



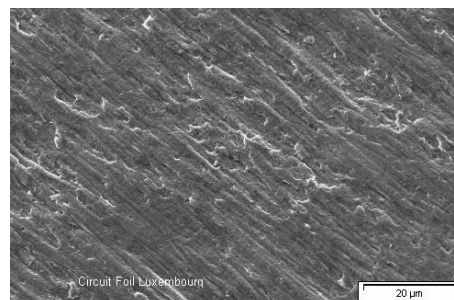
# TZA

## Technical Characteristics

TZA style of foil is an environmentally friendly matte-side treated zinc free and arsenic free electro-deposited copper foil, characterized by enhanced high temperature elongation properties [IPC-Grade 3] and thermally stable microstructure.

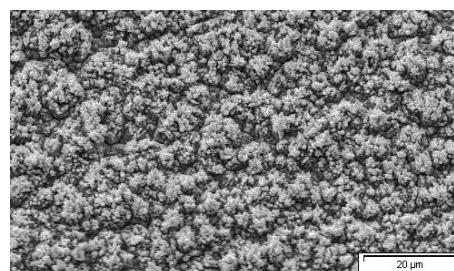
Excellent adhesion to a broad range of substrates allows it to be used for the fabrication of laminates for rigid, composite, halogen free and conventional multilayer / mass lamination applications.

The higher foil thicknesses (> 100 µm) are typically used for high current applications or power / ground planes.



Shiny side

Treated matte side



### Typical average properties\*

TZA											
MEASURED PARAMETERS		UNITS	PRODUCT GAUGE								
Nominal Thickness		µm oz.	9 1/4	12 3/8	18 1/2	35 1	70 2	105 3	140 4	175 5	210 6
Area Weight		oz/ft <sup>2</sup>	0.25	0.35	0.50	0.93	1.89	2.86	3.85	4.82	5.83
		g/m <sup>2</sup>	75	106	152	283	577	873	1175	1470	1780
		g/254 in <sup>2</sup>	12.3	17.4	24.9	46.4	94.6	143.1	193	241	292
Untreated Side Roughness (Ra)			0.20 - 0.40 (8 - 16)								
Treated Side Roughness (Rz)	ISO	µm (µ.inch)	4 - 7 (157 - 276)	5 - 8 (197 - 315)	6 - 10 (236 - 394)	8 - 13 (315 - 512)	≤ 16 (≤ 630)	≤ 18 (≤ 709)	≤ 19 (≤ 748)		
	JIS		3 - 5.8 (118 - 228)	4 - 7 (157 - 276)	5 - 8.4 (197 - 331)	7 - 11 (276 - 433)	≤ 13.5 (≤ 531)	≤ 15.2 (≤ 598)	≤ 16.1 (≤ 634)		
Tensile Strength Transverse at RT		MPa (k.Lb/in <sup>2</sup> )	≥ 276 (≥ 40)								
Tensile Strength Transverse at 180 °C			≥ 138 (≥ 20)								
Elongation Transverse at RT		%	≥ 2	≥ 3	≥ 6		≥ 9	≥ 12			
Elongation Transverse at 180 °C			≥ 2			≥ 3			≥ 3		
Peel Strength (RT) FR4 halogen free <sup>††</sup>		N/mm (Lb/in)	≥ 0.88 (≥ 5.0)	≥ 1.0 (≥ 5.7)		≥ 1.2 (≥ 6.8)	≥ 1.3 (≥ 7.4)	≥ 1.5 (≥ 3.9)			
High Temp. Tarnish Resistance		-	60 min @ 180 °C in air: pass								
Solderability		-	Complies with IPC specification								

<sup>††</sup> Laminate construction with thickness ≥ 0.5 mm

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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.