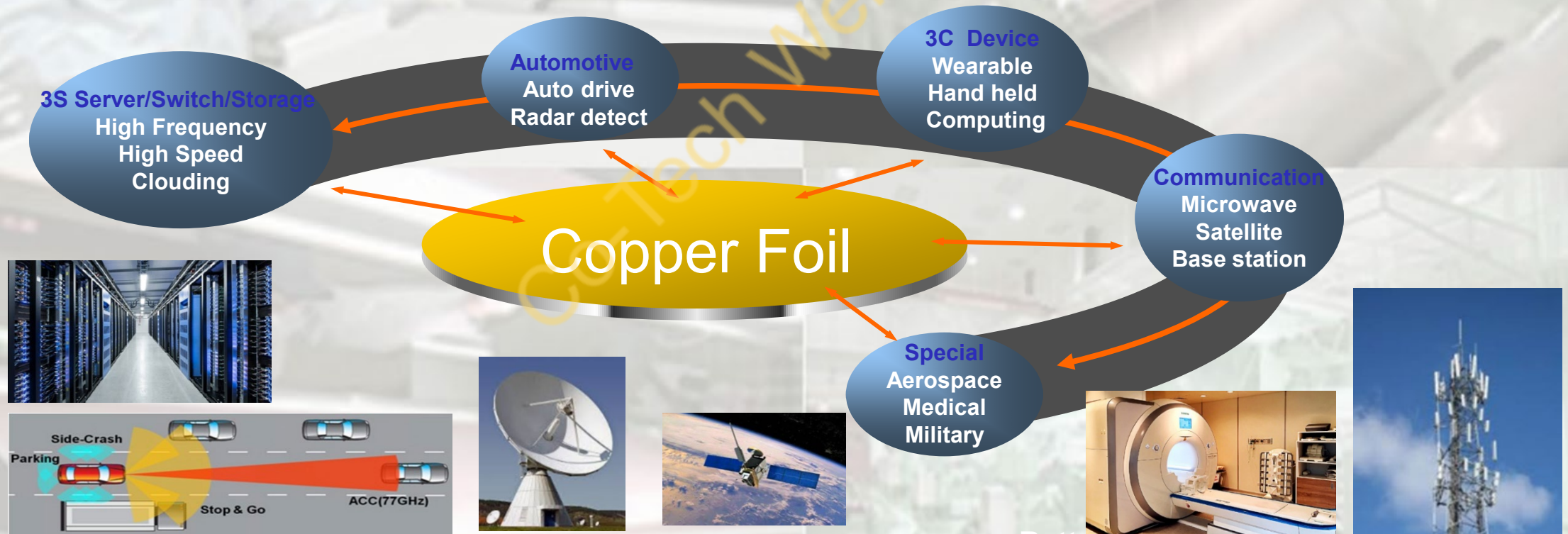


25 Years Copper Foil Manufacturing Experiences
To Become the Best Application of the Copper Foil
Manufacturer and Service Provider

The Spirit of Craftsmanship



*The data above show actual values and are not guaranteed

Co-Tech Outline

Establishment : May 22nd, 1998

Headquarters: Yunlin, Taiwan

Capital : US\$ 85 millions

Assets : US\$ 233 millions

Employee : 312 by Sep. 2023

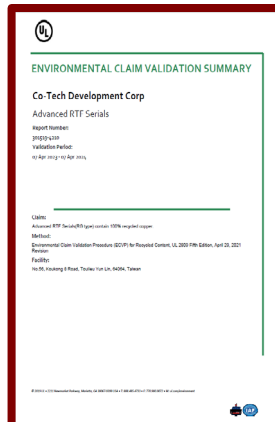
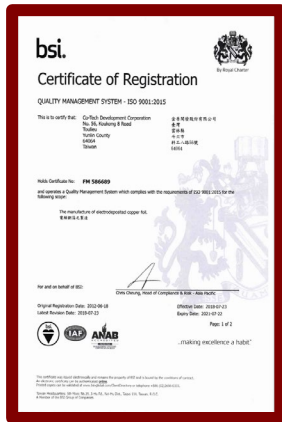
Chairman : Raymond Sung

President : Frank Lee

Revenue in 2022: US\$ 250 millions

Certification : IATF-16949, ISO-9001, UL-2809

ISO-14001 & ISO-45001



Roof solar power system
Power 2000 KW, generating 2.54 million kWh per year,
reducing CO2 emissions by 1.34 million kg, 1.98 million
M2 forest area

Taipei Office



1st Factory



2nd Factory



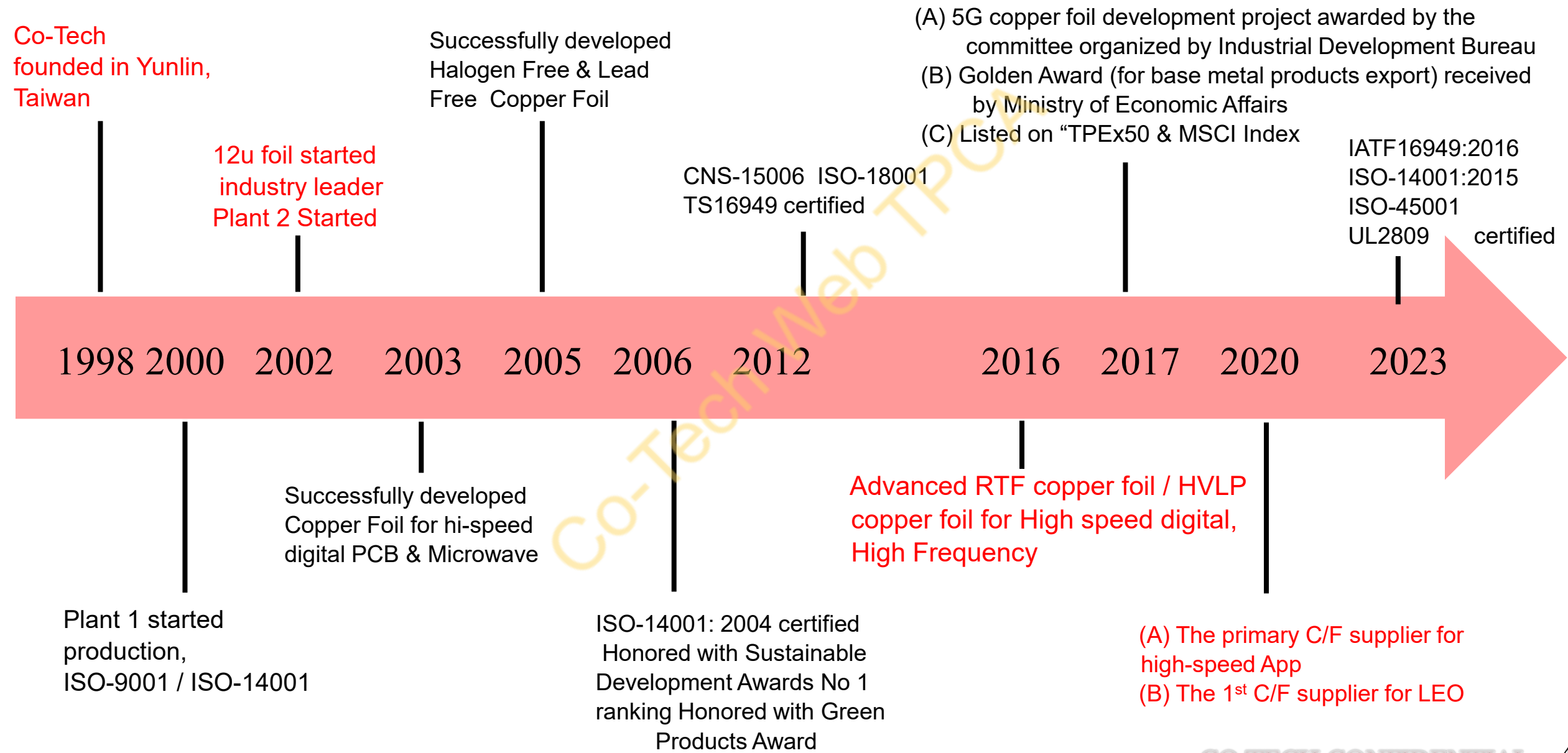
Toulieu 3rd Plant Capacity: 10,000 T/year



Co-Tech	2022	2023	2025/2026
Total Capacity (ton/year)	21,600	21,600	31,600
HTE/RTF/RG	16,800	16,800	23,200
RV	1,200	1,200	1,200
HVLP(PF/ML/VF)	3,600	3,600	7,200

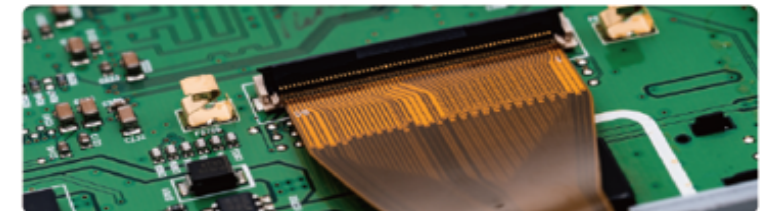
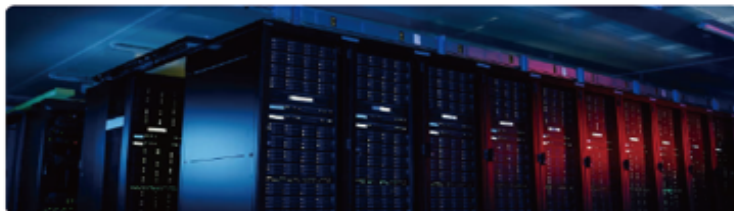
Δ HTE / RTF / RG / RV : Capacity can be interchangeable.
 Δ 3rd Factory is planning for additional 10,000t/y in 2025/2026.

*The data above show actual values and are not guaranteed














*The data above show actual values and are not guaranteed

High Speed		HDI	High Frequency	FCCL / FPCB	
HLC Inner layer	PF620, Rz ≤ 0.5um Ultra Low Loss II	VL411, Rz ≤ 1.0um Very/Ultra I & II Low Loss	FL451, Rz ≤ 1.0um LCP Resin System	RV312, Rz ≤ 2.5um Kaneka / UBE Film	FL451, Rz ≤ 1.0um Kaneka/UBE Film
RG315, Rz ≤ 1.7um Very/Ultra Low Loss I & II	PF510, Rz ≤ 0.6um Ultra Low Loss I and II	VF413, Rz ≤ 1.5um Very/Ultra Low Loss	VF415, Rz ≤ 1.0um PTFE	RC313, Rz ≤ 3.0um PI Base	FL450, Rz ≤ 2.0um Kaneka/UBE Film
RG313, Rz ≤ 1.9um Very/Ultra Low Loss I & II	VL411, Rz ≤ 1.0um Very/Ultra I & II Low Loss	RG312, Rz ≤ 2.1um Mid/Low/Very Low Loss	VF413, Rz ≤ 1.5um PTFE		FC450, Rz ≤ 2.5um PI Base
RG312, Rz ≤ 2.1um Low/Very/Ultra Low Loss	VF413, Rz ≤ 1.5um Very/Ultra I Low Loss	RT312, Rz ≤ 2.0um Std/Mid/Low Loss	RF313, Rz ≤ 3.0um PTFE		
RG311, Rz ≤ 2.3um Mid/Low/Very Low Loss	VL410, Rz ≤ 2.0um Low/Very Low Loss	RT311, Rz ≤ 3.0um Std/Mid/Low Loss	LH408, Rz ≤ 10um(Hoz) Hydro Carbon		
HG310, Rz ≤ 6.0um(J/Hoz) Mid/Low/Very Low Loss	HLC Outer layer				
LP310, Rz ≤ 7.2um(Hoz) Mid/Low/Very Low Loss	SLD01/SLD02, Rz ≤ 3.0um(Hoz) Mid/Low/Very Low Loss				



*The data above show actual values and are not guaranteed



Roughness Level	CoTech Copper Foil		Available Thickness (oz)	Rz(um) @ 1 oz		Rz (um)@ H oz	
				Bonding Side (To Core)	Resist side (To PP)	Bonding Side (To Core)	Resist side (To PP)
RTF	RT311		Q/T/H/1/2	≤ 3.0	≤ 8.0	≤ 3.0	≤ 6.0
RTF	RT312		T	≤ 2.0	≤ 4.0 (Toz)	-	-
A-RTF2	RG311		T/H/1/2	≤ 2.3	≤ 7.0	≤ 2.3	≤ 5.5
A-RTF3	RG312		H/1	≤ 2.1	≤ 6.5	≤ 2.1	≤ 4.5
A-RTF4	RG313		H/1	≤ 1.9	≤ 5.0	≤ 1.9	≤ 4.0
A-RTF5	RG315		H/1	≤ 1.7	≤ 2.0	≤ 1.7	≤ 2.0
HVLP	VL410		H/1	≤ 2.0	Ra ≤ 0.35	≤ 2.0	Ra ≤ 0.35
HVLP2	VF413		H/1	≤ 1.5	Ra ≤ 0.35	≤ 1.5	Ra ≤ 0.35
HVLP3	VL411		H/1	≤ 1.0	Ra ≤ 0.30	≤ 1.0	Ra ≤ 0.30
HVLP4	PF510		H/1	≤ 0.6	Ra ≤ 0.25	≤ 0.6	Ra ≤ 0.25
HVLP5	PF620		H/1	≤ 0.5	Ra ≤ 0.25	≤ 0.5	Ra ≤ 0.25

*The data above show actual values and are not guaranteed

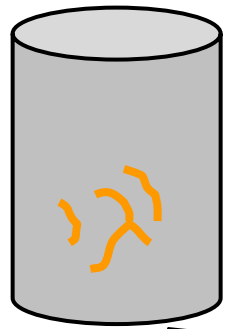
The Advantages of Advanced RTF

Df	Type	Application	Advanced RTF	HVLP
~0.0010	Super ULL <i>with advanced low Dk glass</i>	- PCIe Next G - 800G/1.6T Ethernet - 56Gbps	☀️ RG315(R&D) ($\leq 1.7\mu\text{m}$)	● HVLP5 ($\leq 0.5\mu\text{m}$)
	ULL 2 <i>with low Dk glass</i>			
~0.0030	ULL 1	- PCIe G6 - 400G/800G Ethernet - 56Gbps - Intel Mountain Stream - AMD Venice	☀️ RG313 ($\leq 1.9\mu\text{m}$)	● HVLP3 ($\leq 1.0\mu\text{m}$) ● HVLP4 ($\leq 0.6\mu\text{m}$)
~0.0045	VLL			● HVLP2 ($\leq 1.5\mu\text{m}$)
~0.006	LL	- PCIe G5 - 100G Ethernet - 25-32 Gbps - Intel Eagle Stream/Birch Stream - AMD Genoa/Bergamo/Turin	☀️ RG312 ($\leq 2.1\mu\text{m}$)	● HVLP2 ($\leq 1.5\mu\text{m}$)
~0.010	ML	- PCIe G4 - 40G Ethernet - 10-20 Gbps - Intel Whitley - AMD Rome/Milan	☀️ RG311 ($\leq 2.3\mu\text{m}$)	● HVLP ($\leq 2.0\mu\text{m}$) ● HVLP ($\leq 2.0\mu\text{m}$)

*The data above show actual values and are not guaranteed

溶解槽

Dissolving Raw
Material

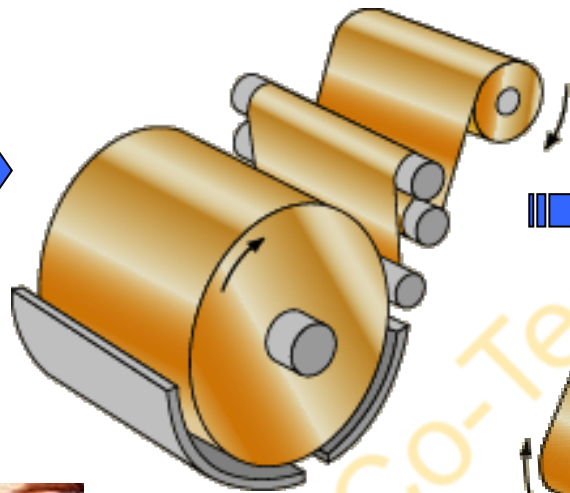


Copper Wire
(Purity 99.9%)



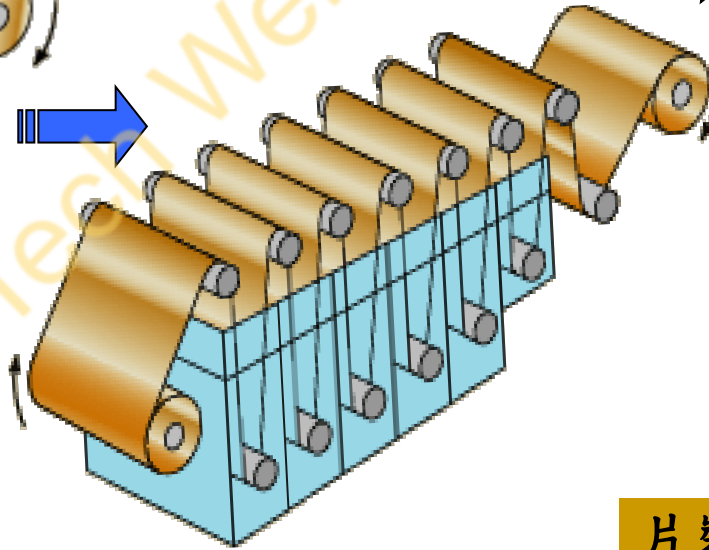
製箔機

Base Foil Machine

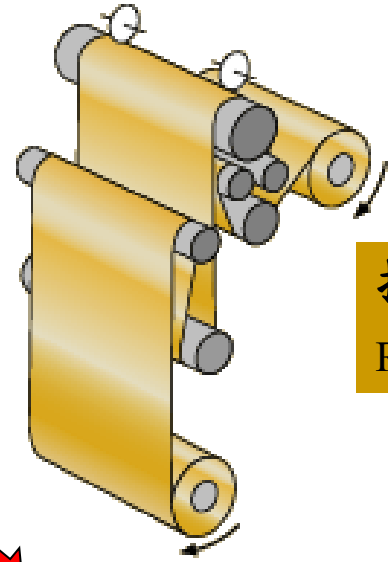


表面處理機

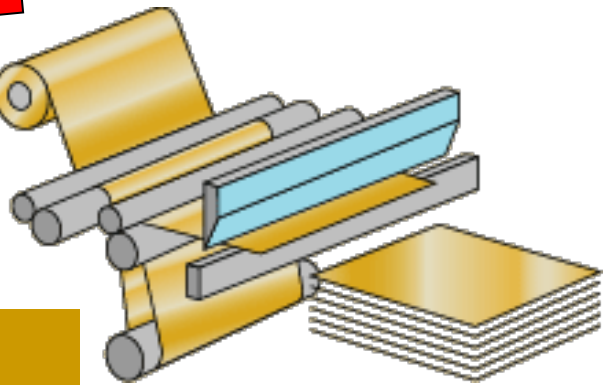
Treater Machine



捲裝
Roll Form



片裝
Sheet Form



ISO-14001 Certificate

ISO-9001

IATF 16949 Certificate

ISO-45001

UL-2809 Certificate

afaq Certificate
Certificat

Certificate of Registration

TTE12350

Co-Tech Copper Foil Corporation

Scope : **Manufacture of Copper Foil.**

Touliou Site1 : **NO.56, Koukong 8 Road, Touliou, Yun Lin, Taiwan, R.O.C.**
Touliou Site2 : **NO.56, Koukong 8 Road, Touliou, Yun Lin, Taiwan, R.O.C.**

AFNOR ASIA certifies that all the arrangements covering the above mentioned activities and locations are established to meet the requirements of the international standard:

ISO 14001 : 2004 (CNS 14001)

ORIGINAL DATE OF CERTIFICATION 12-NOV-2013	DATE OF ISSUE 12-NOV-2013	DATE OF EXPIRY 11-NOV-2016
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APPROVED BY

TAF Environmental Management EC012
IAF EMS010 ACCREDITED BY IAF & PAC MLA GROUP MEMBER

Trevor Wilmer
Director for Certification ON BEHALF OF AFNOR ASIA

afnor CERTIFICATION

bsi.
By Royal Charter

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that: Co-Tech Development Corporation
No. 56, Koukong 8 Road
Touliou
Yunlin County
64064
Taiwan

全泰開發股份有限公司
臺南
雲林縣
斗六市
科正八路56號
64064

Holds Certificate No: **FM 586689**

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The manufacture of electroplated copper foil.
電鍍銅箔之製造

For and on behalf of BSI: **Chris Cheung, Head of Compliance & Risk - Asia Pacific**

Original Registration Date: 2012-06-18
Latest Revision Date: 2018-07-23

Effective Date: 2018-07-23
Expiry Date: 2021-07-22

Page: 1 of 2

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Taiwan Headquarters: 5th Floor, No. 29, 3rd-Hs Rd., Neihu Dist., Taipei 114, Taiwan, R.O.C.
A Member of the BSI Group of Companies.

bsi.
By Royal Charter

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - IATF 16949:2016

This is to certify that: Co-Tech Development Corporation
No. 56, Koukong 8 Road
Touliou
Yunlin County
64064
Taiwan

全泰開發股份有限公司
臺南
雲林縣
斗六市
科正八路56號
64064

operates a Quality Management System which complies with the requirements of IATF 16949:2016 for the following scope:

The manufacture of electroplated copper foil
Permitted exclusions: Product design
電鍍銅箔之製造

For and on behalf of BSI: **Managing Director BSI Taiwan, Peter Pu**

BSI Certificate Number: 586684
IATF Number: 0317737

Original Registration Date: 2012-06-18
Latest Revision Date: 2018-07-23

Effective Date: 2018-07-23
Expiry Date: 2021-07-22

Page: 1 of 2

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TAF Certified Office: BSI Assurance UK Limited, registered in England under number 2950119, 389 Chiswick High Road, London W4 4AL, UK.
Taiwan Headquarters: 5th Floor, No. 29, 3rd-Hs Rd., Neihu Dist., Taipei 114, Taiwan, R.O.C.
A Member of the BSI Group of Companies.

afaq Certificate
Certificat

Certificate of Registration

THOSH12350-00

Co-Tech Development CORP.

Scope : **Manufacturing of electroplated copper foil.**

Touliou Site1 : **NO.56, Koukong 8 Road, Touliou, Yun Lin, Taiwan, R.O.C.**
Touliou Site2 : **NO.56, Koukong 8 Road, Touliou, Yun Lin, Taiwan, R.O.C.**

AFNOR ASIA certifies that all the arrangements covering the above mentioned activities and locations are established to meet the requirements of the international standard:

Occupational Health and Safety Management Systems (ISO 45001 : 2018)

ORIGINAL DATE OF CERTIFICATION 18-FEB-2013	DATE OF ISSUE 18-FEB-2019	DATE OF EXPIRY 02-FEB-2022
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APPROVED BY

Trevor Wilmer
Director for Certification ON BEHALF OF AFNOR ASIA

afnor CERTIFICATION

UL

ENVIRONMENTAL CLAIM VALIDATION SUMMARY

Co-Tech Development Corp
Advanced RTF Serials

Report Number:
301519-4210

Validation Period:
07 Apr 2023 - 07 Apr 2024

Claim:
Advanced RTF Serials(RIG type) contain 100% recycled copper.

Method:
Environmental Claim Validation Procedure (ECVP) for Recycled Content, UL 2809 Fifth Edition, April 29, 2021

Revision

Facility:
No.56, Koukong 8 Road, Touliou Yun Lin, 64004, Taiwan

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IAF

Value Proposition

- **Customization**
Communication, Join development.
- **Time to market**
Rapid response, Short lead-time.
- **Service**
Local service. Technical resource support.
- **Flexibility**
Low-volume & high product mix.

