

TECAPEEK natural - 型材 (棒材, 板材, 管件)

化學命名

PEEK (聚醚醚酮)

顏色

米黃色 不透明

密度

1.31 g/cm³

主要特色

- 良好的熱變形溫度
- 良好的加工特性
- 固有的防火性
- 高能輻射抗性
- 良好的滑動及耐磨特性
- 優異的耐化學性
- 高蠕變抗性
- 耐水解和熱蒸氣

目標產業

- 化學技術
- 機械工程
- 食品科技
- 電子學
- 能源工業
- 石油和天然氣工業
- 航空與航太科技
- 汽車工業
- 半導體科技
- 真空科技

機械特性	參數	值	單位	標準	註解
抗拉強度	50mm/min	116	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b
彈性模數 (張力測試)	1mm/min	4200	MPa	DIN EN ISO 527-2	(2) For flexural test: support span 64mm, norm specimen.
降伏點抗拉強度	50mm/min	116	MPa	DIN EN ISO 527-2	(3) Specimen 10x10x10mm
降伏點伸長率	50mm/min	5	%	DIN EN ISO 527-2	(4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression.
斷裂伸長率	50mm/min	15	%	DIN EN ISO 527-2	(5) For Charpy test: support span 64mm, norm specimen.
抗彎強度	2mm/min, 10 N	175	MPa	DIN EN ISO 178	(6) Specimen in 4mm thickness
彈性模數 (彎曲測試)	2mm/min, 10 N	4200	MPa	DIN EN ISO 178	
壓縮強度	1% / 2% / 5% 5mm/min, 10 N	23/43/102	MPa	EN ISO 604	(3)
壓縮模數	5mm/min, 10 N	3400	MPa	EN ISO 604	(4)
衝擊強度(Charpy)	max. 7.5J	n.b.	kJ/m ²	DIN EN ISO 179-1eU	(5)
缺口衝擊強度(Charpy)	max. 7.5J	4	kJ/m ²	DIN EN ISO 179-1eA	
球壓式硬度		253	MPa	ISO 2039-1	(6)
熱特性	參數	值	單位	標準	註解
玻璃轉化溫度		150	°C	DIN EN ISO 11357	(1)
熔化溫度		341	°C	DIN EN ISO 11357	(2)
熱變形溫度	HDT, Method A	162	°C	ISO-R 75 Method A	
使用溫度	short term	300	°C		(2)
使用溫度	long term	260	°C	-	
熱膨脹 (CLTE)	23-60°C, long.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
熱膨脹 (CLTE)	23-100°C, long.	5	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
熱膨脹 (CLTE)	100-150°C, long.	7	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	
比熱		1.1	J/(g*K)	ISO 22007-4:2008	
導熱係數		0.27	W/(K*m)	ISO 22007-4:2008	
電性特性	參數	值	單位	標準	註解
表面電阻	Silver electrode, 23°C, 12% r.h.	10 ¹⁵	Ω	DIN IEC 60093	(1)
體積電阻	Silver electrode, 23°C, 12% r.h.	10 ¹⁵	Ω*cm	DIN IEC 60093	(2)
介電強度	23°C, 50% r.h.	73	kV/mm	ISO 60243-1	(2)
耐電痕(CTI)	Platin electrode, 23°C, 50% r.h., solvent A	125	V	DIN EN 60112	
其他特性	參數	值	單位	標準	註解
吸水率	24h / 96h (23°C)	0.02 / 0.03	%	DIN EN ISO 62	(1)
耐熱水/鹼		+	-	-	(2)
耐候性		-	-	-	(3)
耐燃性(UL94)	listed (value at 1.5mm)	V0		DIN IEC 60695-11-10;	

→ TECAPEEK產品使用Victrex®PEEK 450或Solvay KetaSpire®製成

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