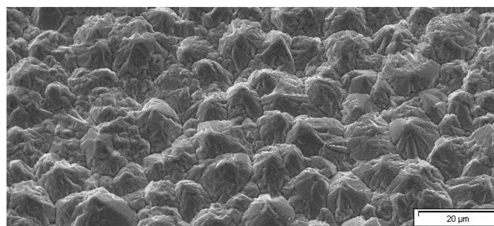
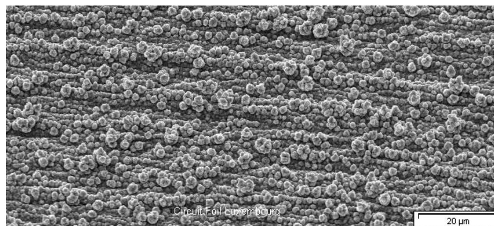
TW-B-YE / TW-B


Untreated matte side

Treated drum side


Technical Characteristics

TW-B style of foil is an advanced single-sided treated electro-deposited copper foil, where bonding treatment is applied to the “shiny” side (so-called “Reverse Treated Foil”). The final product exhibits Very Low Profile characteristics for the treatment side. Base foil is characterized by enhanced high temperature elongation properties [Grade 3].
The product is designed for the manufacture of FR-4 based laminates for multilayer PCB’s, where inner layers will be submitted to “oxide-bonding” chemistries.

Such cores will be used to produce high density, fine line or controlled impedance PCB circuitry.

Typical average properties*

TW-B-YE							TW-B			
MEASURED PARAMETERS		**UNITS**	**PRODUCT GAUGE**							
Nominal Thickness		**µm** **oz.**	**12** **1/3**	**18** **1/2**	**35** **1**	**70** **2**	**105** **3**	**140** **4**	**175** **5**	**210** **6**
Area Weight (≤ ± 5 %)		oz/ft²	0.35	0.51	0.93	1.89	2.87	3.87	4.82	5.81
		g/m²	107	155	285	578	875	1181	1472	1773
		g/254 in²	17.5	25.4	46.7	94.7	143	194	241	291
Untreated Side Roughness (Rz)	ISO	µm (µ.inch)	≤ 5.1 (≤ 201)	≤ 6.0 (≤ 236)	≤ 9.0 (354)	≤ 10 (≤ 394)	≤ 11 (≤ 433)	≤ 12.5 (≤ 492)	≤ 14 (≤ 551)	≤ 15 (≤ 591)
	JIS		≤ 4.2 (≤ 165)	≤ 5.0 (≤ 197)	≤ 7.5 (≤ 294)	≤ 8.4 (≤ 331)	≤ 9.2 (≤ 362)	≤ 10.5 (≤ 413)	≤ 11.8 (≤ 465)	≤ 12.7 (≤ 500)
Treated Side Roughness (Rz)	ISO		≤ 5.1 (≤ 201)							
	JIS		≤ 4.2 (≤ 165)							
Tensile Strength Transverse at RT		MPa (k.Lb/in²)	≥ 276 (≥ 40)							
Tensile Strength Transverse at 180 °C			≥ 138 (≥ 20)							
Elongation Transverse at RT		%	≥ 3	≥ 6		≥ 9	≥ 12			
Elongation Transverse at 180 °C			≥ 2	≥ 3						
Peel Strength Treated Shiny Side (RT) FR4[1]		N/mm (Lb/in)	≥ 0.87 (≥ 5.0)	≥ 1.0 (≥ 5.7)	≥ 1.35 (≥ 7.7)	≥ 1.6 (≥ 9.1)	≥ 1.7 (≥ 10)	≥ 1.8 (≥ 10.3)		
High Temp. Tarnish Resistance		-	120 min @ 180 °C in air: pass							
Solderability		-	Complies with IPC specification							

[1] Laminate construction with thickness ≥ 0.5 mm

- The higher foil thicknesses (>100 µm) are typically used for high current applications or power / ground planes.
- Thermally stable microstructure - stable mechanical properties unaffected by thermal excursion from lamination or post laminate baking cycles - which could degrade laminate dimensional stability, warp & twist, and drilling characteristics (nail heading).
- Very Low Profile bonding surface roughness (Rz m5.1 µm / 200 µ.inch) ensures fast clean etching, with minimal loss of bond strength compared to conventional products.
- Simplified “oxide” processing. The already roughened untreated matte surface eliminates the need for chemical micro etching prior to oxide processing and the associated etch waste disposal costs.

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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.