

KETRON® PEEK

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Polyetheretherketone (PEEK)

The KETRON PEEK family of materials is based on polyetheretherketone resin. This semi-crystalline advanced material exhibits a unique combination of high mechanical properties, temperature resistance and excellent chemical resistance making it the most popular advanced plastics material.

Main characteristics:

- very high max. allowable service temperature in air (250°C continuously, up to 310°C for short periods)
- high mechanical strength, stiffness and creep resistance, also at elevated temperatures
- excellent chemical and hydrolysis resistance
- excellent wear and frictional behaviour (particularly KETRON PEEK-HPV and PEEK-CA30)
- very good dimensional stability
- inherent low flammability and very low levels of smoke evolution during combustion
- good electrical insulating and dielectric properties (except for KETRON PEEK-HPV and PEEK-CA30)
- excellent resistance against high energy radiation (gamma and X-rays)

All four KETRON PEEK grades are based on VICTREX®, PEEK™ polymers.

KETRON PEEK-1000 (PEEK) natural (brownish grey) / black

KETRON PEEK-1000 stock shapes are produced from virgin polyetheretherketone resin and offer the highest toughness and impact strength of all KETRON PEEK grades.

The composition of the raw materials used for the production of the KETRON PEEK-1000 natural stock shapes complies with the directives of the European Union and with the American FDA regulations concerning plastic materials intended to come into contact with foodstuffs. These features, added to its excellent sterilisability by means of steam, dry heat, ethylene oxide and gamma irradiation, make this grade very popular in medical*, pharmaceutical and food processing industries.

KETRON PEEK-HPV (PEEK + CF + PTFE + graphite) (black)

The addition of carbon fibres, PTFE and graphite to virgin PEEK results in a KETRON PEEK "Bearing Grade". Its excellent tribological properties (low friction, long wear and high Pressure-Velocity capabilities) make this grade especially suited for bearing and wear applications.

KETRON PEEK-GF30 (PEEK-GF30) natural (brownish grey)

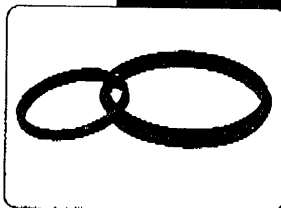
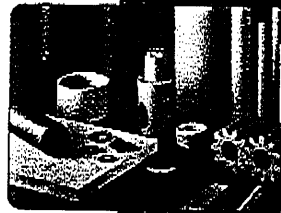
This 30% glass fibre reinforced grade offers higher stiffness and creep resistance than KETRON PEEK-1000 and has a much better dimensional stability. KETRON PEEK-GF30 is very appropriate for structural parts carrying high static loads for long periods of time at elevated temperatures. Its suitability for sliding parts, however, is to be carefully examined since the glass fibres tend to abrade the mating surface.

KETRON PEEK-CA30 (PEEK-CF30) (black)

This 30% carbon fibre reinforced grade combines even higher stiffness, mechanical strength and creep resistance than KETRON PEEK-GF30 with an optimum wear resistance. Moreover, the carbon fibres provide 3.5 times higher thermal conductivity than virgin PEEK, dissipating heat from the bearing surface faster.



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KETRON® PEEK

TECHTRON® HPV PPS

PPSU - PEI - PSU
SYMALIT® PVDF 1000
FLUOROSINT®
SEMITRON® ESd

* See, however, our "no-use for implants statement" on page 34

round rods

KETRON® PEEK

Diameters (mm)	Tolerances on the diameters (mm)	Weights (1) - (kg/m)				
		KETRON PEEK-1000		KETRON PEEK-HPV	KETRON PEEK-GF30	KETRON PEEK-CA30
		natural	black			
		41300000	41301000	41300200	41300300	41300100
3	+ 0.1 + 0.3	○ 0.011	○ 0.011	-	-	-
4		○ 0.018	○ 0.018	-	-	-
5	+ 0.1 + 0.4	○ 0.029	○ 0.029	-	-	-
6		● 0.041	○ 0.041	● 0.046	○ 0.047	○ 0.045
7	+ 0.1 + 0.5	○ 0.055	○ 0.055	○ 0.062	○ 0.065	○ 0.061
8		● 0.072	○ 0.072	● 0.080	○ 0.084	○ 0.079
9		○ 0.090	○ 0.090	○ 0.101	○ 0.105	○ 0.098
10		● 0.110	● 0.110	● 0.123	● 0.128	● 0.121
11	+ 0.2 + 0.9	○ 0.139	○ 0.139	○ 0.156	○ 0.163	○ 0.153
12		● 0.164	● 0.164	● 0.184	○ 0.192	○ 0.180
14		○ 0.220	○ 0.220	○ 0.247	○ 0.257	○ 0.242
15		○ 0.252	○ 0.252	○ 0.282	○ 0.293	○ 0.276
16		● 0.285	● 0.285	● 0.319	○ 0.332	○ 0.312
18		● 0.358	○ 0.358	○ 0.400	○ 0.416	○ 0.391
20		● 0.439	● 0.439	● 0.490	● 0.510	● 0.480
22		● 0.535	○ 0.535	○ 0.600	○ 0.625	○ 0.585
25	+ 0.2 + 1.2	● 0.685	● 0.685	● 0.765	○ 0.800	○ 0.750
28		● 0.855	○ 0.855	○ 0.955	○ 0.995	○ 0.935
30		● 0.980	● 0.980	● 1.09	● 1.14	● 1.07
32		● 1.11	○ 1.11	○ 1.24	○ 1.29	○ 1.21
35	+ 0.2 + 1.6	● 1.34	● 1.34	● 1.49	○ 1.56	○ 1.46
36		○ 1.42	○ 1.42	○ 1.58	○ 1.64	○ 1.55
40		● 1.74	● 1.74	● 1.94	● 2.02	● 1.90
45	+ 0.3 + 2	● 2.22	○ 2.22	○ 2.47	○ 2.57	○ 2.42
50		● 2.72	● 2.72	● 3.03	● 3.16	● 2.97
56		○ 3.40	○ 3.40	○ 3.78	○ 3.94	○ 3.70
60	+ 0.3 + 2.5	● 3.92	○ 3.92	● 4.37	● 4.55	○ 4.28
65		○ 4.59	○ 4.59	○ 5.10	○ 5.32	○ 5.00
70		● 5.30	○ 5.30	● 5.90	○ 6.14	○ 5.78
75	+ 0.4 + 3	○ 6.12	○ 6.12	○ 6.81	○ 7.10	○ 6.67
80		● 6.94	○ 6.94	● 7.73	● 8.05	● 7.57
85	+ 0.5 + 3.4	○ 7.87	○ 7.87	○ 8.76	○ 9.12	-
90		● 8.80	○ 8.80	○ 9.79	○ 10.20	-
95	+ 0.6 + 3.8	○ 9.83	○ 9.83	○ 10.95	○ 11.40	-
100		● 10.85	○ 10.85	● 12.10	● 12.60	-
105	+ 0.7 + 4.2	○ 11.85	-	-	-	-
110		● 13.00	-	-	-	-
115		○ 14.20	-	-	-	-
120	+ 0.8 + 4.6	● 15.45	-	-	-	-
125		○ 16.75	-	-	-	-
130	+ 0.9 + 5.4	● 18.20	-	-	-	-
135		○ 19.60	-	-	-	-
140		○ 21.05	-	-	-	-
150		● 24.15	-	-	-	-
160	+ 1 + 5.8	○ 27.45	-	-	-	-
170		○ 30.90	-	-	-	-
180		● 34.60	-	-	-	-
190		○ 38.50	-	-	-	-
200		● 42.60	-	-	-	-
Standard lengths (mm)		1000		Tolerance on the lengths (%)		
		3000 (2)		0 + 3		
Non-standard lengths (cut-to-size) : available on request and subject to special conditions						

(1) : average production weights
 (2) : non-standard length for diameters over 60 mm

PRODUCT CODE

- : standard item (generally available from stock at the Quadrant EPP Logistic Center; large quantities may have to be manufactured to order)
- : non-standard item (generally not available from stock at the Quadrant EPP Logistic Center, but manufactured to order and subject to special conditions)
- : not manufactured

plates

Thicknesses (mm)	Tolerances on the thicknesses (mm)		Weights (1) - (kg/m)			
			KETRON PEEK-1000			
			natural		black	
		41300004		41301004		
		width = 615 mm	width = 1000 mm	width = 615 mm	width = 1000 mm	
5	+ 0.2	+ 0.7	□ 4.64	■ 7.51	□ 4.64	□ 7.51
6			□ 5.47	■ 8.85	□ 5.47	□ 8.85
8	+ 0.2	+ 0.9	□ 7.24	■ 11.70	□ 7.24	□ 11.70
10			□ 8.90	■ 14.40	□ 8.90	□ 14.40
12	+ 0.3	+ 1.5	□ 10.95	■ 17.70	□ 10.95	□ 17.70
15			□ 13.45	■ 21.75	□ 13.45	□ 21.75
16			□ 14.25	■ 23.10	□ 14.25	□ 23.10
18			□ 15.90	-	□ 15.90	-
20			□ 17.60	■ 28.45	□ 17.60	□ 28.45
25			□ 21.75	■ 35.20	□ 21.75	□ 35.20
30	+ 0.5	+ 2.5	width = 615 mm		width = 615 mm	
35			■ 26.55	□ 26.55	□ 26.55	□ 26.55
40			■ 30.70	□ 30.70	□ 30.70	□ 30.70
45			■ 34.85	□ 34.85	□ 34.85	□ 34.85
50			■ 39.00	□ 39.00	□ 39.00	□ 39.00
55	+ 0.5	+ 3.5	□ 43.15	□ 43.15	□ 43.15	□ 43.15
60			□ 47.85	□ 47.85	□ 47.85	□ 47.85
65			■ 52.00	□ 52.00	□ 52.00	□ 52.00
70			□ 56.15	□ 56.15	□ 56.15	□ 56.15
75	+ 0.5	+ 5	□ 60.30	□ 60.30	□ 60.30	□ 60.30
80			□ 69.40	□ 69.40	□ 69.40	□ 69.40
90			□ 77.70	□ 77.70	□ 77.70	□ 77.70
100	□ 86.00	□ 86.00	□ 86.00	□ 86.00	□ 86.00	
Standard sizes (mm)			Tolerances on widths and lengths			
Thicknesses ≤ 25 mm		Thicknesses > 25 mm		Widths : + 5 mm + 25 mm		
615/1000 x 1000		615 x 1000		Lengths : 0 + 3 %		
615/1000 x 3000		615 x 3000 (2)				

(1) : average production weights
(2) : non-standard size

PRODUCT CODE

Thicknesses (mm)	Tolerances on the thicknesses (mm)		Weights (1) - (kg/m)		
			KETRON PEEK-HPV	KETRON PEEK-GF30	KETRON PEEK-CA30
			41300204	41300304	41300104
			width = 525 mm	width = 525 mm	width = 525 mm
5	+ 0.2	+ 0.7	■ 4.41	□ 4.59	□ 4.32
6			□ 5.20	□ 5.41	□ 5.09
8	+ 0.2	+ 0.9	■ 6.88	□ 7.17	□ 6.74
10			■ 8.46	■ 8.81	□ 8.28
12	+ 0.3	+ 1.5	width = 625 mm		width = 625 mm
15			□ 12.30	□ 12.80	□ 12.05
15			□ 15.10	□ 15.70	□ 14.75
16			■ 16.00	□ 16.70	□ 15.70
18			□ 17.90	□ 18.60	□ 17.50
20			■ 19.75	■ 20.55	□ 19.35
25	+ 0.5	+ 2.5	■ 24.40	□ 25.40	□ 23.90
30			■ 29.80	■ 31.05	□ 29.15
35			□ 34.45	□ 35.90	□ 33.75
40			■ 39.10	□ 40.75	□ 38.30
45	□ 43.80	□ 45.60	□ 42.85		
50	+ 0.5	+ 3.5	■ 48.45	■ 50.45	□ 47.45
55			□ 53.70	□ 55.95	□ 52.60
60	□ 58.35	□ 60.80	□ 57.15	□ 57.15	
Standard sizes (mm)			Tolerances on widths and lengths		
525/625 x 1000			Widths : + 5 mm + 25 mm		
525/625 x 3000 (2)			Lengths : 0 + 3 %		

(1) : average production weights
(2) : non-standard size for thicknesses over 25 mm
■ : standard item (generally available from stock at the Quadrant EPP Logistic Center; large quantities may have to be manufactured to order)
□ : non-standard item (generally not available from stock at the Quadrant EPP Logistic Center, but manufactured to order and subject to special conditions)
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