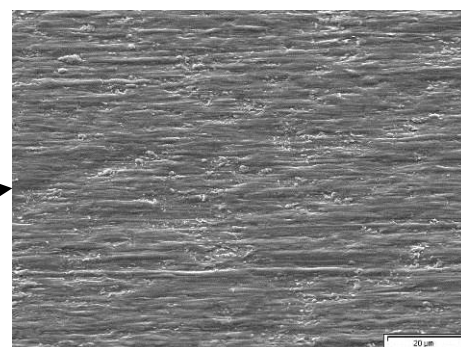
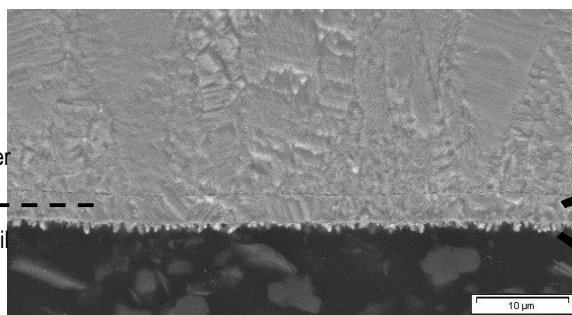
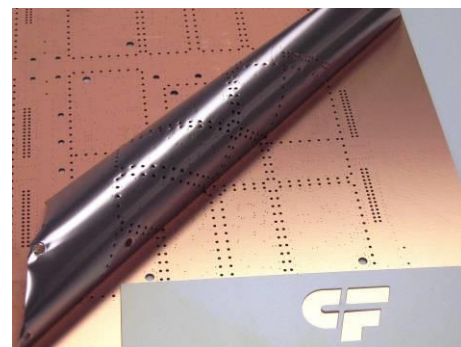




Doublethin™ - Ultrathin Foils for MSAP (DTH-TZA)

Technical Characteristics

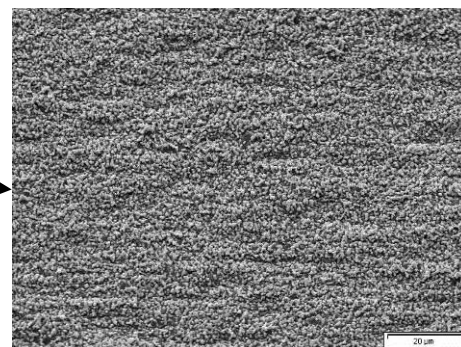
- Cu carrier supported ultrathin foils for IC packaging and HDI
- Very accurate and uniform thickness
- Very high etching rate for precise line definition
- Arsenic free and zinc free TZA treatment
- Organic free metallic release layer
- Allows modified semi-additive processes (MSAP) using copper build-up followed by differential “flash etching” and CO₂ laser direct ablation for via holes
- An improved product **DOUBLETHIN™-LDD-TZA** offering a fine grain structure and excellent laser drill ability is under development
- Designed for coreless built-up and embedding techniques for active and passive components
- Low and stable carrier release bond after thermal stress from lamination or post baking cycles until temperatures of up to 220 °C (428 °F)



Shiny side

Functional foil

Treatment side



Typical average properties*

Doublethin™-TZA						
MEASURED PARAMETERS		UNITS	PRODUCT GAUGE			
Nominal Thickness		µm	1.5	2	3	5
Area Weight	Functional Foil	g/m ²	20 ± 3	25 ± 3	29 ± 3	43 ± 4
Carrier Thickness		µm	12 or 18		18 or 35	
Roughness	average Rz (JIS)	µm	≤ 2.5			
Treatment Type		-	TZA (zinc free, As free)			
Preferred Lamination Temperature		°C (°F)	≤ 220 °C (428 °F) ^[2]			
Carrier Release Bond (after 2h @ 230 °C)		-	Easy manual peeling			
Laminate Bond on halogen free ^[1]		N/mm	≥ 1.0			
Laminate Bond on BT resin ^[1]			≥ 0.7			

^[1] after galvanic reinforcement up to 20 µm

^[2] In case of long lasting post-baking cycles, please contact our Technical Customer Service for advice.

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* All of this Technical Information has been determined with due care and thoroughness. However, because the conditions of use and process and application technologies employed can substantially vary, the provided data and figures can only serve as non-binding guidelines. They do not constitute a guarantee that the purchased item will possess certain attributes. For this reason, no liability whatsoever can be assumed for them. The buyer is obliged to check the suitability of all supplied products.