New (CTI / FR)[1] Portfolio For High Voltage Applications

Material properties

Description

- New amorphous, dimensional stable (CTI / FR)[1] materials for usage in Li-Ion batteries, high voltage components in the electric powertrain and EE applications
- CTI[1] 600 V, UL94 V-0[1]
- Including reinforced thermally conductive and electrically insulating Makrolon® TC grades

- The Comparative Tracking Index (CTI) describes the material's resistance against electrical creepage on the surface

High voltage device (exemplary representation)

[1] CTI & UL94V / FR data is the result of Covestro internal test data.

Properties[3]	Standard	Bayblend® TP3008 CTI	Bayblend® TP3015 CTI	Makrolon® TP5070	Makrolon® TP6019 CTI	Makrolon® TP5121
CTI[1]	IEC60112	600V				
Vicat temperature	ISO 306	105 °C	120 °C	125 °C	130 °C	145 °C
HDT A	ISO 75-1,-2 1.8 MPa	90°C	100 °C	120 °C	110 °C	137 °C
Burning behavior[1]	UL94[1]	V-0 at 1.5 mm (natural color)	V-0 at 1.5 mm (natural color)	V-0 at 1.5 mm (natural color)	V-0 at 1.5 mm (natural color)	V-0 at 2.0 mm (natural color)
GWFI	IEC 60695-2-12 1.5 mm / 3.0 mm	725°C / 960°C	960°C / 960°C	960°C / 960°C	960°C / 960°C	960°C / 960°C
GWIT	IEC 60695-2-13 1.5 mm / 3.0 mm	725°C / 725°C	800°C / 775°C	850°C / 850°C	825°C / 825°C	850°C / 850°C
Tensile modulus	ISO 527-1,-2	2400	2300	7700	2400	8000
Impact strength (Izod notched)	ISO 180/A, RT	40 kJ/m²	50 kJ/m²	-	10 kJ/m²	-
Impact strength (Charpy unnotched)	ISO 179/1eU	No break	No break	30	No break	20
Thermal conductivity	ASTM E1461-01 (in- / through-plane)	-	-	1,4 / 0,3 W/(m*K)	-	1,1 / 0,2 W/(m*K)
Colors[2]		orange, black, natural	orange, black, natural	natural (white)	orange, black, natural	natural (white)

[1] CTI and UL94V / FR data is the result of Covestro internal tests.
[2] Colors: preliminary, please contact Covestro
[3] Preliminary, typical values only
NOTE: **Covestro data & measurements not guaranteed by this presentation. Please refer to the official Covestro material data sheets.**

INTERNAL