

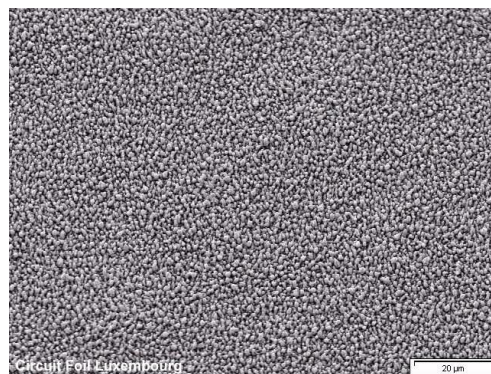
BF-HFZ

Technical Characteristics

BF style foil is an ultra-flat single side treated electro-deposited copper foil, characterized by high ductility at room temperature and lower electrical resistivity compared to regular ED foils. The zinc free HFZ treatment is designed to provide good bond strength on proprietary fluoropolymer resin systems.

The ultra-flat profile ensures a minimalist skin depth penetration thus reducing conductor losses for high speed digital applications and reducing the passive intermodulation (PIM) in RF applications if frequencies of 10 GHz and more apply.

Typical substrates include PTFE resin types and blends mainly for 5G applications.



Treated matte side

Typical product range*

BF-HFZ								
MEASURED PARAMETERS			UNITS	PRODUCT GAUGE		IPC		
Nominal Thickness			μm oz.	18 1/2	35 1	Specification IPC-4562A	Test Method IPC-TM-650	
Area Weight			oz/ft ² g/m ² g/254 in ²	0.50 152 24.9	0.93 285 46.7	(a)1.2.5, table 1-1 (b)3.4.4 (c)4.6.3	2.2.12	
Untreated Side Line Roughness	Ra	ISO 4287	μm (μ.inch)	≤ 0.35 (≤ 14)		3.5.6	2.2.17	
Untreated Side Surface Roughness	Sa	ISO 25178		~ 0.25 (~ 9.8)		-	2.2.22 Draft ^[2]	
	Sq			~ 0.33 (~ 13)		-		
Treated Side Line Roughness	Rz	ISO 4287		≤ 3.1 (≤ 122)		3.4.5	2.2.17	
	Rz	JIS B 601		≤ 2.5 (≤ 98)		-	-	
Treated Side Surface Roughness	Sa	ISO 25178		~ 0.33 (~ 13.0)		~ 0.32 (~ 12.6)	-	2.2.22 Draft ^[2]
	Sq			~ 0.42 (~ 16.5)		~ 0.40 (~ 15.7)	-	
	Sz			~ 4.4 (~ 173)		~ 4.0 (~ 157)	-	
Tensile Strength Transverse at RT				MPa (k.Lb/in ²)	≥ 207 (≥ 30)	≥ 276 (≥ 40)	3.5.1	2.4.18
Tensile Strength Transverse at 180 °C					≥ 103 (≥ 15)	≥ 138 (≥ 20)		
Elongation Transverse at RT			%	7 - 25	10 - 30	3.5.3		
Elongation Transverse at 180 °C				10 - 35	10 - 40			
Peel Strength (RT) PTFE ^[1]			N/mm (Lb/in)	≥ 1.2 (≥ 6.7)	≥ 1.3 (≥ 7.4)	3.5.4	2.4.8	
High Temp. Tarnish Resistance			-	120 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

^[2] Final draft of TM 2.2.22 as of Sept. 29th, 2015

Circuit Foil Luxembourg

Circuit Foil Trading Inc. (USA)

Circuit Foil Asia Pacific Co. Ltd.
(Zhangjiagang Free Trade Zone)

Circuit Foil Asia Pacific Ltd. (HK)
Hong Kong Head Office

Phone: +(352) 95 75 51 1
Fax: +(352) 95 75 51 249
E-mail: office@circuitfoil.com

Phone: +(1) 215 887 7255
Fax: +(1) 215 887 6911
E-mail: cftinc@circuitfoil.com

Phone: +(86) 512 58 32 21 82 80 03
Fax: +(86) 512 58 32 21 82 81
E-mail: cfapzjg@circuitfoil.com

Phone: +(852) 39 71 05 90
Fax: +(852) 39 71 05 91
E-mail: cfap@circuitfoil.com

* 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.