

G-Etronax EP 11 - Tubes

Components:	Glass fabric - Epoxy
Colour*:	 Yellow/green
Serial no.:	840
Version no.:	V1.1-4/2/16

Closest relevant standards

IEC/EN 61212-3-1:	EP GC 22
DIN 7735:	Hgw 2375.4
NEMA LI 1:	G - 11

Mechanical properties	Test method	Dimension	Value	Unit	
Bending strength	ISO 178	id>100 mm	325	MPa	*D
Compressive strength, axial	ISO 604		200	MPa	*1
Cohesion between layers	IEC 61212-2	id<100 mm	480	MPa	*1

Electrical properties	Test method	Thickness	Value	Unit	
Electrical strength in oil at 90°C, perpendicular	IEC 60243-1	B) 3 mm	11	kV/mm	*2
Electrical strength in oil at 90°C, parallel	IEC 60243-1	B) ≥ 3 mm	60	kV/25mm	*2
Permittivity 50 MHz	IEC 62631-2-1		4.5		*3
Permittivity 1 MHz	IEC 62631-2-1		4.5		*3
Dissipation factor 50 MHz	IEC 62631-2-1		0.01		*3
Dissipation factor 1 MHz	IEC 62631-2-1		0.01		*3
Insulation resistance after submersion in water	IEC 62631-3-3		10000	MΩ	*4
Comparative tracking index	IEC 60112	≥ 3 mm	200	CTI	*F

Physical and thermal properties	Test method	Thickness	Value	Unit	
Temperature index 20,000 h (T.I.)	IEC 60216	≥ 3 mm	180	°C	-
Fire class	IEC 60695-11-10	-	-	-	-
Density	ISO 1183-A	All	1.8	g/cm ³	-
Water absorption	ISO 62-1		0.2	mg/cm ²	-
Smoke emission & toxicity	EN 45545-2; R22, R23 & R24	-	-	-	-
Oxygen Index (OI)	EN ISO 4589-2	-	-	%	-
Smoke density (Ds max)	EN ISO 5659-2	-	-	-	-
Smoke density (Ds max)	EN ISO 5659-2	-	-	-	-
Toxicity (CIT _{NLP})	NF X70-100-1/-2	-	-	-	-

Characteristics and applications

Very good electrical and mechanical properties. Extremely high mechanical strength, even at high temperatures. Retains its electrical properties at relatively high humidity. High chemical resistance. Construction and insulation material in larger rotating electrical machines, insulation cylinders in transformers.

Conditioning

- 24h/23°C/50%RH
- 24h/23°C/50%RH + 1h/ in oil at 90°C
- 96h/105°C + 1h/23°C/20%RH
- 24h/50°C/<20% RH + 24h in water at 23°C
- 96h/105°C + 1h/ in oil at 90°C

Notes

- ID > 8 mm and/or OD > 10 mm
- Wall thickness
- Halogen free
- 230 MPa measured at 150°C
- Wall thickness ≥ 4,0 mm
- Tested on sheet material

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* Note that color and surface are indicative. As this is a technical product, colour and expression may vary according to dimensions, batches and machining. If you want further information or have special decorative needs, please feel free to contact us.