

# Heat-Resistance Halogen-Free FPC Materials / Coverlay (Cover Film) [TFA-560]

## Good Reliability and High-Tg Halogen Free Coverlay

### Features and Benefits

- Excellent Flexibility under High Temperature Condition
- Because of Excellent Chemical Resistance, Suitable for FPC Multilayer and Flex-Rigid.
- Top Ranked Heat Resistance and Reliability among FPC Material.
- It is put to practical use as Halogen free FPC material for the first time, and there are adoption actual results over 2 years.

### Applications

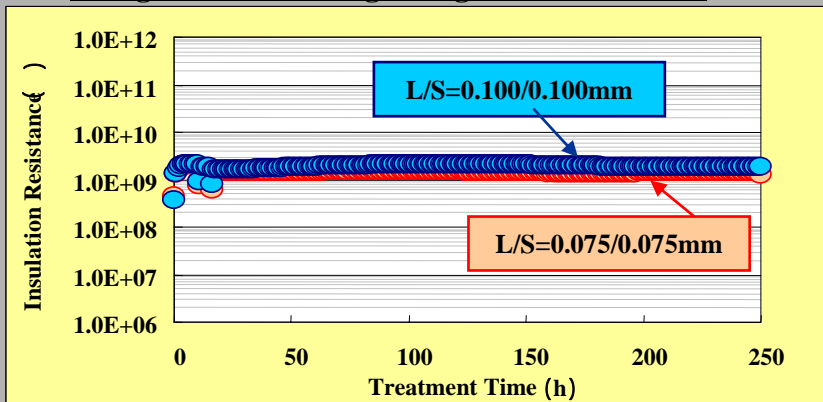
- High Flexibility Components like Cellular Phone and HDD Pick Up Parts.
- Heat Resistance Type FPC Material Using COF for Flat Panel Display.
- Green Material for Environmental Product's Parts

We can Recommend Liquid Type Photo Coverlay for Fine Pitch FPC

### General Property

Test Item	Condition	Unit	TFA-560 2525	Test Method
Resin Flow	-	mm	0.15	KCC Method
Tg	After Core	C	110	DMA
Heat Resistance	300C 60sec.	-	OK	JIS-C-6471
Peel Strength (90 Degree)	A	KN/m	0.85	JIS-C-6471
	260C 20sec.		0.88	
	MEK Dip 7min.		0.80	
Flammability	E-168/70	-	VTM-0	UL 94

### Halogen Free Flex-Rigid Migration Resistance



**Sample**  
 FCCL=TLF-W-510GR 18/25/18  
 Coverlay=TFA-560 2525  
 Rigid=TLC-W-555 0.20 18/18  
 Bonding Sheet=TFA-890EA 35

**Pre Treatment**  
 C-96/30/85 250C Reflow  
 2 cycle

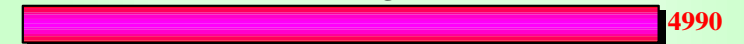
#### Treatment condition

85 × 85%RH  
 DC=50V

These materials from us has passed above hardest reliability test and qualified.

### Folding Endurance ( MIT Method)

TFA-560 + TLF-510 ( Halogen Free FCCL)



Competitor Coverlay +TLF-510



Competitor Coverlay + 2Layer FCCL



FCCL : Copper Foil=RA/18um, Film=12um  
 (2layer:Insulation Layer=25um)  
 Cover Lay : Film=12um, Adhesion=20um  
 Condition : Room Temperature/Radius=0.38mm