

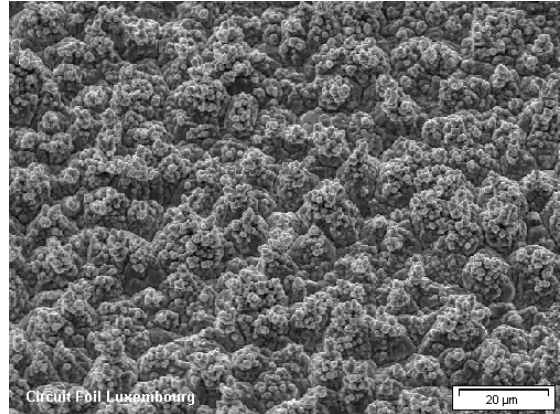
TOK

Technical Characteristics

TOK is a standard pink treatment for general purpose. This single side treated electro-deposited copper foil provides an exceptionally versatile and adaptable bonding surface for a comprehensive range of materials.

Excellent adhesion to a broad range of substrates allows it to be used for the manufacture of paper phenolic and composite laminates.

Typical substrates include phenolic paper (X, XP, XPC, FR-2 etc.), polyester glass (GPO's) and composites (CEM's).



Typical average properties

TOK				
Table 1				
MEASURED PARAMETERS	UNITS	PRODUCT GAUGE	IPC	
Nominal Thickness	μm oz.	35 1	Specification IPC-4562	Test Method IPC-TM-650
Area Weight (± 5 %)	oz/ft ²	0.95	(a)1.2.5, table 1-1	2.2.12
	g/m ²	290	(b)3.4.4	
	g/254 in ²	47.5	(c)4.6.3	
Untreated Side Roughness (Ra)	μm μ.inch	0.20 - 0.40 8 - 16	3.5.6	2.2.17
Treated Side Roughness (Rz)	μm μ.inch	7 - 10 276 - 394	3.4.5	2.2.17
Tensile Strength Transverse at RT	MPa k.Lb/in ²	> 276 > 40	3.5.1	2.4.18
Tensile Strength Transverse at 180 °C	MPa k.Lb/in ²	> 138 > 20	3.5.1	2.4.18
Elongation Transverse at RT	%	> 10	3.5.3	2.4.18
Elongation Transverse at 180 °C	%	> 3	3.5.3	2.4.18
Peel Strength (RT) FR4 ⁽¹⁾	N/mm Lb/in	> 1.7 > 10	3.5.4	2.4.8
High Temp. Tarnish Resistance on untreated side	-	60 min @ 180 °C in air: pass		
Solderability	-	Complies with IPC specification	3.6.3	2.4.12

⁽¹⁾ Laminate construction with thickness ≥ 0.5 mm



Advanced Product Features

- High temperature elongation - [HTE-Type E / Grade 3] foil.
- 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).
- The product meets or exceeds all of the requirements of IPC-4562 when tested on typical epoxy and multifunctional prepregs, in accordance with IPC test methods, including high temperature peel strength, solder shock and accelerated ageing.

Notes

- The foil can be supplied with an acrylic based adhesive coating applied to the matte side treated surface. See product information for adhesive coated foils.
- Products can be supplied in both roll and sheeted formats.
- Roll product is available in widths of 150 mm (~ 5.9") to 1360 mm (~ 53.5").
- Product is supplied on sturdy cardboard cores with an ID of ~ 80 mm (3 1/8"). Alternative core sizes and materials are available on request.
- Please visit our website (www.circuitfoil.com) for regular updates.

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.

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