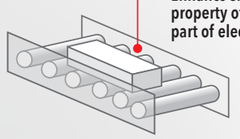
SUNMAP™
Enhance sliding property of cables





SUNMAP™
Prevent door panels from creaking noise

SUNMAP™
Enhance sliding property of the sliding part of electronic device



Characteristics

Item	Unit	Product Number						
		LC	LC-T	LC-T5320	LC-T5320T	HP-5320	FST	FSTA
Properties		Standard	Antistatic	Single-sided flat Antistatic	Single-sided flat Antistatic with air permeable adhesive	High air permeability Single-sided flat Antistatic	High flatness Antistatic	High flatness Antistatic with air permeable adhesive
Structure			Antistatic treatment	Single-sided flat	Single-sided flat / Air permeable adhesive	Single-sided flat	Single-sided flat	Single-sided flat / Air permeable adhesive
Average pore size	μm	17	17	17	17	24	8	8
Porosity	%	30	30	30	30	38	45	45
Thickness	mm	0.2	0.2	0.2	0.22	2.0	0.18	0.19
Air permeability	$cm^3/cm^2/sec$	6.0	6.0	5.5	5.0	1.5	3.0	2.2
Tensile strength	MPa	12	12	12	12	8	7	7
Elongation	%	90	90	90	90	70	65	65
Surface roughness(Ra)	μm	2.2	2.2	1.4	1.4	1.4	0.2	0.2
Dynamic coefficient of friction	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Surface resistance	Ω/□	$>10^{13}$	1×10^{10}	1×10^{10}	1×10^{10}	1×10^{10}	1×10^{10}	1×10^{10}

Size table

Product Number	Thickness	Handing width (mm)	Street type length (mm)	Roll type (10M)
LC LC-T	0.1	100 ～ 700	100 ～ 1200	○
	0.2			
	0.3			
	0.5			
	1.0	100 ～ 500	100 ～ 500	×
	2.0			
LC-T5320	0.2	100 ～ 500	100 ～ 500	×
	0.3			
	0.5			
	1.0			
LC-T5320T	0.22	450	450	×
LC-TW1	0.2	600 ～ 1000	Only a roll type is available	○
	0.3			
	0.5			
LC-TW2	0.2	600 ～ 1000	600 ～ 1200	×
	0.3			
	0.5			
HP-5320	2.0	100 ～ 400	100 ～ 500	×
FST	0.18	200 ～ 400	200 ～ 400	×
FSTA	0.19			