

## Resin Coated Copper Foil

# ISOFOIL<sup>®</sup> 160i

This Resin Coated Copper Foil is designed for microvia board production as required by cellular phones or base stations. The high TG epoxy resin system has a superior flexibility for easy handling during the lay-up and provides a perfect and regular insulation thickness after lamination. Accurate coating thicknesses, combined with adjusted resin flow characteristics provide excellent hole filling and microvia quality. The foil can be laminated in a conventional vacuum or any ADARA<sup>™</sup> press and doesn't require necessarily pin lamination. The resin system is easily laser-ablated or plasma-etched. Combined with the use of copper carrier supported ultra thin Doublethin<sup>®</sup> foils, optimum protection of the functional 5µm layer is achieved, resulting in excellent yield figures. In tandem with ultra-thin copper foils, Laser Direct Drilling with a CO<sub>2</sub> laser can be applied.

### Copper Foil types:

- Very Low profile foil with HTE characteristics
- Low profile foil HTE characteristics
- Ultra-thin foils with a copper carrier

### Copper Foil Thickness:

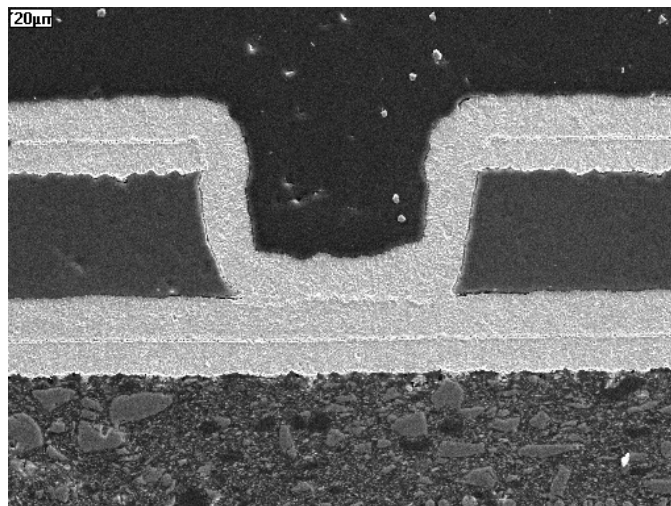
- Carrier supported (either 1oz or 2oz copper carrier): 3/35µm 5/35µm 5/70µm 9/70µm
- Unsupported copper foils: 12µm 18µm 35µm

### Resin Coating in B-stage:

65µm 75µm other thickness on request

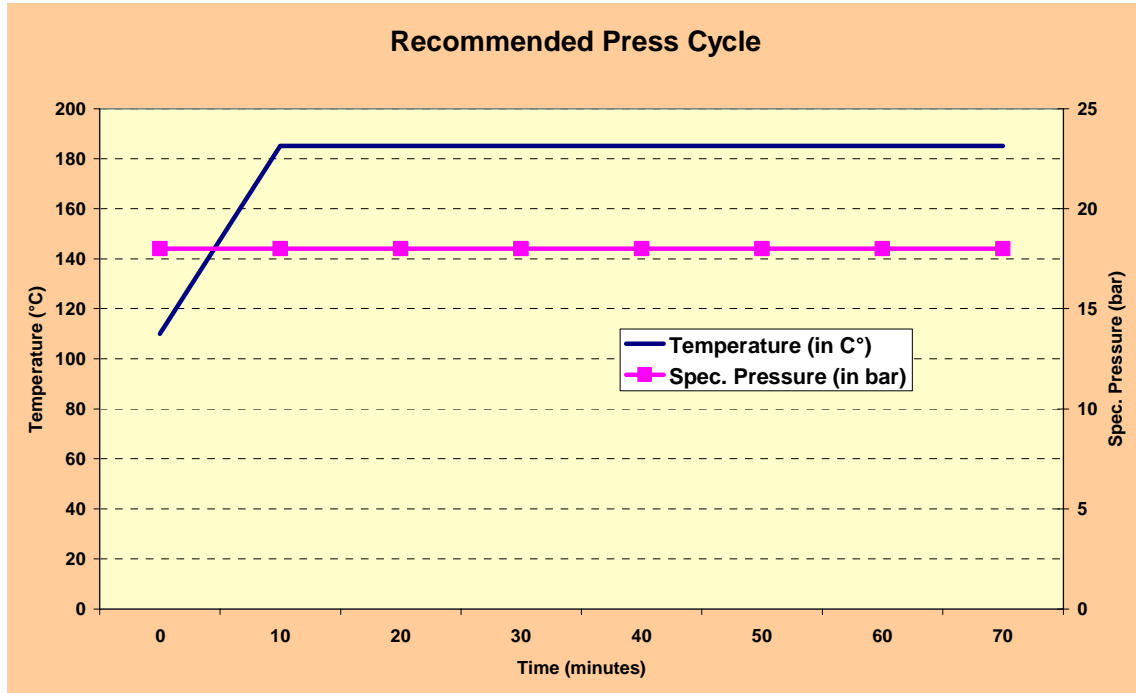
### Typical average properties:

Parameter	Units	Value	Remark
Dielectric Constant $\epsilon_r$ at 1 GHz	-	3.44	
Dissipation Factor $\tan \delta$ at 1 GHz	-	0.03	
Glass Transition Temperature TG	°C	> 165	Per DMA
Copper Peel Strength	N/mm	> 1.2	18µm LP4
Solder bath Resistance at 260°C	s	> 60	
Solder bath Resistance at 288°C	s	> 20	
High Pressure Cooker Test		Pass	
Surface Resistance	$\Omega$	> 10 <sup>12</sup>	
Water Absorption	%	< 0.1	
Coefficient of Thermal Expansion (z-axis)	ppm	60	From RT to TG
Flammability acc. UL-94	class	V0	File N° E239919
Chemical Resistance	-	Very good	



## Recommended Press Cycle:

Use a conventional vacuum press: vacuum at once



## Typical Temperature Profile:

Start from 110°C to 185°C in 10 minutes:  
7.5°C/minute  
Hold for 70 minutes  
Cool down under pressure

## Typical Pressure Profile:

15-20 bar for 90 minutes  
Keep pressure during cooling

## Recommended Storage Conditions:

Temperature: max. 15°C  
Rel. humidity: 45 ± 5 % rel.  
Shelf life: max. 90 days

## Availability:

Isofoil® 160i is available in rolls with uncoated edges for ADARA™ press technology or in sheets with or without punched registration holes.

For further information, please contact: