



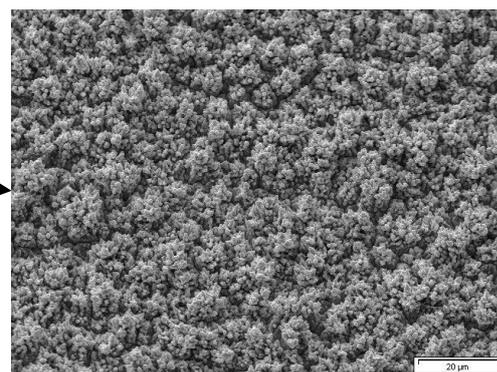
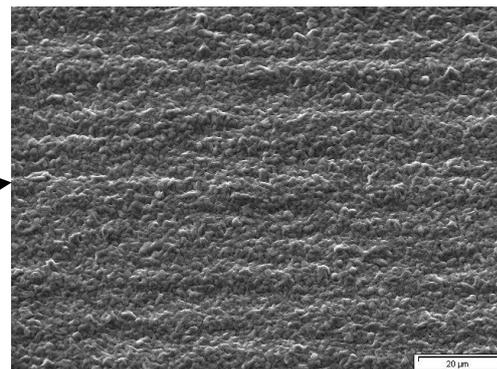
Doublethin Coreless™ 3 μm and 5 μm carrier supported (DTH-CL)

Technical Characteristics

Circuit Foil's **DTH-CL** product is a tailor made ultra-thin peelable copper foil of the Doublethin™ family designed for proprietary coreless build-up processes.

Mobile communication will further grow through various devices like next generation ultrabooks, smartphones and tablets requiring ultra-thin printed circuit boards with the highest interconnect density, using thin chip packaging techniques like coreless build-up processes.

DTH-CL foil construction:



Typical average properties*

Doublethin Coreless™ (DTH-CL)						
MEASURED PARAMETERS		UNITS	PRODUCT GAUGE			
Nominal Thickness		μm	1.5	2	3	5
Area Weight	Functional Foil (Coreless Process Side)	g/m ²	20 ± 3	25 ± 2.5	29 ± 3	45 ± 4
Roughness Process Side	Ra	μm	~ 0.3			
	Rz (JIS)		~ 2.0			
Treatment Type		-	As free and Zn free Copper			
Carrier Release Bond after multiple lamination and wet process cycles		-	Easy manual peeling			
Carrier Thickness		μm	12 or 18	18 or 35	35 or 70	
		oz.	3/8 or 1/2	1/2 or 1	1 or 2	
Roughness Bonding Side	Rz (JIS)	μm	3 - 6.5	4 - 7.5	5 - 8.5	
Peel Strength of Carrier Side ⁽¹⁾		N/mm	≥ 0.8 ⁽¹⁾			

⁽¹⁾ high Tg, filled, low CTE resin systems

* 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.



Advanced Product Features

The Ultra-Thin Functional Layer

Very regular ultra-thin functional foil.
Roughness Rz (JIS) of this side is typically below 2 μm and enables L/S < 15 μm/15 μm.

The Interface Release Layer

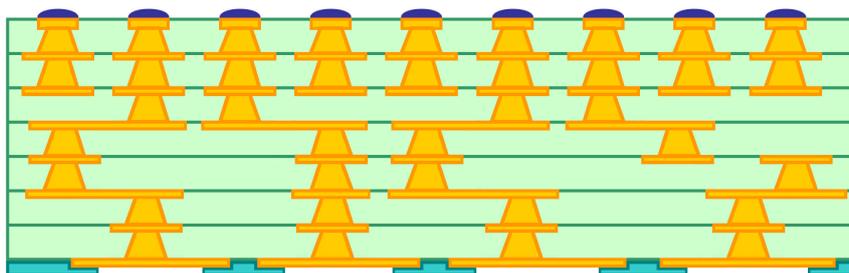
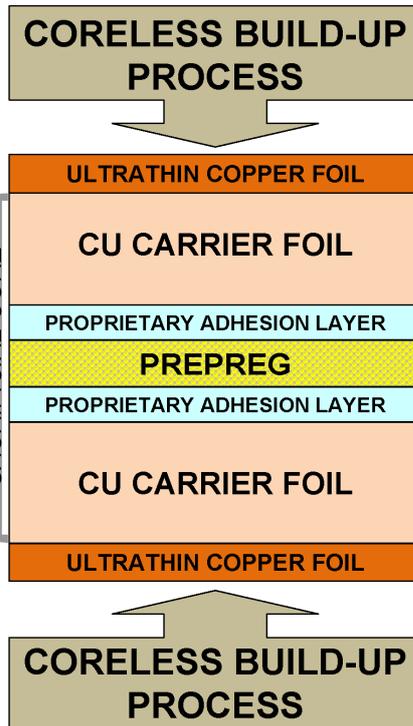
Organic-free metallic release layer.
Remains on the carrier foil after peeling.
Tunable carrier release force adjustable to customer process.
Low and stable carrier bond after multiple lamination and wet process cycles of the Coreless Build-up technology.

The Peelable Cu Carrier Foil

Electrodeposited, in-house produced carrier copper foil with a precisely controlled shiny surface.
Easy mechanical separation even after multiple lamination and wet process cycles at the end of the manufacturing.

The Bonding Side

Proprietary adhesion layer on the carrier foil side providing secure bond strength to high Tg, filled, low CTE resin systems of the sacrificial core.



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