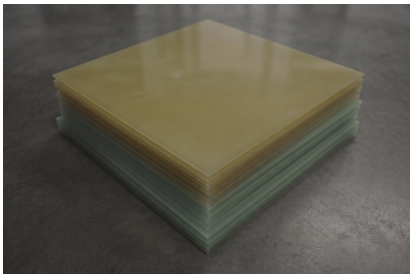
MISCELLANEOUS INSULATION MATERIALS

KIN COPPER ELECTRIC

Epoxy Glass Laminated Sheet

G10, G11, FR4, FR5, Class H (130°C), Class F (155°C)



Description: Constructed from premium E-glass cloth impregnated with modified epoxy resins, these regid laminated sheets deliver exceptional mechanical strength, chemical resistance, and electrical insulation across a variety of thermal grades.

Application: G10/G11/FR4/FR5 Epoxy Glass Cloth Laminated Sheets can be used as high quality construction materials as well as electrical insulation materials in various machines and equipments. G11/FR5 are used especially in areas where high mechanical strength and dynamic properties are necessary at operating temperature.

International Standards:

G10: IEC60893 EP GC 201/ NEMA LI-1 :G10 / DIN 7735 Hgw 2372/ B S 3953 EP-3.
G11: IEC60893 EP GC 203/ NEMA LI-1 :G11 / DIN 7735 Hgw 2372.4 / B S 3953 EP-5.
FR4: IEC60893 EP GC 202 / NEMA LI-1:FR4 / DIN 7735 Hgw 2372.1 / BS 3953 EP-4.
FR5: IEC60893 EP GC 204 / NEMA LI-1:FR5 / DIN 7735 Hgw 2372.2 / BS 3953 EP-6.

Size Range (mm)	Thickness (mm)
1020 x 1220	0.50 - 25.0
1220 x 2440	0.50 - 25.0

International Standards			IEC 60893		EPGC201	EPGC202	EPGC203	EPGC204
			DIN 7735		Hgw 2372	Hgw 2372.1	Hgw 2372.4	Hgw 2372.2
			NEMA LI-1		G10	FR 4	G11	FR 5
Properties			Test method	Unit	Value	Value	Value	Value
Physical Properties	Color				Green	Yellow /Green	Green	Yellow /Green
	Specific Gravity			g/cm³	1.8-2.0	1.8-2.0	1.8-2.0	1.8-2.0
	Water absorption (2mm thick)		ISO 62	mg	8	8	9	9
Mechanical Properties	Flexural Strength(23°C)		ISO178	MPa	500	500	490	490
	Flexural Strength(130°C)		ISO178	MPa	-	-	240	240
	Impact Strength (Charpy, Notch)//		ISO179	KJ/m²	52	52	50	50
Electrical Properties	Electrical Strength (3mm thick, 90°C in oil)	⊥	IEC 60243	KV/mm	17	17	18	18
		//	IEC 60243	KV	45	45	48	48
	Insulation Resistance After Immersion in water		IEC 60167	Ω	$6.8x10^{12}$	$6.8x10^{12}$	$7.1x10^{12}$	$7.1x10^{12}$
	Dielectric Constant at 1 MHz		IEC 60250	-	4.0-5.0	4.0-5.0	4.0-5.0	4.0-5.0
	Dissipation Factor at 1MHz		IEC 60250	-	0.02	0.02	0.02	0.02
Thermal Properties	Flame Resistance		UL 94	-	-	V-0	-	V-0
	Temperature Index (TI)		IEC 60216	°C	>130	>130	>155	>155