



ThinFlex

**ThinFlex Corporation**

NO.38-1, Ke-Yi Rd.,Chunan, Miaoli 350, Taiwan, R.O.C.

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# ThinFlex-A

## Adhesiveless Double Sided Copper Clad Laminate

ThinFlex-A is an adhesiveless double sided (D/S) metal clad polyimide film, furnished in the form of roll laminate with RA or ED copper on both side. ThinFlex-A adhesiveless D/S composites are designed for a wide variety of flexible circuit applications which requires advanced material performance, temperature resistance, fine pitch, and high reliability.

### 1.Product Characteristics :

- \* Excellent dimensional stability
- \* Excellent flexibility
- \* Finer line etch ability
- \* Low moisture absorption
- \* Excellent flammability (Flame class UL 94V-0, UL File No. E219724)
- \* Excellent chemical resistance
- \* Excellent thermal, mechanical and electrical properties

### 2.Specifications :

A - 10 10 R D

<b>Product</b> A:D/SFCCL	<b>Thickness of PI</b> 10 : 1.0 mil 20 : 2.0 mil	<b>Thickness of Cu</b> 02 : 1/4 oz 03 : 1/3oz 05 : 1/2 oz 10 : 1.0 oz	<b>Cu foil</b> R : RA E : ED	Double-sided
<b>Supply Size</b>	W: 250/500± 2mm, L: 458/700±2mm (supplied in sheet or roll type)			

**\*Other thickness and sizes are available on customers' demand**



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### 3.Constructions :

Copper foil
Polyimide film
Copper foil

### 4.Properties :

Test item		Unit	A-1002ED A-1003RD A-1003ED A-1005RD A-1005ED A-2002ED* A-2003ED* A-2003RD* A-2005ED* A-2005RD*	A-1010RD A-1010ED A-2010ED* A-2010RD*	Test Method	
Mechanical Properties	Peel Strength	As Received	Kgf/cm	0.54	1.07	IPC-TM650 2.4.9
		Solder Float		0.54	1.07	
		After temp. cycling		0.54	1.07	
		Chemical Resistance		0.43	0.86	IPC-TM650 2.3.2
	Flexural Endurance	M.D.	Times	300 (* : 100)	300 (* : 100)	JIS-C 6471 0.8mmR, 0.5kg
		T.D.		300 (* : 100)	300 (* : 100)	
Electrical Properties	Surface Resistance			$1.0 \times 10^{11}$	$1.0 \times 10^{11}$	IPC-TM650 2.5.17
	Volume Resistance		-cm	$1.0 \times 10^{12}$	$1.0 \times 10^{12}$	
	Insulation Resistance			$1.0 \times 10^9$	$1.0 \times 10^9$	IPC-TM650 2.6.3.2
Physical and Thermal Properties	Dimensional Stability	M.D.	%	-0.1~0.1	-0.1~0.1	IPC-TM650 2.2.4C
		T.D.				
	Solder Float 10sec at 288 (550°F)		--	Pass	Pass	IPC-TM650 2.4.13
	Thickness Tolerance		%	±20%	±20%	ThinFlex
	Ion Migration (1000hr/85%/85 /50VDC)		--	Pass	Pass	--
UL Flame Class		--	94V-0	94V-0	UL	



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## 5. Storage:

ThinFlex-A will meet its shelf-life for at least 12 months after arrival at the user's factory when stored in the original packaging at temperatures of below 25 °C and below 60% humidity. The products do not need refrigeration and should not be frozen.

Note: The information and data contained in this technical literature is believed to be accurate and is offered in good faith for the benefit of the user. The user should make his own tests to verify suitability of this product for any application before its use. All data are typical values only and subject to change without notice.

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