

PEEK性能参数表

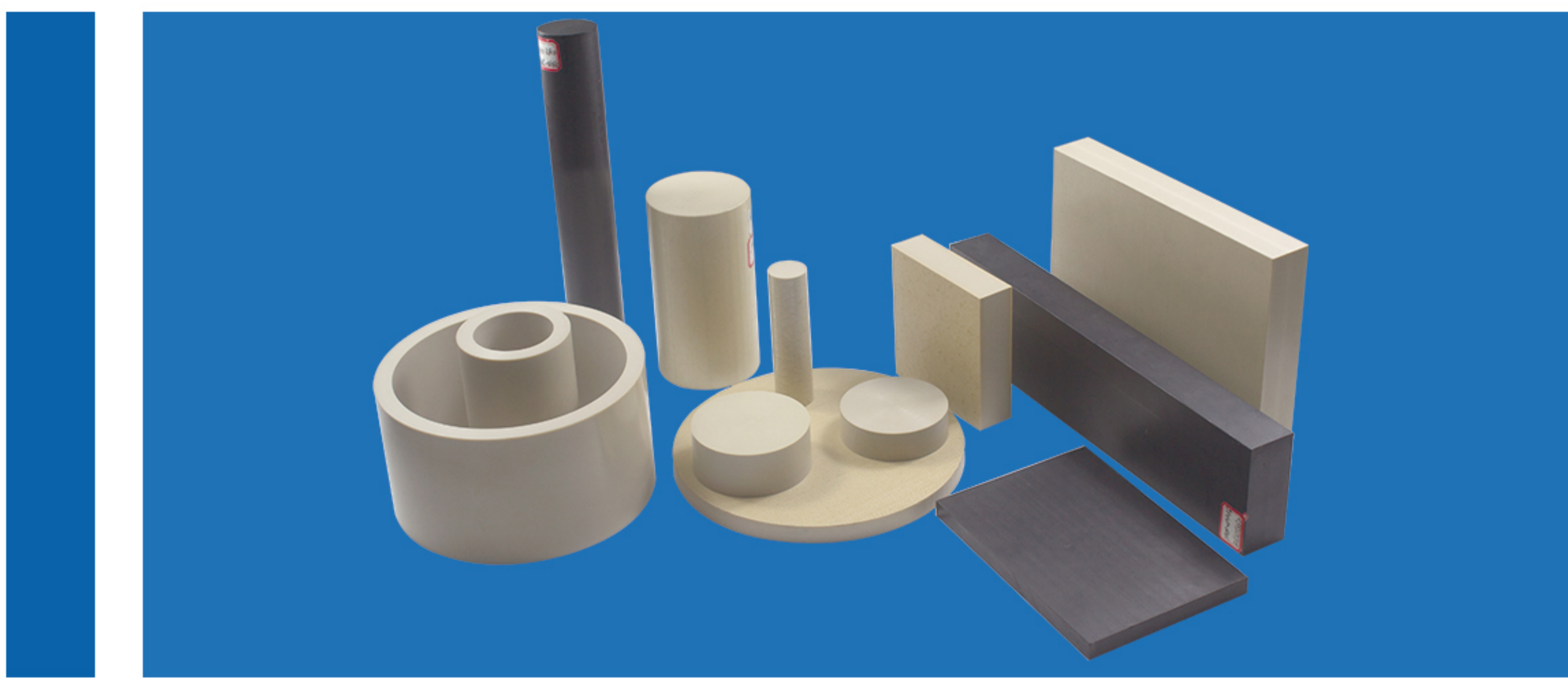
PEEK PERFORMANCE PARAMETER TABLE

测试项目 Test items	测试标准 Test criteria	测试条件 Test conditions	单位 Units	NJSSPEEK-1000	NJSSPEEK-FC1030	NJSSPEEK-G1030	NJSSPEEK-C1030
				纯树脂 Pure resin	含碳纤维+石墨+PTFE(各10%) Carbon fiber + graphite + PTFE (10% each)	含30%玻璃纤维 30% glass fiber	含30%碳纤维 30% carbon fiber
密度 Density	ISO1183	结晶 Crystal	g/cm ³	1.3	1.44	1.51	1.4
吸水率 (3.2mm厚拉伸棒、浸泡试验) Water absorption rate (3.2mm thick tensile bar, soaking test)	ISO62-1	24h, 23°C	%	0.07	0.06	0.04	0.04
		平衡, 23°C Balance, 23°C	%	0.4	0.3	0.4	0.3
拉伸强度 Tensile strength	ISO527	屈服, 23°C Yield, 23°C	MPa	100	140	175	260
断裂伸长率 Elongation at break	ISO527	断裂, 23°C Fracture, 23°C	%	20	2.2	2.7	1.7
弯曲强度 Bending strength	ISO178	屈服, 23°C Yield, 23°C	MPa	165	190	265	380
弯曲模量 Bending modulus	ISO178	23°C	GPa	4.1	7.8	11.3	23
压缩强度 Compressive strength	ISO604	23°C	MPa	125	155	250	300
简支梁冲击强 Impact strength of simply supported beam	ISO179/1eA	有缺口 There is a gap	kJ/m ²	7	5	8	7
	ISO179/1U	无缺口 No gap	kJ/m ²			55	45
悬臂梁冲击强度 Impact strength of cantilever beam	ISO180/A	有缺口 There is a gap	kJ/m ²	7.5	5	10	9
	ISO180/U	无缺口 No gap	kJ/m ²	-		60	45
邵氏D硬度 Shore D hardness	ISO868	23°C		85	80	88	88
熔点 Melting point	ISO11357	-	°C	343	343	343	343
玻璃化转变温度 Glass transition temperature	ISO11357	起始 Start	°C	143	143	143	143
比热容 Specific heat capacity	DSC	23°C	kJ/kg°C	2.2	1.7	1.7	1.8
热膨胀系数 Coefficient of thermalexpansion	ISO11359	低于Tg 沿着流动方向 Below Tg along the flow direction	ppm/K	45		18	5
		低于Tg 沿着流动方向 Below Tg along the flow direction	ppm/K	120		18	6
热变形温度 Heat distortion temperature	ISO75-f	1.8Mpa	°C	152	300	315	315
热导率 Thermal conductivity	ISO22007-4	23°C	W/mK	0.29	0.3	0.3	0.95
介电强度 Dielectric strength	IEC60243-1	2mm	kV/mm	23		25	-
介电常数 Dielectric constant	IEC60250	23°C,1KHz	-	3.1		3.2-3.4	-
		23°C,50Hz	-	3		-	-
体积电阻率 Volume resistivity	IEC60093	23°C,1V	Ω·cm	10 ¹⁶		10 ¹⁶	10 ⁵
		275°C	Ω·cm	10 ⁹		-	-

备注：此数据并非保证值，而是典型值。 Note: This data is not a guaranteed value, but a typical value.

PEEK性能介绍

INTRODUCTION TO PEEK PERFORMANCE



PEEK是一种性能优异的特种工程塑料，与其他特种工程塑料相比具有更多显著的优势，耐高温260℃，机械性能优异、自润滑性好、耐化学品腐蚀、阻燃、耐剥离性、耐磨性、不耐强硝酸、浓硫酸、抗辐射、超强的机械性能等，可用于高端的机械、核工程、石油和航空等高科技领域。

PEEK is a special engineering plastic with excellent performance, which has more obvious advantages compared with other special engineering plastics, such as high temperature resistance of 260℃, excellent mechanical properties, good self-lubricating, chemical corrosion resistance, flame retardancy, Stripping resistance, wear resistance, strong nitric acid and concentrated sulfuric acid resistance, radiation resistance, super mechanical properties, etc., can be used in high-end machinery, nuclear engineering, petroleum and aviation and other high-tech fields.

PEEK是芳香族结晶型热塑性高分子材料,其熔点为334℃,具有机械强度高、耐高温、耐冲击、阻燃、耐酸碱、耐水解、耐磨、耐疲劳、耐辐照及良好的电性能。

PEEK is an aromatic crystalline thermoplastic polymer material with a melting point of 334℃, which has high mechanical strength, high temperature resistance, impact resistance, flame retardancy, acid and alkali resistance, hydrolysis resistance, wear resistance, fatigue resistance, radiation resistance and good electrical properties.

耐高温 High temperature resistance

PEEK树脂具有较高的熔点（334℃）和玻璃化转变温度（143℃），连续使用温度为260℃，其30%GF或CF增强牌号的负载热变形温度高达316℃。

PEEK resin has high melting point (334℃) and glass transition temperature (143℃), the continuous service temperature is 260℃, and the load heat deformation temperature of its 30%GF or CF reinforced brand is as high as 316℃.

机械特性 Mechanical properties

PEEK树脂具有良好的韧性和刚性，它具备与合金材料媲美的对交变应力的优良耐疲劳性。

PEEK resin has good toughness and rigidity, and it has excellent fatigue resistance to alternating stress comparable to alloy materials.

自润滑性（耐腐蚀性） Self-lubricity (corrosion resistance)

PEEK树脂具备优良的滑动特性，适合于对低摩擦系数和耐摩擦要求严格的情况下使用。

PEEK resin has excellent sliding characteristics, and is suitable for use under strict requirements on low friction coefficient and wear resistance.

耐化学药品性 Chemical resistance

它的耐腐蚀性与镍钢相近，PEEK只溶解于浓硫酸，有良好的耐化学药品性，特别是在高温条件下比聚酰亚胺更耐酸碱。

Its corrosion resistance is similar to that of nickel steel. PEEK is only dissolved in concentrated sulfuric acid, which has good chemical resistance, especially more acid and alkali resistance than polyimide at high temperature.

阻燃性 Flame retardancy

PEEK树脂是非常稳定的聚合物，1.45mm厚的样品，不加任何阻燃剂就可达到最高阻燃标准。

PEEK resin is a very stable polymer, and the 1.45mm thick sample can reach the highest flame retardant standard without any flame retardant.

耐辐照性和耐剥离性 Irradiation resistance and peeling resistance

PEEK有良好的耐辐照性和耐剥离性,因此可以用来制成特殊用途的电磁线。

PEEK has good radiation resistance and peeling resistance, so it can be used to make electromagnetic wires for special purposes.

耐疲劳性 Fatigue resistance

PEEK树脂在所有树脂中具有较好的耐疲劳性。

PEEK resin has the best fatigue resistance among all resins.

耐水解 Hydrolysis resistance

PEEK树脂及其复合材料做成的制品在高温高压水中连续使用时仍可保持其良好的性能。

The products made of PEEK resin and its composite materials can still keep good performance when used continuously in high temperature and high pressure water.

易加工性 Workability

PEEK树脂在高温下具有良好的流动性，具有很高的热分解温度，可采用注射成型、模压成型、挤出成型、吹塑成型、熔融纺丝等加工方式。

PEEK resin has good fluidity and high thermal decomposition temperature at high temperature, and can be processed by injection molding, compression molding, extrusion molding, blow molding and melt spinning.

绝缘稳定性 Insulation stability

PEEK具有良好的电绝缘性能，并保持到很高的温度范围。其介电损耗在高频情况下也很小。

PEEK has good electrical insulation performance and keeps it in a high temperature range. Its dielectric loss is also very small at high frequency.

耐磨性 Wear resistance

PEEK的良好耐磨性相当于聚酰亚胺。

PEEK's good wear resistance is equivalent to polyimide.