

# General Properties

Material	Type	PAA
Thermal Properties	Tg (TMA)	>400°C
	Td (5%)	>550°C
	CTE (TMA, 20-200°C)	1~2 ppm
	CTE (TMA, 20-400°C)	5~6 ppm
Chemical Resistance	PGMEA	Excellent
Modulus	Mpa	>200
Elongation	(%)	> 10
Young's Modulus	Gpa	N/A
Dielectric Constant	@ 1kHz	2.95
Post-Cure Condition	°C - hr	450°C - 2hr

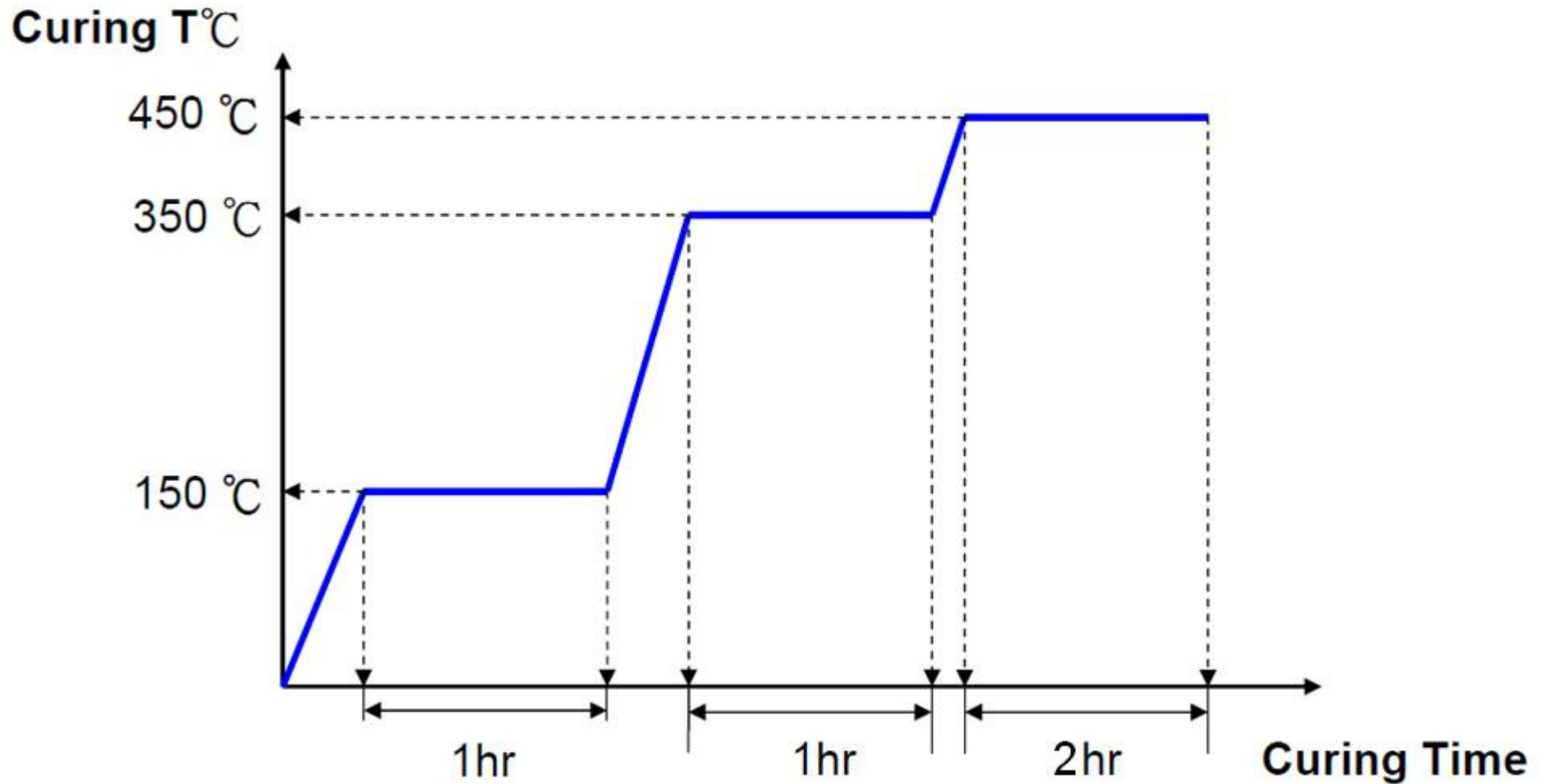
# General Liquid Properties

Item	Condition	Unit	EterPOEM	Test Method
Viscosity		Cp	$2000 \pm 500$	Brook Field
Solid Content		%	$15 \pm 2$	
Impurities	Na	ppm	< 0.3	ICP-MS
	K	ppm	< 0.3	ICP-MS
	Cu	ppm	< 0.1	ICP-MS
	Fe	ppm	< 0.1	ICP-MS
	Cr	ppm	< 0.1	ICP-MS
	Mn	ppm	< 0.1	ICP-MS

# Physical Properties

Item	Condition	Unit	Result	Test Method
Dielectric Constant	C-24/23/50	@ 1kHz	2.95	IPC-TM-650 2.5.5.3
Dissipation Factor	C-24/23/50	@ 1kHz	0.002	IPC-TM-650 2.5.5.3
Volume Resistance	C-96/23/65	W-cm	$> 1.0 * 10^{16}$	IPC-TM-650 2.5.17
Surface Insulation Resistance	C-96/23/65	W	$> 1.0 * 10^{15}$	IPC-TM-650 2.5.17
Moisture absorption	D-24/23	%	$\leq 0.6 \%$	IPC-TM-650 2.6.2
Thermal Decomp. Temp. (Td)	TGA, 5 %	°C	> 550	IPC-TM-650 2.4.24.5
Glass Transition Temp. (Tg)	TMA	°C	> 400	IPC-TM-650 2.4.24.5
CTE	20°C ~ 200°C	ppm/°C	$1.5 \pm 0.5$	IPC-TM-650 2.4.24.5
Tensile Strength	RT	MPa	$\geq 200$	IPC-TM-650 2.4.18.3
Elongation	RT	%	>10	IPC-TM-650 2.4.18.3

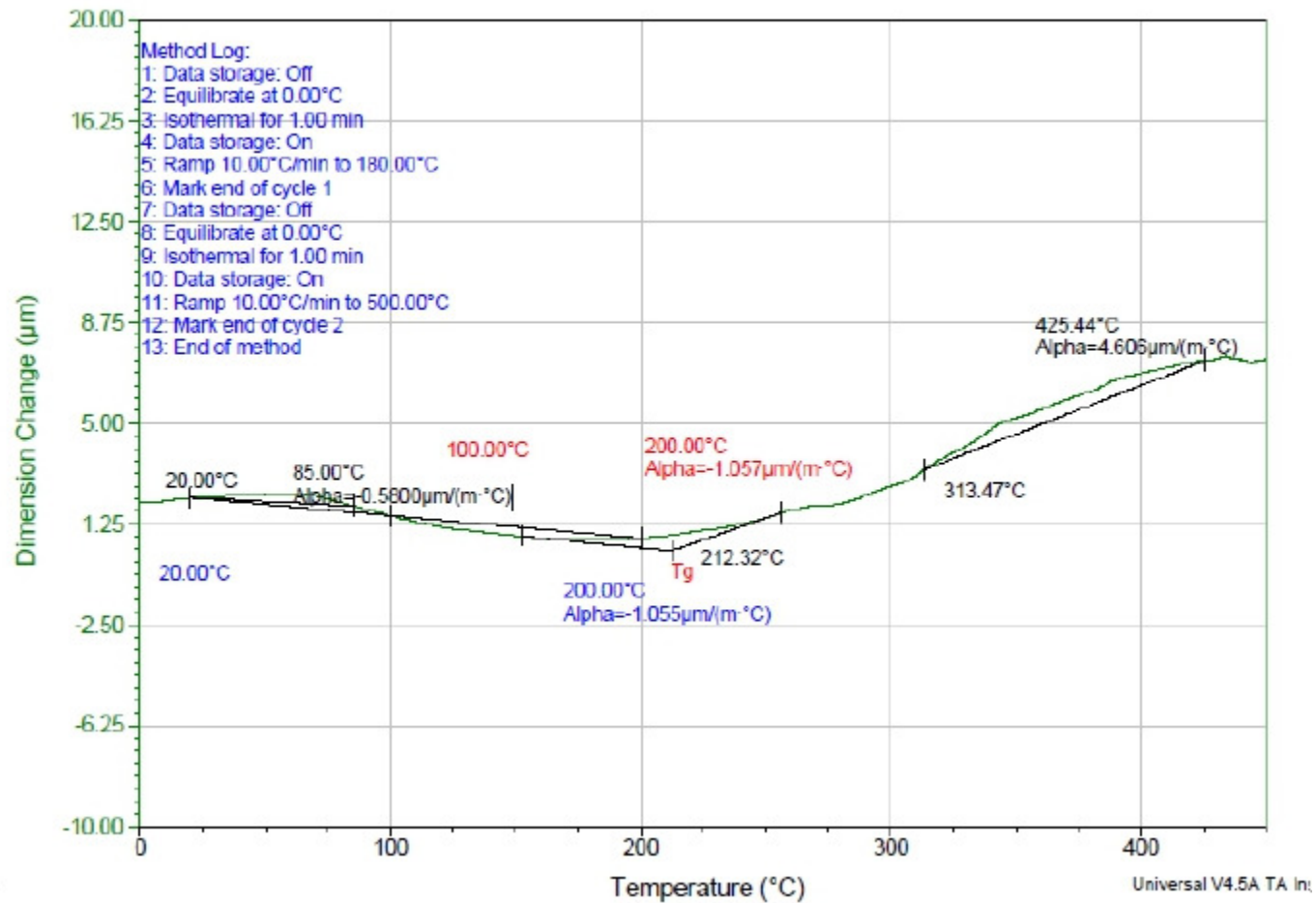
# Curing Profile



# TMA Profile

20°C ~ 200°C CTE < 2  $\mu\text{m}/^\circ\text{C}$

20°C ~ 400°C CTE < 6  $\mu\text{m}/^\circ\text{C}$



# TGA Profile

Td (1% lose) > 500 °C

Td (5% lose) > 550 °C

