



MICAM's E7 Grade is an epoxide resin laminate, based on a medium weave glasscloth, with excellent electrical, mechanical and thermal characteristics, when compared to conventional laminates.

Characteristics	Excellent electrical and mechanical properties High Temperature rating
Colours	Translucent Green/Yellow
Thickness	0.5mm to 100mm available on request
Sheet Size	1220mm x 920mm (panel sizes cut on request)

		units	test method
<b>GENERAL PROPERTIES</b>			
Relative Density	1.8	-	IEC 1183-A
Thermal Index (20,000 hrs)	180	°C	IEC 216
Water Absorption	10	mg / 50x50x3 mm	IEC 62-1
Flammability	HB	-	UL 94
Coefficient of thermal expansion in Z axis, before Tg <sup>#2</sup>	40	ppm/°C	ASTM D696-98
Coefficient of thermal expansion in Z axis, after Tg <sup>#2</sup>	190	ppm/°C	ASTM D696-98
<b>MECHANICAL PROPERTIES</b>			
Flexural Strength (X axis)	500	MPa	ISO 178
Flexural Strength (Y axis)	420	MPa	ISO 178
Flexural Modulus (X axis)	18,000	MPa	ISO 178
Flexural Modulus (Y axis)	14,000	MPa	ISO 178
Flexural Modulus (Z axis)	10,000	MPa	ISO 178
Flexural Strength at Elevated Temp <sup>#1</sup>	300	MPa	ISO 178
Izod Impact Strength	70	kJ/m <sup>2</sup>	ISO 180/2A
Shear Strength, parallel	57	MPa	EN60893-2
Tensile Strength (X axis)	345	MPa	ISO 527
Tensile Strength (Y axis)	300	MPa	ISO 527
Compressive Strength Flatwise	545	MPa	ISO 604
<b>ELECTRICAL PROPERTIES</b>			
Insulation Resistance after immersion in water	5 x 10 <sup>5</sup>	MΩ	IEC 167
Dielectric Strength Flatwise (in oil at 90°C)	18	MV/m (1.6mm)	IEC 243-1
Dielectric Strength Edgewise (in oil at 90°C)	65	kV (3mm)	IEC 243-1
Dissipation Factor at 50Hz	0.008	-	IEC 250
Dissipation Factor at 1 MHz	0.01	-	IEC 250
Permittivity at 50 Hz	4.7	-	IEC 250
Permittivity at 1 MHz	4.7	-	IEC 250
Comparative Tracking Index	200	V	IEC 112

#1: 1 hr/150°C and tested at 150°C

#2: Tested after stoving – 160/4, 20/8

### SPECIFICATION COMPLIANCE

BS3953: 1990 EP-5+7 | DIN 7735: 1975 Hgw 2372.4; ISO 1642: EP-GC-3; EN 60893-3-1: 1994/EP GC 203; NEMA L1-1-1989 G-11

### ENVIRONMENTAL COMPLIANCE

RoHS compliant; REACH compliant

### QUALITY SYSTEM APPROVAL

Certified by NSAI to I.S. EN ISO 9001:2008

**MICAM LIMITED** · TEL + 353 22 21345 · EMAIL [info@micam.com](mailto:info@micam.com) · WEB [www.micam.com](http://www.micam.com)

