テクニカルデータシート

EtroX® I CM natural

PI

製品の特徴

- 耐熱性
- 高い機械的強度
- 高いクリープ耐性
- 高い耐衝撃性
- 高い剛性
- 優れた寸法安定性

製品の用途例

- エレクトロニクス
- 半導体
- 航空宇宙
- 車両建造
- 半導体-フロントエンド用途
- 半導体-ウエハ製造
- 半導体-バックエンド用途
- 半導体-CMP
- 半導体-バックエンド用途

	試験法	単位	値
一般的物性			
密度	DIN EN ISO 1183-1	g / cm^3	1,37
吸水率	DIN EN ISO 62 (23°C / 24h)	%	0,6
吸水率	DIN EN ISO 62 (23°C / 48h)	%	0,8
吸水率	DIN EN ISO 62 (23°C / 3 Weeks)	%	2,4
機械的物性			
引張破壊呼び歪	DIN EN ISO 527	%	8
引張弾性率	DIN EN ISO 527	MPa	3600
引張強度	DIN EN ISO 527	MPa	145
ノッチ付き衝撃耐性	DIN EN ISO 179	kJ / m^2	10
ショア硬度	DIN EN ISO 868	scale D	89
ボールインデンテーション硬度	DIN EN ISO 2039-1	MPa	240
圧縮強度	DIN EN ISO 604	MPa	4200
引張クリープ弾性率 (1h)	ISO 899-1	MPa	3390
引張クリープ弾性率 (1000h)	ISO 899-1	MPa	2730
熱的物性			
ガラス転移温度	ISO 11357-3	°C	323

	試験法	単位	値
使用温度 (短期、最大)	平均値	°C	380
平均線膨張係数	ISO 11359-2	K^{-1}	41
荷重たわみ温度	DIN EN ISO 75	°C	319
荷重たわみ温度 (1.80MPa)	ISO 75-1/-2	°C	319
荷重たわみ温度 (0.45MPa)	ISO 75-1/-2	°C	343
電気的物性			
体積固有抵抗	DIN EN 62631-3-1	Ω * cm	> 10^{15}
誘電率 @ 100Hz	IEC 60250		4,2
誘電率 @ 1kHz	IEC 60250		4,2
誘電率 @ 10kHz	IEC 60250		4,1
誘電率 @ 100 kHz	IEC 60250		4,1
Dielectric constant @ 10GHz	IEC 61189-2-721		3,4
Dielectric constant @ 40GHz	IEC 61189-2-721		3,3
Dielectric constant @ 100GHz	IEC 61189-2-721		3,2
体積固有抵抗	IEC 60093	Ωm	8*10^{13}
表面固有抵抗	IEC 60093	Ω	5*10^{15}
比誘電率 (100Hz)	IEC 62631-2-1	-	3,5
比誘電率 (1MHz)	IEC 62631-2-1	-	3,4
誘電正接 (1MHz)	IEC 62631-2-1	E-4	80
耐電圧	IEC 60243-1	kV / mm	34

The short-term maximum application temperature only applies to very low mechanical stress for a few hours. The long-term maximum application temperature is based on the thermal ageing of plastics by oxidation, resulting in a decrease of the mechanical properties. This applies to an exposure to temperatures for at least 5.000 hours causing a 50% loss of the tensile strength from the original value (measured at room temperature). This value says nothing about the mechanical strength of the material at high application temperatures. In case of thick-walled parts, only the surface layer is affected by oxidation from high temperatures. With the addition of antioxidants, a better protection of the surface layer is achieved. In any case, the center area of the material remains unaffected. The minimum application temperature is basically influenced by possible stress factors like impact and/or shock under application. The values stated refer to an minimum degree of impact stress. The electrical properties as stated result from measurements on natural, dry material. With other colours (in particular black) or saturated material, there may be clear differences in the electrical properties. The data stated above are average values ascertained by statistical tests on a regular basis. They are in accordance with DIN EN 15860. They serve as information about our products and are presented as a guide to choose from our range of materials. This, however, does not include an assurance of specific properties or the suitability for particular application purposes that are legally binding. Since the properties also depend on the dimension of the semi-finished products and the degree of crystallization (e.g. nucleating by pigments), the actual values of the properties of a particular product may differ from the indicated values.