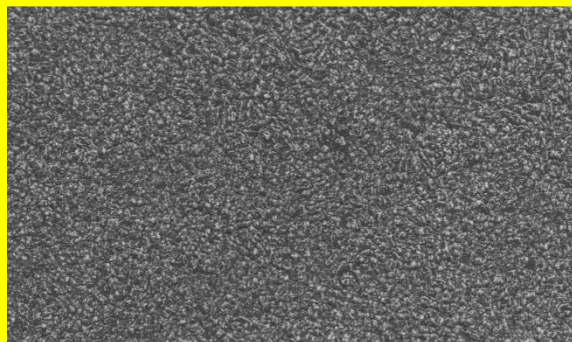
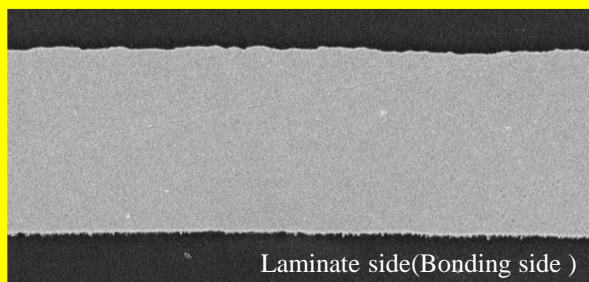


35μm Untreated-side Foil SEM × 1,500



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 (400G up)
- Material: PPO/PPE

Feature:

- Nickel Free
- 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.

VL411

MEASURED PARAMETERS		UNITS	PRODUCT GAUGE		IPC	
Nominal Thickness		μm oz.	18 1/2	35 1	Specification IPC-4562A	Test Method IPC-TM-650
Area Weight		g/m ²	148±5	280±8	3.4.4	2.2.12
Treated Side Contact Roughness	Rz	JIS B 601	≤ 1.0	≤ 1.0	-	
	Rz	ISO 4287	≤ 1.3	≤ 1.3	3.4.5	
Treated Side Contactless Roughness	Sa	ISO 25178	~0.16	~0.14	-	2.2.22 Draft
	Sz	ISO 25178	~1.7	~1.5		
	Sdr	ISO 25178	~1.1	~0.8		
Untreated Side Contact Roughness	Ra	JIS B 601	≤ 0.3		3.5.6	2.2.17
Untreated Side Contactless Roughness	Sa	ISO 25178	~0.20		-	2.2.22 Draft
Tensile Strength	RT	MPa (Kg/mm ²)	≥ 294 (≥ 30)		3.5.1	2.4.18
	180°C		≥ 167 (≥ 17)			
Elongation	RT	%	7-25	10-35	3.5.3	
	180°C		5-20	8-25		
Peel Strength Ultra Low Loss Resin (RT)		N/mm (Lb/in)	≥ 0.4 (≥ 2.3)	≥ 0.5 (≥ 2.9)	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.

The best application of the copper foil manufacturer & service provider