

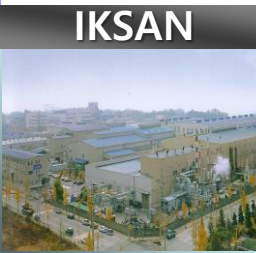
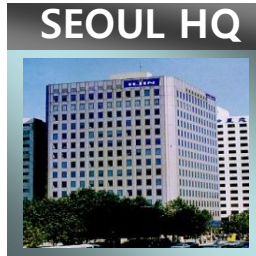
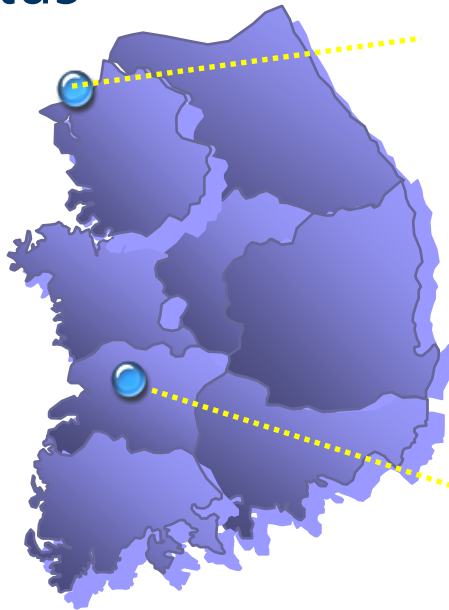
ILJIN Materials Co., LTD.

1. Company Profile

Electronics and Secondary Batteries Elecfoil Professionals

C E O	Huh Jaemyeong, Joo Jaehwan	Products	Elecfoil (ICS, I2B, Etc), LMO (IC12A)
Capital	USD 19.6 Million	Capacity	Elecfoil : 1,800 ton/Month, LMO : 70 ton/Month
Established	1987-8-11 (KSE Listed : 2011-03-04)	'17 Revenue	USD 400 Million (Elecfoil, LMO, Convergence)
Employees	460 People	Location	HQ : Seoul, Mapo / Production : Jeonbuk Iksan

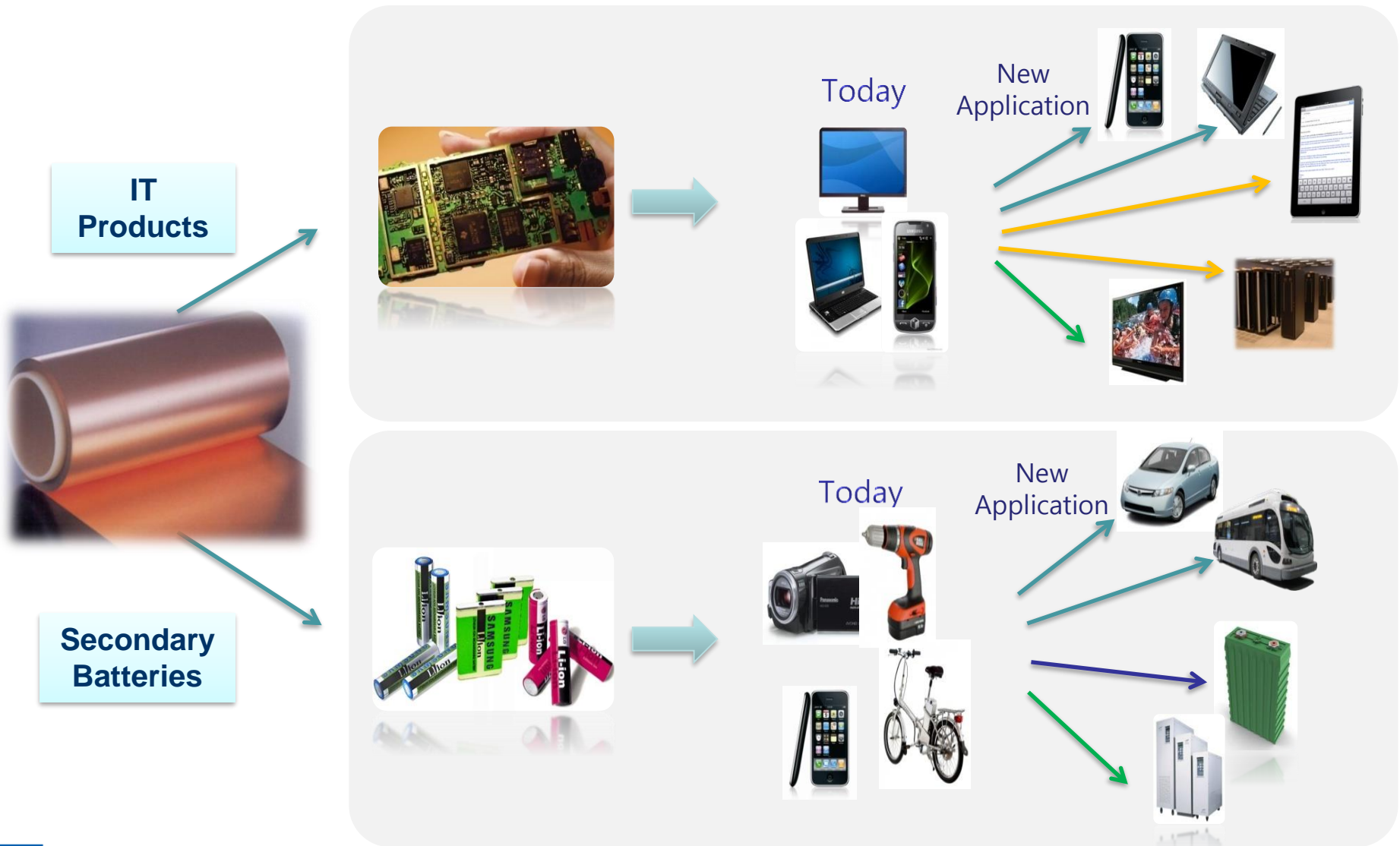
Business Status



Business Area		Size
IT Materials	ICS Type (Iljin Copper Standard)	9, 12, 18 μ m PKG-Usage VLP, IUT
	IHT Type (Iljin High Temperature Elongation)	High Curve/Low Roughness, 12, 18 μ m
Secondary Battery Materials	I2B (Iljin Secondary Battery)	6, 8, 10, 12, 15, 20 μ m World M/S 20%
	LMO (Lithium Manganese Oxide)	Cathode Materials (IC12A) (Wet Type)

2. ILJIN - Elecfoil

Key High-tech Material Used in All IT Products and Lithium Batteries



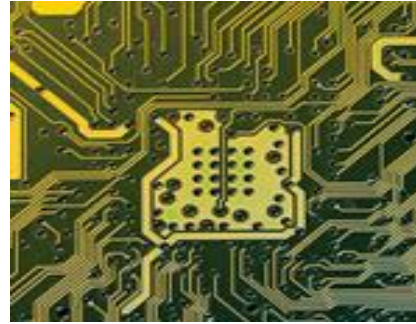
3. Product Line up

Product Names	Target		Remarks	
	Units	Requirement		
ICS (ILJIN Copperfoil Standard Foil)	Thickness	9, 12, 18 μ m	CCL, PCB, Automotive	
ICS-RT (ICS Reverse Treatment Foil)	Thickness	9, 12, 18 μ m	CCL, PCB, Network board	
IHT (ILJIN H.T.E Foil)	Thickness	Standard	7, 9, 12, 18 μ m	
		RT	12, 18 μ m	
		Heavy-RT	35, 43, 50, 60, 70 μ m	
LPF (ILJIN Very Low Profile Foil)	Thickness	Ex-VLP	7, 9, 12, 15, 18 μ m	HDI, 2L FCCL, Packaging Substrate
IUT (ILJIN Ultra Thin Foil)	Thickness		1.5, 2, 3 μ m	
I2B (ILJIN Secondary Battery Foil)	Thickness		4, 5, 6, 8, 10, 12, 15, 20 μ m	Lithium Ion Battery
I2S (ILJIN Secondary Battery Foil)	Thickness			

4. Elecfoil Applications – IT Electronics

● Application

- PCB (Printed Circuit Board)
- CCL (Copper Clad Laminate)
- General Electronics

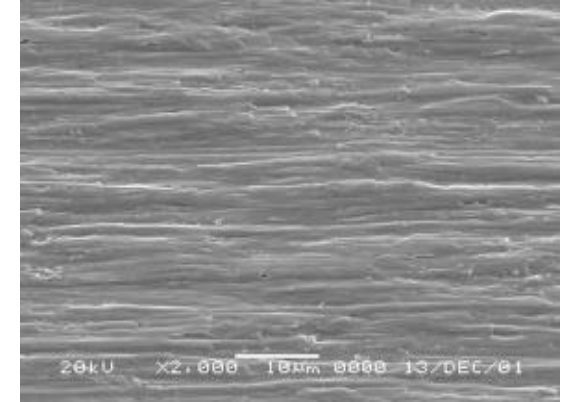


● Properties

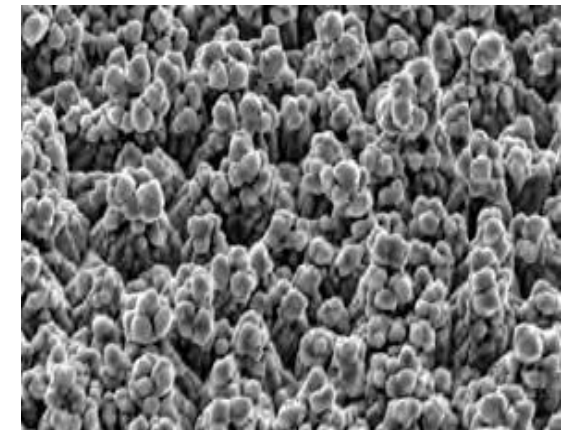
Thickness	※ Peel Strength (kgf/cm)	Surface Profile (μm)		Tensile strength (Kgf/mm ²)	Elongation (%)	
		Shiny Side (Ra)	Matte Side (Rz)	At R.T	At R.T	At 180°C
9μm	0.7	≤ 0.43	≤ 3.5	≥ 30	≥ 5	≥ 3
12μm	0.8	≤ 0.43	≤ 4.5	≥ 30	≥ 5	≥ 3
18μm	1.0	≤ 0.43	≤ 6.0	≥ 28	≥ 5	≥ 6
35μm	1.2	≤ 0.43	≤ 8.0	≥ 28	≥ 5	≥ 6
70 μm	1.5	≤ 0.43	≤ 12.0	≥ 28	≥ 5	≥ 5
VLP (12μm)	0.6	≤0.43	≤ 2.0	≥ 40	≥ 4	≥ 6
UTC (2 ~ 5μm)	0.5	≤ 0.25	≤ 1.4	-	-	-

※ Hi-Tg Prepreg applied

Shiny Side



Matte Side



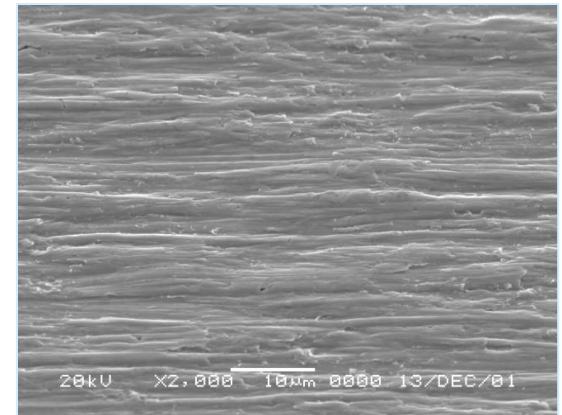
5. Elecfoil Applications – 2nd Battery

Secondary Battery (Li-ion)

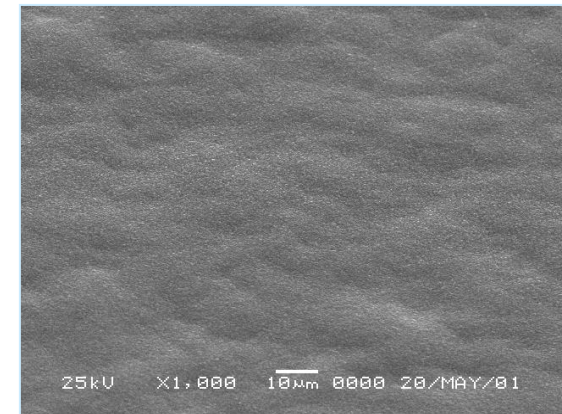
- Application: 2nd Battery
- Thickness : 6 ~ 20 μ m
- Type : I2B, I2S, I2K

- Foil Thickness
~ 10 μ m (86 ± 4.5 g/m²)
- Tensile Strength
> 28 kgf/mm²
- Elongation
> 5 % (at Room Temp.)
> 5 % (at 180 °C)
- Surface Profile (R_z)
Shiny & Matte side : < 2 μ m

Shiny Side



Matte Side



2nd Battery

