



Leading Manufacturer of
ELECTRICAL INSULATION MATERIALS

九江鑫星绝缘材料有限公司
JIUJIANG XINXING INSULATION MATERIAL CO.,LTD

Email: sales1@xx-insulation.com
Tel: 86-792-8590828 86-15170255117



3240 ,G-10,G-11,FR-4,FR-5,EPGC308,ESD G10/FR4,EPGM SERIES,UPGM SERIES

TECHNICAL DATA SHEET G12/G11-H

Item:	G12 Glass Epoxy Laminate			
Description:	G12/G11-H materials are the chemical treatment electrical purposed alkali-free fiberglass reinforced laminates,bonded with high TG epoxy resin.It has high mechanical strength under normal temperature , still has strong mechanical strength , good electrical properties under dry and wet environment, can be used in damp environment and transformer oil.It belongs to class H heat resistance insulating material.			
Standards:	NEMA:G12 • IEC60893:EPGC308(sheet) • GB/T 1303.2.2009			
Application:	Suitable for class 180 (H) traction motors, large motors as slot wedges and high-end electrical appliances as heat resistant insulation results,			
Availability:	Laminate Sheets:	Thickness	English Units(in) 0.008"-4.0"	SI unites(mm/cm) 0.2-101.6(mm)
		Sheet Size	40" x 48"	102cm x 122cm
			48" x 80"	122cm x 204cm
	48" x 96"		122cm x 244cm	
Fabricated parts:	Xinxing Insulation custom fabricates insulation materials to the exact specifications and drawings of our customers			

TYPICAL PROPERTIES OF G12/ G11- H SHEET

Key Characteristic	Units	IEC Requirement	Typical Values	Test Methods
PHYSICAL				
Standard color	--	--	Light green, Dark brown ¹	
Density	g/cm ³	1.8-2.0	1.8-2.0 ²	ISO1183-1:2019 (The method A)
Water Absorption,24 hrs 3mm	mg	22 max	9.1	ISO62:2008
MECHANICAL				
Flexural strength perpendicular to laminations (under normal condition)	MPa	340 min	556	ISO178:2019
Flexural strength perpendicular to laminations (under 150±5℃)	MPa	170 min	298	ISO178:2019
Flexural modulus perpendicular to laminations	MPa	--	2.42x10 ⁴	ISO178:2019
Charpy impact strength parallel to laminations (Notched)	kJ/m ²	45 min	111	ISO179-1:2010
Tensile strength(MD)	MPa	300 min	557	ISO527-2:2012



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Compressive strength perpendicular to laminations (23°C±2°C)	MPa	--	640	ISO604:2002
Compressive strength perpendicular to laminations (180°C±2°C)	MPa	--	378	ISO604:2002
THERMAL				
Temperature Index	°C	180	180	-
Thermal conductive coefficient (23°C)	W/(m·K)	--	0.432	ISO8301: 1991
Coefficient of linear thermal expansion (30°C-120°C)	10 ⁻⁶ /K	--	28.5	ISO11359-2: 2021
Flammability	Class	HB	HB	UL-94
ELECTRICAL				
Electric strength perpendicular to laminations (at 90°C±2°C in oil), 1mm in thickness	kV/mm	14.2 min	19.2	IEC60241-1:2013
Breakdown voltage parallel to laminations(at 90°C±2°C in oil)	kV	50 min	100 min	IEC60241-1:2013
Insulation resistance(after 24h immersion in water)	MΩ	5x10 ⁴ min	2.6x10 ⁶	IEC62631-3-3:2015
Relative Permittivity(50Hz)	--	5.5 max	5.2	IEC60250:1969
Dielectric dissipation(50Hz)	--	0.04 max	0.0335	IEC60250:1969
Comparative tracking index	--	200 min	CTI 225	IEC60112:2003 +A1:2009

¹Custom colors available upon request

²The density of our pure epoxy fiberglass laminate sheet is about 1.9g/cm³,Custom formula available upon request

The above values are for reference only and are taken from the average test results, and do not represent complete consistency with the actual performance of the material.