

PEEK china



TAIZHOU ARK INTERNATIONAL TRADE CO.,LTD.

PEEK Applications



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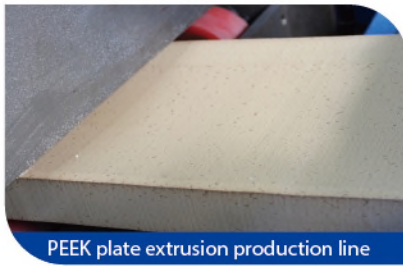
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CORE ADVANTAGE

With the core of the technical advantages, to bring you the greatest value



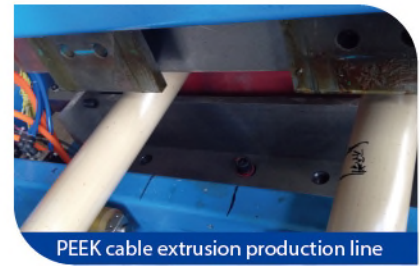
China's leading extrusion line for high performance engineering plastic



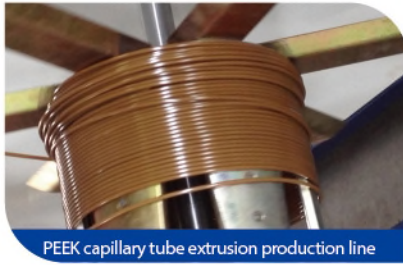
PEEK plate extrusion production line



Cable production line



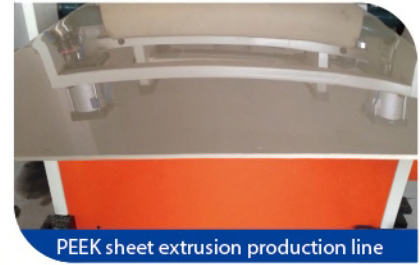
PEEK cable extrusion production line



PEEK capillary tube extrusion production line



PEEK tube extrusion production line



PEEK sheet extrusion production line

Continuous technology innovation, amounts of patent

Number	name	patent number	apply time	issuing time	type
1	PEEK Capillary tubes continuous extrusion machine and technology	ZL201310425335.3	2013.9	2017.3	Invention
2	PEEK rotor and its manufacturing technology	ZL201310423283.6	2013.9	2016.5	Invention
3	Wearing bush used in the harness frame of weaving machine	ZL201310423033.2	2013.9	2017.1	Invention
4	PEEK slim sheet continuous extrusion machine	ZL201420447189.4	2014.8	2014.12	utility model
5	PI rod continuous extrusion technology	201510124252.X	2015.6	Has accepted	Invention
6	A kind of PPSU continuous extrusion technology	201510355018.8	2015.6	Has accepted	Invention

Authorized certificate



TYPICAL PEEK ROD & SHEET

Product Application



PEEK5600G Continuous Extrusion Rod



PEEK5600G Rod



PEEK Sheet



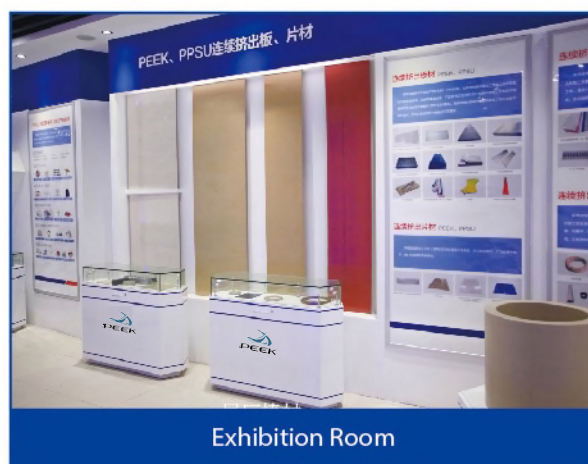
PEEK Rod



PEEK5600G Sheet

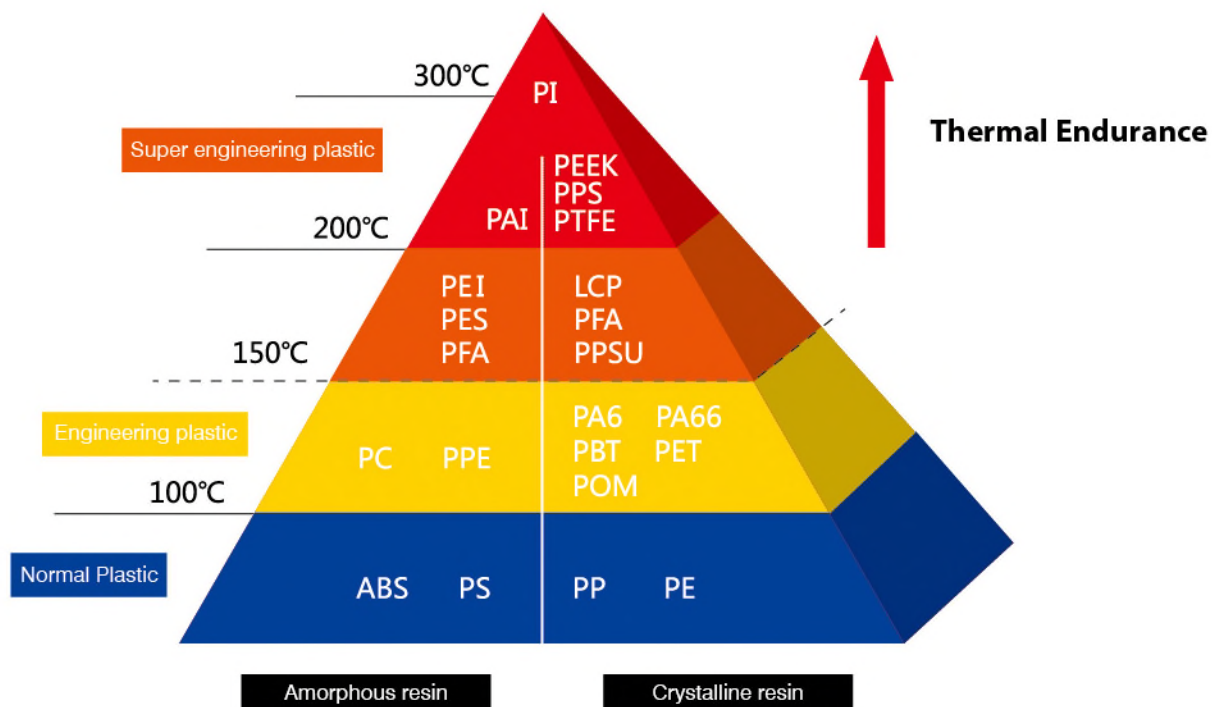


PEEK Rod and Sheet



PEEK and Its property

Catalogue



PEEK Brief



PEEK is a semi crystalline thermoplastic with excellent mechanical and chemical resistance properties that are retained to high temperatures. PEEK is used to fabricate items and also used in demanding applications. Such as bearings, piston parts, pumps, HPLC columns, compressor plate valves, and cable insulations. It is one of the few plastics compatible with ultra-high vacuum applications. It also has a proven track record in challenging environments such as aerospace, oil and gas, and semiconductor.



PEEK main material grade and typical properties

Item	Test Standard or Instrument	Unit	PEEK5600G	PEEK5600GF30	PEEK5600CF30	PEEK5600LF30
			100%PEEK	PEEK+30%Glass fiber	PEEK+30%Carbon fiber	PEEK+30%(Carbon fiber+Graphite+PTFE)
Color	-		Natural or Black	Natural or Black	Black	Black
Density	ISO 1183	g/cm ³	1.3±0.01	1.5±0.01	1.4±0.01	1.43±0.01
Water Abs. (25℃.24Hrs)	ISO 62	%	0.5	0.11	0.06	0.06
Mould shrinking percentage	3mm,170℃, Flow direction	%	1.2	0.4	0.1	0.3
	Perpendicular to flow direction	%	1.5	0.8	0.5	0.5
Melting point	DSC	℃	343	343	343	343
Distortion temperature	ASTM D648	℃	163	315	315	293
Continuous using temperature	UL 74685	℃	260	260	260	260
coefficient of thermal expansion	ASTM D696	10 ⁻⁵ ℃	4.7	2.2	1.5	2.2
Tensile strength(23℃)	ISO527-2/1B/50	Mpa	100	155	220	134
Tensile elongation(23℃)	ISO527-2/1B/50	%	34	2	1.8	2.2
Bending strength(23℃)	ISO 178	Mpa	163	212	298	186
Compressive strength(23℃)	ASTM D695	Mpa	118	215	240	150
Lzod impact strength(no gap)	ISO 180/U	KJ/m ²	No break	51	46	32
Rockwell hardness	ASTM D785		103	107	102	99
Water absorbtion (24h)	ISO 62	WT %	0.11	0.06	0.06	0.5
Flammable level	UL 94	V-0@mm	1.5	1.5	1.5	0.75
Dielectric strength	IEC 248	KV/mm	18	19		
Dielectric constant	IEC 250		3.2	3.3		
Surface resistivity		Ω	10 ¹⁵ Ω	10 ¹⁵ Ω	3×10 ⁶ Ω	5×10 ⁶ Ω
Friction coefficient		μ	0.30-0.38	0.38-0.46	0.28	0.18

If need other parameter, please contact us!

PEEK Raw material

PEEK CHINA is now entering the industry upstream business of the polymerization of PEEK and PPSU resin to build the whole industry chain.

Relying on the experience of ten years in the PEEK industry, the company officially entered the PEEK, PPSU resin polymerization in 2015, Which can provide a good quality raw material and this is advantage for PEEK parts and profile business. At the same time, through the research and production of profiles and parts, we will also promote the development and production of raw material resin polymerization. Jiangsu Junhua plastic has become China's first company with PEEK resin polymerization, modified compounding, plate, rod continuous extrusion and finished parts R & D and production. We cover the whole industry chain, it bring us great advantage in technology and cost saving.

PEEK, PPSU resin polymerization project objectives.

Before 2018, 1000 tons scale PEEK polymerization production equipment.

Before 2020, 5000 tons scale PPSU polymerization production equipment.





PEEK refining process

PEEK centrifugal separation

PEEK modified granulation

Analysis and testing room



PEEK Rod



PEEK5600G Extruded Rod



PEEK5600CF30 Extruded Rod



PEEK5600G Extruded Rod



PEEK5600LF30 Extruded Rod



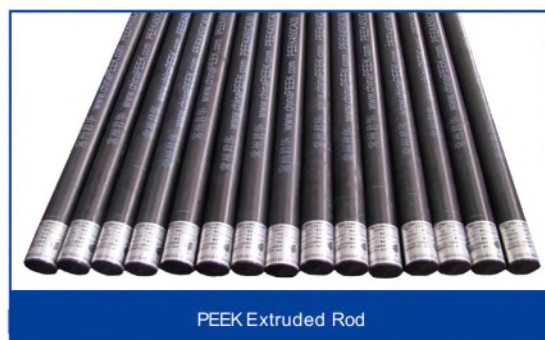
PEEK Hexagon Rod



Colorized PEEK Extruded Rod



PEEK5600G Extruded Rod



PEEK Extruded Rod

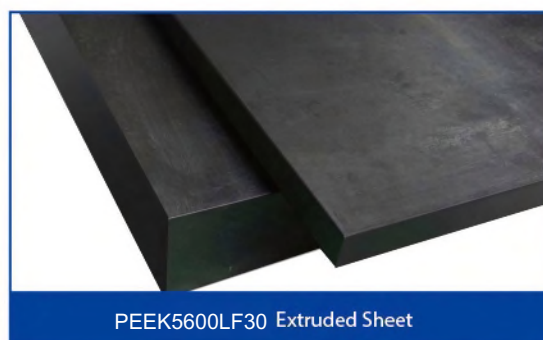
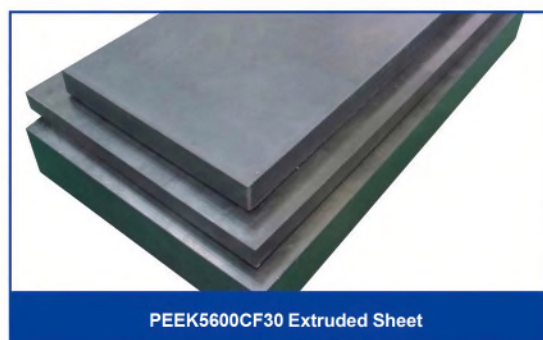
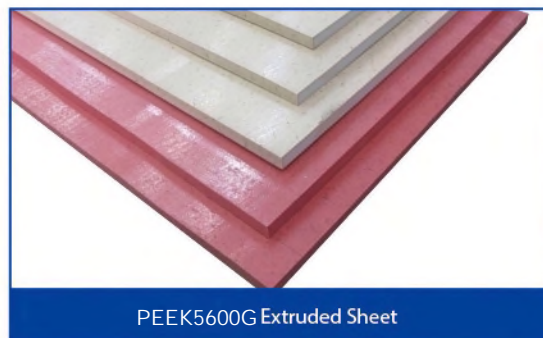


Sizes of the continuous extrusion rod

The PEEK rod manufactured with continuous extrusion process has better and more stable properties. It is widely used for making components in small quantity or big size which can't be manufactured through mold injection. Our rod varies from diameter 1mm to 250mm, the length is usually 1000mm or 2000mm, we can also make the length according to the need of the customer. We have in stock over 100 dimension molds for the rod extrusion.

Number	Rod diameter (mm)	Weight per meter (g)				Dimension tolerance (mm)
		PEEK5600G	PEEK5600CF30	PEEK5600GF30	PEEK5600LF30	
1	5	31	33	34	32	0~0.2
2	6	42	46	47	45	0~0.2
3	7	55	61	63	59	0~0.2
4	8	70	78	80	75	0~0.2
5	10	107	119	123	115	0~0.2
6	12	152	169	175	163	0~0.2
7	15	235	261	270	252	0~0.2
8	18	336	374	387	361	0~0.2
9	20	413	460	476	445	0~0.2
10	22	499	556	575	537	0~0.2
11	25	663	736	761	712	0~0.5
12	28	825	917	948	887	0~0.5
13	30	943	1049	1085	1014	0~0.5
14	33	1136	1265	1307	1222	0~0.5
15	35	1275	1419	1467	1371	0~0.5
16	38	1499	1669	1725	1612	0~0.5
17	40	1658	1846	1909	1783	0~0.5
18	42	1825	2033	2102	1964	0~1
19	45	2102	2330	2409	2250	0~1
20	48	2386	2648	2738	2557	0~1
21	50	2586	2881	2979	2783	0~1
22	53	2902	3232	3343	3122	0~1
23	55	3122	3478	3597	3359	0~1
24	60	3699	4133	4274	3991	0~1
25	65	4317	4864	5030	4698	0~2
26	70	5055	5632	5825	5440	0~2
27	80	6586	7340	7591	7089	0~2
28	85	7428	8279	8562	7995	0~2
29	90	8321	9275	9593	8957	0~2
30	95	9265	10328	10682	9973	0~2
31	100	10260	11438	11830	11045	0~2
32	110	12403	13828	14303	13353	0~2
33	120	14750	16446	17011	15881	0~2
34	130	17301	19291	19955	18628	0~3
35	140	20057	22365	23134	21595	0~3
36	150	23016	25666	26549	24783	0~3
37	160	26180	29194	30199	28189	0~3
38	165	27838	31044	32112	29975	0~3
39	180	33149	36964	38206	35663	0~3
40	200	40905	45615	47155	44015	0~3
41	220	49477	55176	57046	53247	0~3
42	250	63866	71226	73649	68743	0~3

PEEK Sheet

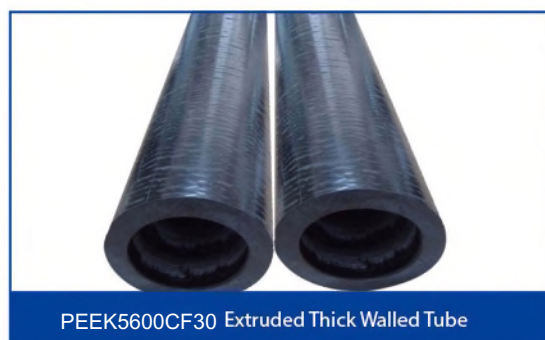


Sizes of the continuous extrusion sheet

The PEEK sheet is manufactured with continuous extrusion process. It has better uniformity, which is widely used for CNC process. We succeed in extruding thick sheet with the large cross section size. We also have lots molds in stock for the needs of different industries.

NO.	Dimension (mm)	Weight (g)
1	0.5*700*1000	480
2	1*700*1000	950
3	2*700*1000	1900
4	3*700*1000	2800
5	4*650*1000	3400
6	5*650*1000	4300
7	67×31×1000	2700
8	80×15×1000	1560
9	100×25×1000	3100
10	120×38×1000	5500
11	195×33×1000	8365
12	175×162×1000	36855
13	395×12.5×1000	6419
14	422×15×1000	8229
15	422×66×1000	36207
16	Insulation block (with U type) 280×45×1000	15000
17	600×6×1000	4680
18	600×8×1000	6240
19	600×9×1000	7020
20	600×15×1000	11700
21	600×20×1000	15600
22	600×25×1000	19500
23	600×30×1000	23400
24	600×35×1000	27300
25	600×40×1000	31200
26	600×45×1000	35100
27	600×50×1000	39000
28	600×60×1000	46800
29	800×20×1000	20800
30	800×30×1000	31200

PEEK Tube



Sizes of the continuous extrusion tube

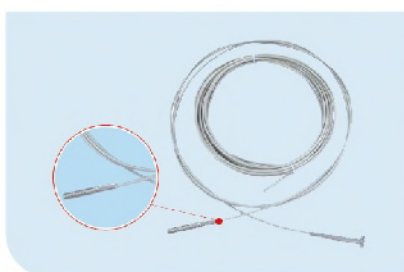
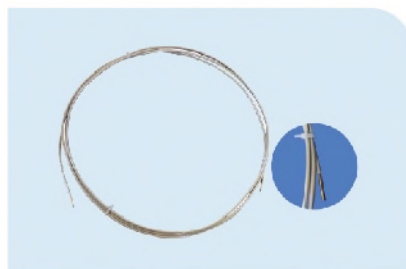
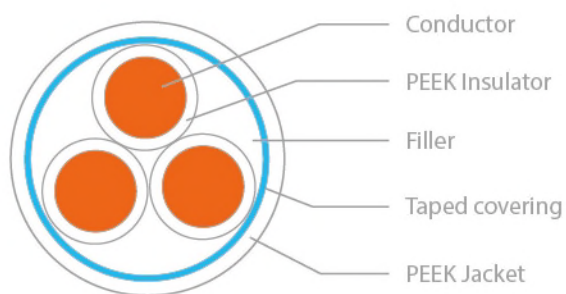
The PEEK tube manufactured with continuous extrusion process solves the problem of height and the inside Shrinkage hole, which also can reduce the cost during the CNC process. It is widely used for manufacturing sealing ring, piston ring, wearing bush and valve seat in oil & gas, semiconductor industries. We extruded the largest PEEK pipe in China(OD 590mm).

NO.	Dimension (mm)	Weight (g)	Notes
1	Ø1.6*Ø0.13*1000	2.6	unit (m)
2	Ø1.6*Ø0.25*1000	2.5	unit (m)
3	Ø1.6*Ø0.5*1000	2.4	unit (m)
4	Ø1.6*Ø0.75*1000	2.0	unit (m)
5	Ø1.6*Ø1*1000	1.6	unit (m)
6	Ø2.33*Ø1.6*1000	2.9	unit (m)
7	Ø2.8*Ø2.5*1000	1.6	unit (m)
8	Ø3*Ø2.67*1000	1.9	unit (m)
9	Ø3.2*Ø1*1000	9.4	unit (m)
10	Ø3.2*Ø1.6*1000	7.8	unit (m)
11	Ø5*Ø2.5*1000	19.1	Squeeze
12	Ø5*Ø4.5*1000	5.8	Squeeze
13	Ø7.5*Ø4*1000	42.6	Squeeze
14	Ø10.2*Ø8*1000	40.9	Squeeze
15	Ø12*Ø4*1000	81.6	Squeeze
16	Ø12.45*Ø8.88*1000	77.7	Squeeze
17	Ø29*Ø18*1000	527.6	Squeeze
18	Ø39*Ø31*1000	571.5	Squeeze
19	Ø80*Ø30*1000	5612.8	Squeeze
20	Ø90*Ø40*1000	6633.3	Squeeze
21	Ø100*Ø50*1000	7653.8	Squeeze
22	Ø110*Ø60*1000	8674.3	Squeeze
23	Ø130*Ø60*1000	13572.7	Squeeze
24	Ø140*Ø80*1000	13470.6	Squeeze
25	Ø160*Ø90*1000	17858.8	Squeeze
26	Ø168*Ø132*1000	11021.0	Squeeze
27	Ø180*Ø110*1000	20716.2	Squeeze
28	Ø190*Ø130*1000	19593.6	Squeeze
29	Ø190*Ø140*1000	16838.3	Squeeze
30	Ø200*Ø130*1000	23573.6	Squeeze
31	Ø220*Ø150*1000	26431.0	Squeeze
32	Ø240*Ø170*1000	29288.4	Squeeze
33	Ø257*Ø230*1000	13418.6	Squeeze
34	Ø250*Ø190*1000	26941.0	Squeeze
35	Ø260*Ø210*1000	23981.8	Squeeze
36	Ø280*Ø210*1000	35003.2	Squeeze
37	Ø280*Ø230*1000	26022.0	Squeeze
38	Ø300*Ø250*1000	28063.8	Squeeze
39	Ø320*Ø300*1000	12654.2	Squeeze
40	Ø340*Ø250*1000	54188.6	Squeeze
41	Ø360*Ø280*1000	52249.6	Squeeze
42	Ø580*Ø450*1000	136645.0	Squeeze

PEEK Cable



PEEK has outstanding resistance of high and low temperature, flame retardant, radiation resistance and good mechanical properties, so that it can be used in the aviation industry as ultra-high temperature wire. It also can be used in petroleum industry as the motor winding wire of the submersible oil pump. It also can be used in atomic power plant as winding wire of nuclear drive mechanism and be under the radiation for a long time. And it is also widely used in high-speed traction locomotive.



Introduction

PPSU is an amorphous thermal plastic, with high transparency, high hydrolytic stability which can bears repeated steam sterilization. PPSU has a lot of advantages. Such as impact resistance, high temperature resistance, hydrolysis resistance, chemical resistance, transparent coloring shell, conformed to FDA standard, flame resistance ul94V-0 and etc.



PPSU Rod



PPSU White Sheet



PPSU Granule



PPSU Sheet (Rice yellow)



PPSU Parts



PPSU Handle

Widely application

01

Heat-resistant parts, insulation, anti-friction wear-resistant parts, instrument parts and medical equipment parts.

02

PPSU in electrical and electronic industry are widely used in the manufacture of integrated circuit boards, coil pipe racks, connectors, set frame, film capacitors, high-performance alkaline battery case.

03

PPSU in domestic appliances are for microwave ovens equipment, coffee heaters, humidifiers, hair dryer, cloth evaporated machine, cutlery, cups and feeding bottles. It can also be used in place of non-ferrous metal clocks, copiers, cameras and other precision structural parts.

04

PPSU has passed the relevant norms of the United States in the field of medicine and food, it can replace stainless steel products. Also, because the steam-resistant, hydrolysis-resisitant, non-toxic, high transparency, good dimensional stability and other characteristics, it can be used as a surgical tool tray, sprayers, fluid controllers, heart valves, pacemakers, gas masks, dentures, etc.

Introduction

PI material is one of the best heat-resistant engineering plastic, it can resist 200°C for a long time and resist 490°C for a short time. And the mechanical properties, fatigue resistance, flame resistance, dimensional stability, electrical properties are also good. Very little shrinkage, resistant of general oil acids and organic solvents, and also has excellent abrasion wear performance.

Test Items	Standard	Unit	JHPI-10	JHPI-20	JHPI-30	YS-20
Density	GB/T 1033	g/cm ³	1.41	1.38	1.40-1.45	1.35-1.4
Tensile strength	GB/T 1040	MPa	≥77	≥130	≥40	≥130
Tensile modulus	GB/T 1040	Gpa	≥2.85	≥3	--	--
Elongation at break	GB/T 1040	%	≥7.0	≥8.0	≥3.5	≥7.0
Bending strength	GB/T 9341	MPa	≥100	≥180		≥131
Bending modulus	GB/T 9341	Gpa	≥3.5	≥3.4	≥2.7	≥3
Compression strength	GB/T 1041	MPa	≥110	≥160	≥150	≥150
Compression modulus	GB/T 1041	Gpa	≥1.35	--		≥1.5
Impact strength	GB/T 1043	KJ/m ²	≥25	≥150	≥12	≥170
Glass-transition temperatures	GB/T 19466	℃		364	330	--
Heat deflection temperature	GB/T 1643	℃	≥430	340		239
Dielectric constant	GB/T 1409	--	3.5	3.7	3.4	3

Property

Mechanical properties, fatigue resistance, self-lubricating

Wear resistance, low friction coefficient and it is not affected by temperature, humidity. High impact strength, but not with the notch.

Excellent heat resistance, can be used in 260-330 ℃ for a long time, heat distortion temperature up to 343 ℃.

Good corrosion resistance, no cracking, excellent electrical insulation, flame retardant.

Low shrinkage, linear expansion coefficient, good dimensional stability, low water absorption.

Good chemical properties, ozone resistance, resistance to bacterial attack, good solvent resistance, but vulnerable to alkali and pyridine erosion.

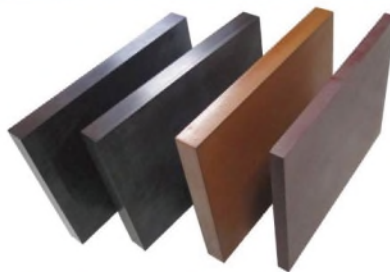
Application

PI material is widely used in automotive, semiconductor and industrial machinery industries.

It can be used as an engine fuel supply system parts, jet engine components, compressor and generator parts, also as automotive engine components. In semiconductor industry, it can be used for making printed circuit boards, insulation materials. In machinery industry it can be used as a self-lubricating bearings, insulation cap etc.



PI Raw Material



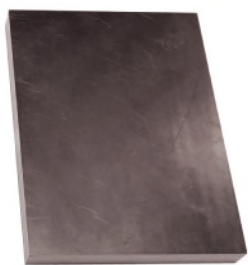
PI Sheet



JHPI-10 Sheet



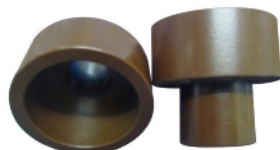
JHPI-20 Sheet



JHPI-30 Sheet



YS-20 PI Rod



PPS/PEI

PPS



PPS Sheet



PPS Rod



PPS Blade



PPS Scraper

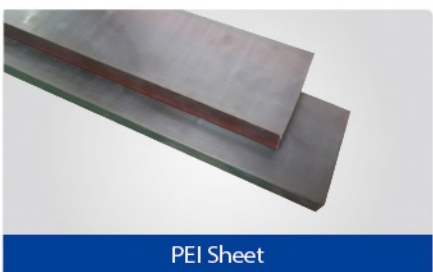
Color

Ivory white or black

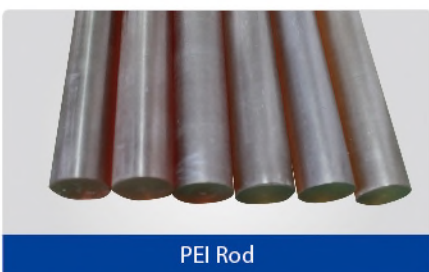
Applications

Protective coatings and components for electronics, electrical, semiconductor, precision instruments, machinery, automobiles, household appliances, etc.

PEI



PEI Sheet



PEI Rod

Color

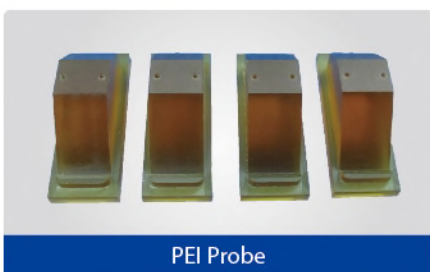
Amber

Applications

electronic components, food industry, vehicle manufacturing, dental measuring tools, pump housing



PEI Electrode Isolation Sleeve



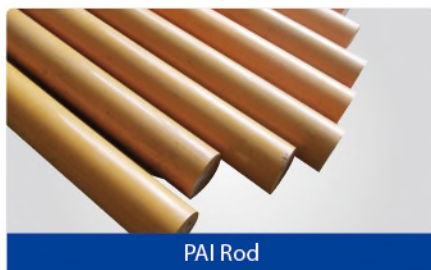
PEI Probe

PAI/PVDF

PAI



PAI Sheet



PAI Rod

Color

Tan, Black

Applications

often used in the production of high-tech equipment, precision parts, and wear-resistant high demand occasion



PAI Vacuum Suction Pen



PAI Small Ball

PVDF、PCTFE、ETFE



Color

Porcelain white

Applications

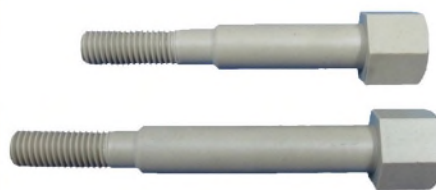
pipes, seals, pump parts, rotating discs, valves, rails and so on. Petro-chemical, chemical, metallurgy, food, paper, textile, pharmaceutical and atomic energy industry components manufacturing.

PEEK used in Aerospace and military

PEEK CHINA has been working with national aerospace research agency to supply our PEEK components to satellites, rockets, and weapons, we do our part to support China's aerospace and military development.



PEEK Part for lithium battery of satellite



Customized PEEK Screw



Peek cable



PEEK part for aerospace



High pressure seal valve spool for Long March 5 Series Launch Vehicle



PEEK part for nuclear facility



PEEK parts (4 parts in one group)



PEEK part for military industry

PEEK used in Medical equipment industry

Introduction

PEEK with high temperature, high strength, through X-ray, can withstand repeated disinfection and other characteristics, which make it the most promising medical material in 21st century. We are now working with industry leaders from China and out of China to produce minimally invasive surgery tools.



PEEK parts of external fixation



PEEK external fixation (x-ray permeability)



PEEK parts for medical industry



PPSU medical handle



PPSU shin pad



PEEK sighting device(near-end)



PEEK sighting device(far-end)



PEEK parts of external fixation

PEEK used in Food Processing and Filling Machinery Industry

Introduction



Tetra Pak and Newamstar and other companies from food processing and filling machine industry are using PEEK components from PEEK CHINA components are widely used in washing, sterilization, aseptic packaging process.



Environmental and innocuous



Self-lubricating



Wear resistance



Corrosion resistance



Low noise



Impact resistance



High temperature resistance



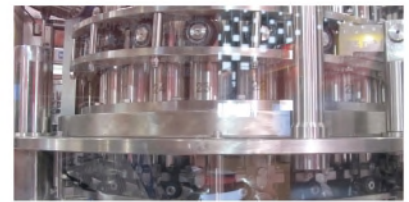
Hydrolysis resistance



Peek clamp column



PEEK fork



PEEK roller



PEEK sleeve



PEEK bottle clamp

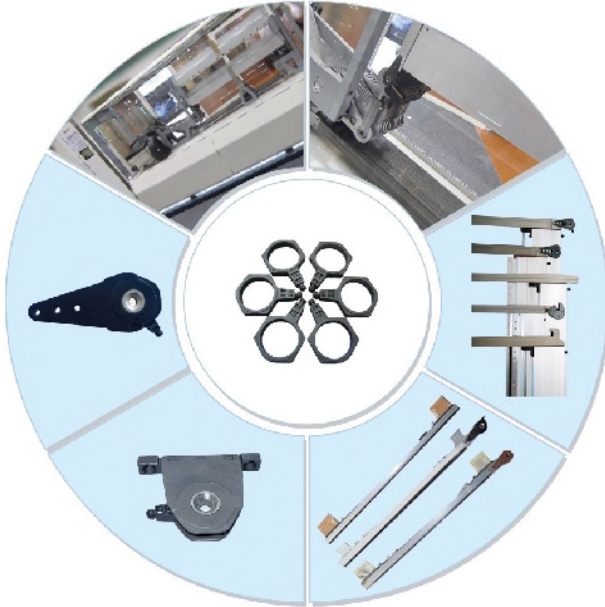


PEEK turbine

PEEK used in Textile Machinery Industry

Introduction

Due to PEEK's high temperature resistance, wearing resistance and self lubrication, PEEK is widely used as Textile machinery components such as screw nut, bush and slider.



High temperature resistance



Wear resistance



Self-lubricating



Corrosion resistance



High strength



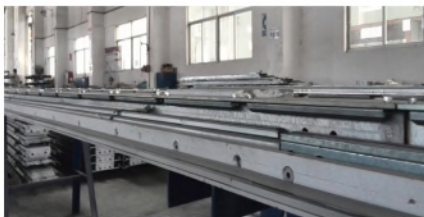
Low friction coefficient



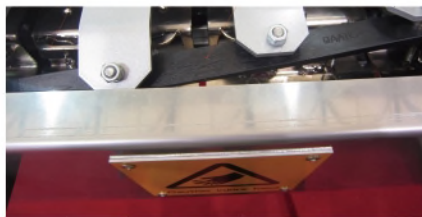
Light weight



Impact resistance



PEEK carbon fiber wear strip



PEEK clamp strip



PEEK shield



PEEK side scraper



PEEK hexagon sleeve



PEEK screw nut

PEEK used in Analytical Instruments Industry

Introduction

PEEK has the advantages of corrosion-resistant, high-temperature, high-purity, PEEK fittings, pipes and plugs manufactured by PEEK CHINA well recognized and selected by manufacturer of analytical instrument.



Corrosion resistance



Hydrolysis resistance



High strength



High temperature resistance



Light weight



High purity



Self-lubricating



Wear resistance



PEEK wear-resistant clamp column



Chromatograph



Post-column Derivatization



PEEK wear-resistant sleeve



Microwave dissolver

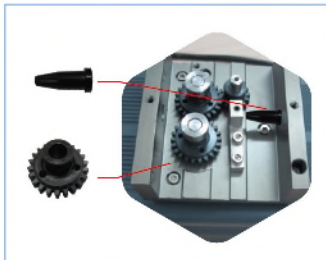


Motor pump

PEEK used in Semiconductor industry

Introduction

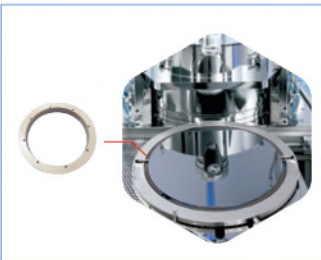
PEEK, PI has the characteristics of high temperature resistance, corrosion resistance, wear resistance, high purity and other advantages. It can fully meet the harsh production environments of electronic semiconductor industry. Ensuring its long-time use and improving equipments' stability and reliability.



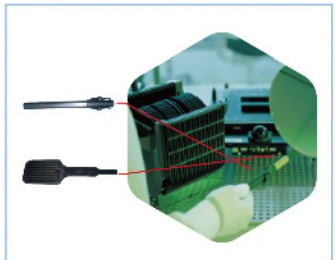
PEEK nozzle



PEEK vacuum disc



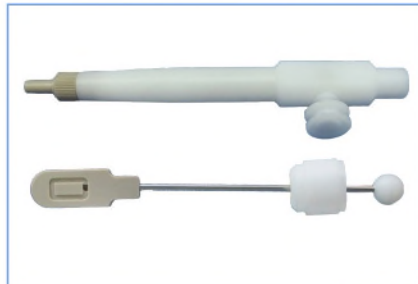
PEEK sucker and PEEK sucker head



PEEK LED/LCD support head



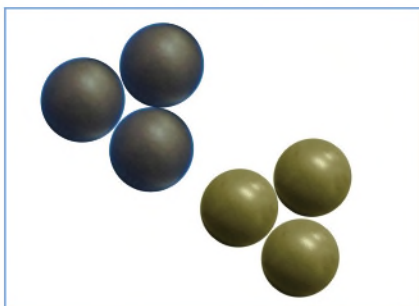
PEEK sucker and PEEK sucker head



POM sucker and PEEK sucker head



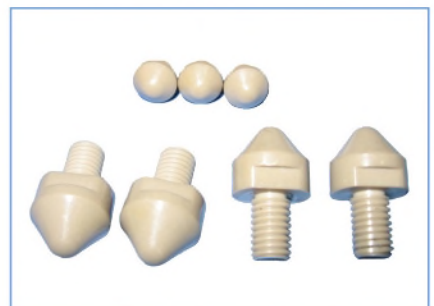
PEEK wearing roller



PEEK PAI ball



PEEK wafer clamp



PEEK LED/LCD support head

PEEK used in Oil&gas, petrochemical machinery industry

Introduction

PEEK has characters of chemical corrosion resistance, wear resistance and etc. It can ensure the equipments operate continuously and stably. And then it shortens equipments' downtime efficiently and keeps devices running safe.



PEEK parts for oil & gas petrochemical machinery industry



PEEK electronic tag



PEEK end cap



PEEK insulated ring



PEEK parts for oil & gas petrochemical machinery industry



PEEK used in Automotive industry



Introduction

PEEK in the automotive industry is very promising. In China, nearly 10 vacuum pump manufacturers buy Jiangsu PEEK CHINA wear-resistant slide products used in automotive brake booster and turbo charging system, it can reduce fuel consumption, reduce environmental impact, improve driving safety and driving comfort.



Various PEEK parts



PEEK slide, joint for automobile brake pump



Peek magnet rotor for oil pump

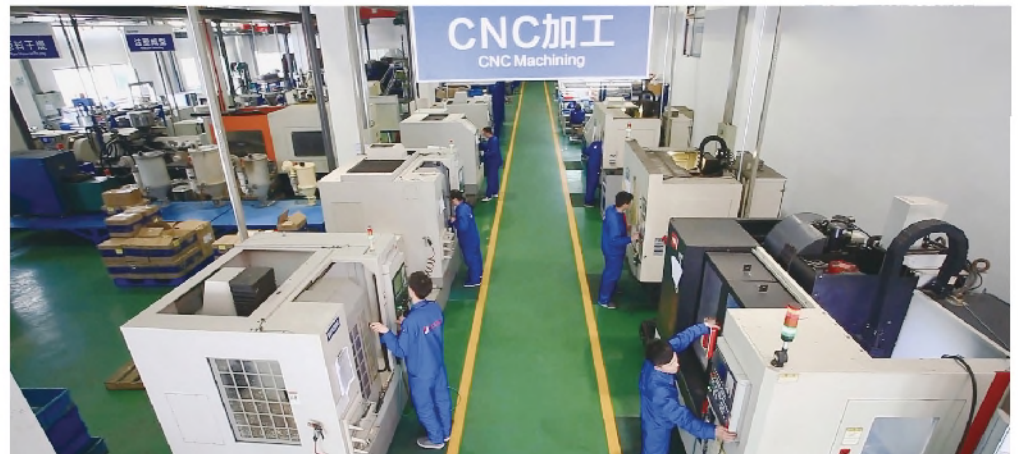
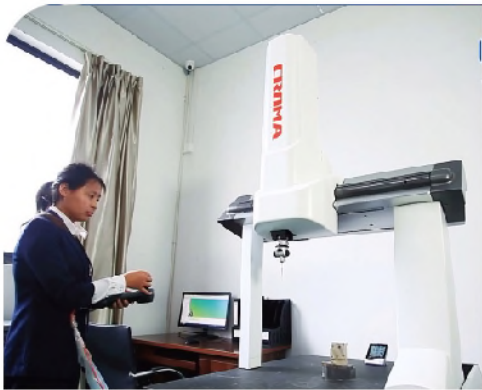


Peek bushing for automobile water pump



Peek part for oil pump

Production and Testing Equipments



The Global Vision



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