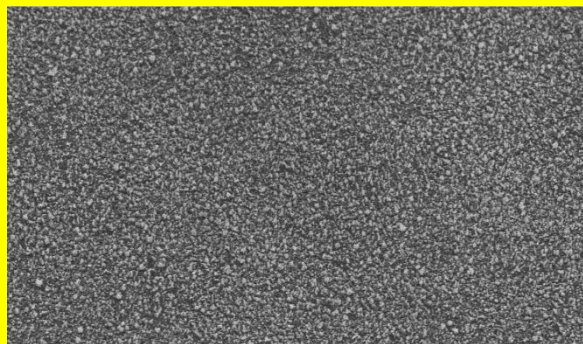
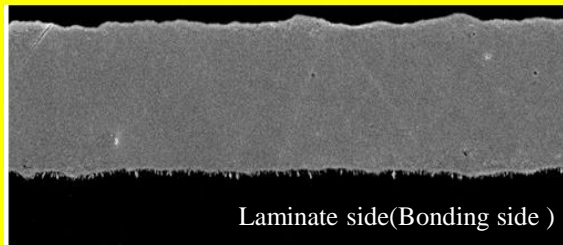


35μm Untreated-side Foil SEM × 1,500



35μm Treated-side Foil SEM × 1,500



Laminate side(Bonding side)

35μm Foil Cross Section SEM × 1,500

Composition :

Resist side

– Cross Section :



Laminate side(Bonding side)

– Resist/ Bonding side Color : Pink/ Pink

Application:

- HSD (High speed digital)
- Base station/Server/Storage/Switch
- Material: PPO/PPE

Feature:

- Low nickel.
- Excellent signal integrity (SI) performance.
- Good etching ability.
- Lower electrical resistivity compared to regular HVLP.
- High peel strength with PPO/PPE resin system.
- Comply with environment regulation.
- Excellent PIM, anti-oxidation and shelf life.

VL410

MEASURED PARAMETERS		UNITS	PRODUCT GAUGE				IPC		
Nominal Thickness		μm oz.	12 3/8	18 1/2	35 1	70 2	Specification IPC-4562A	Test Method IPC-TM-650	
Area Weight		g/m ²	102±3	148±5	280±8	575±15	3.4.4	2.2.12	
Treated Side Contact Roughness	Rz	JIS B 601	μm	≤2.0	≤2.0	≤2.0	≤2.0	-	2.2.17
	Rz	ISO 4287		≤2.0	≤2.0	≤2.0	≤2.0	3.4.5	
Treated Side Contactless Roughness	Sa	ISO 25178		~0.30	~0.27	~0.26	~0.26	-	2.2.22 Draft
	Sz	ISO 25178		~3.5	~2.8	~2.6	~2.6	-	
Untreated Side Contact Roughness	Ra	JIS B 601	≤0.3				3.5.6	2.2.17	
Untreated Side Contactless Roughness	Sa	ISO 25178	~0.30				-	2.2.22 Draft	
Tensile Strength	RT	MPa	≥294 (≥30)			≥274 (≥28)		3.5.1	2.4.18
	180°C	(Kg/mm ²)	≥167 (≥17)						
Elongation	RT	%	5-20	8-25	12-35	15-40	3.5.3		
	180°C		4-15	5-20	8-25	10-25			
Peel Strength Ultra Low Loss Resin (RT)		N/mm (Lb/in)	≥0.40 (≥2.3)	≥0.45 (≥2.6)	≥0.6 (≥3.4)	≥0.6 (≥3.4)	3.5.4	2.4.8	

※ The value is subject to the types of ultra low loss and thickness of laminate construction.

※ This is representative data, not guarantee.