BFL-NN-PKG
BFL-NN-HT-PKG / BFL-NN-Z-PKG

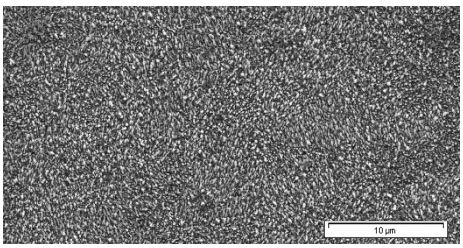
ULTRA FLAT COPPER FOIL FOR FINE LINE PATTERNING.

IPC Grade 10 & 3

33 As Arsenic 74.92

TYPICAL SUBSTRATES

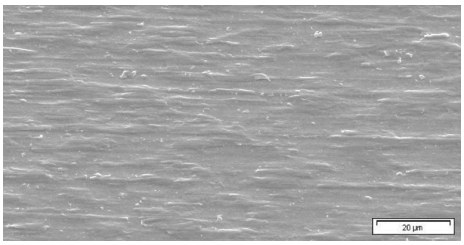
Bismaleimide-Triazine (BT) resin and halogen free high Tg epoxy resin systems.



Treated Electrolyte Side

TYPICAL PROCESSES

Subtractive process used in IC substrates and HDI/SLP ("Substrate Like PCB") including for inner layer of ETS ("Embedding Trace Substrate") structure.
Available down to ¼ oz. Reliable alternative to half-etching.



Untreated Drum Side

TYPICAL APPLICATIONS

Mobile communication devices (like smartphones and tablets) and laptops.

*TYPICAL AVERAGE PROPERTIES**

BFL-NN-PKG / BFL-NN-HT-PKG / BFL-NN-Z-PKG							
MEASURED PARAMETERS			**UNITS**	**PRODUCT GAUGE**		**IPC**	
Nominal Thickness			**µm oz.**	**9 1/4**	**12 3/8**	**Specification IPC-4562A**	**Test Method IPC-TM-650**
Area Weight			g/m²	71	100	3.4.4	2.2.12
Untreated Side Contact Roughness	Ra	ISO 4287	µm	≤ 0.25		3.5.6	2.2.17
Untreated Side Contactless Roughness	Sa	ISO 25178		~ 0.20		-	2.2.22 [2]
Treated Side Contact Roughness	Rz	JIS B 601		≤ 0.85	≤ 0.70	-	2.2.17
	Rz	ISO 4287		≤ 1.1	≤ 1.0	3.4.5	
Treated Side Contactless Roughness	Sa	ISO 25178		~ 0.12	~ 0.12	-	2.2.22 [2]
	Sz			~ 1.6	~ 1.6		
	Sdr		%	~0.7	~0.7		
Tensile Strength Transverse (RT)			MPa (k.Lb/in²)	≥ 276 (≥ 40)		3.5.1	2.4.18
Elongation Transverse (RT)			%	4 - 14	5 - 15	3.5.3	
Peel Strength on BT resin[1]			N/mm (Lb/in)	≥ 0.35 (≥ 2.0)	≥ 0.40 (≥ 2.0)	3.5.4	2.4.8

[1] Laminate construction with thickness ≥ 0.5 mm

[2] IPC TM 2.2.22 as of May 2020

ALTERNATIVE For MSAP process please consult DOUBLETHIN N-TZA, DOUBLETHIN ANP and DOUBLETHIN NN datasheets.

* 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.

CIRCUIT FOIL