

# PCTFE

## **fluteck**<sup>™</sup> C series



— SIZE LIST

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## Virgin PCTFE molded tubes

### Metric sizes

O.D. (mm)	I.D. (mm)	O.D. (mm)	I.D. (mm)	O.D. (mm)	I.D. (mm)	O.D. (mm)	I.D. (mm)	O.D. (mm)	I.D. (mm)	O.D. (mm)	I.D. (mm)
70	35	160	130	220	155	265	220	340	300	525	495
	40	165	130		190		233		320		510
80	35	170	138	228	195	275	240	350	300	540	495
	50		125		160		215		310		510
85	35	180	135	230	190	280	233	360	320	570	525
	50		135		165		250		310		560
95	80	180	145	235	175	285	250	360	320	620	580
105	70		150		200		260		330		610
118	70	185	160	240	210	290	250	375	310	650	620
123	70		145		188		260		335		620
	85	155	205	240	345	685	650				
132	105	195	135	245	200	300	250	285	340	710	680
133	85		150		210		270	390	355	750	720
	90	160	220	280	420	385	795	760			
145	90	200	135	250	210	320	260	435	400	850	825
	100		150		215		270		410		900
148	110	205	180	255	190	330	280	460	425	940	910
153	110		160		280		485		450		980
160	125	210	180	255	215	330	300	510	470	1110	1070

Tubes length up to O.D. 650 mm: 150 mm, 300 mm - Special length on request

Tubes length over O.D. 650 mm: 100 mm - Special length on request

Tolerances according to corporate standard specifications: O.D: +2.0% - 0.0%. I.D: -2.0% + 0.0%. Length: +2.0% - 2.0%

### Imperial sizes

O.D. (inch)	I.D. (inch)	O.D. (inch)	I.D. (inch)	O.D. (inch)	I.D. (inch)	O.D. (inch)	I.D. (inch)	O.D. (inch)	I.D. (inch)	O.D. (inch)	I.D. (inch)
2.750"	1.500"	7.125"	5.875"	9.250"	8.250"	11.250"	9.875"	14.125"	12.500"	22.500"	20.750"
	1.375"		5.750"		7.875"		10.125"		23.250"		20.000"
3.125"	1.875"	7.250"	5.375"	9.500"	8.125"	11.375"	9.750"	14.750"	13.500"	24.375"	22.750"
	1.375"		6.000"		8.625"		11.125"		13.125"		24.375"
3.750"	3.150"	7.750"	5.625"	9.625"	9.625"	11.875"	10.625"	15.125"	13.375"	25.625"	24.000"
3.375"	2.000"		6.375"		7.875"		9.875"		15.375"		14.000"
4.125"	2.750"	7.750"	6.000"	9.875"	8.500"	12.625"	11.000"	16.500"	15.125"	27.000"	25.625"
4.875"	3.375"		7.125"		8.250"		10.625"		16.125"		28.000"
5.250"	3.625"	7.875"	5.875"	10.000"	9.750"	13.000"	11.750"	17.125"	15.750"	29.500"	28.250"
5.750"	4.000"		5.375"		8.500"		11.000"		18.125"		16.750"
6.000"	4.375"	8.125"	6.375"	10.375"	9.125"	13.375"	11.750"	19.125"	17.750"	33.500"	32.500"
6.375"	5.125"	8.250"	7.000"		8.625"		12.500"		20.125"		18.500"
	6.500"	5.000"	8.625"	7.625"	10.750"	9.375"	13.750"	12.125"	20.625"	20.125"	37.000"
5.125"		7.375"		9.750"		11.750"		20.000"		38.625"	
6.750"	5.375"	9.000"	7.500"	11.000"	8.500"	14.125"	12.875"	21.250"	19.500"	43.750"	42.125"
	5.000"	9.125"	6.625"		11.250"		10.250"				

Tubes length up to O.D. 25.875": 4" - 6" - special length on request

Tubes length over O.D. 25.875": 4.0" - special length on request

Tolerances according to corporate standard specifications: O.D: +2.0% - .0%. I.D: - 2.0% +.0%. Length: +2.0% - 2.0%

## Virgin PCTFE extruded and molded rods

Metric sizes

O.D. (mm)										Length (mm)
6	8	9	10	11	12	13	15	16	18	1000 2000 3000
20	22	23	25	28	30	35	40	45		1000
45	50	55								500
60	70	80	90	100						200

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## Virgin PCTFE molded sheets

Metric sizes

Thickness (mm)	300x300 (mm)	500x500 (mm)
5	•	on request
8	•	•
10	•	•
12	•	•
15	•	•
20	•	•
25	•	on request
30	•	on request
35	on request	on request
40	on request	on request
45	on request	on request
50	on request	on request

## Technical data sheet

	Properties	Method	Units	fluteck™ P1000 Virgin PTFE Standard Grade	fluteck™ P1050 Modified PTFE Standard Grade	fluteck™ P1500 Virgin PTFE Premium Grade	fluteck™ P1550 Modified PTFE Premium Grade
Physical	Specific Gravity	ASTM D792	g/cm <sup>3</sup>	2.13 - 2.19	2.13 - 2.18	2.13 - 2.19	2.13 - 2.18
	Water absorption - 24 hours	ASTM D570	%	0.01	0.01	0.01	0.01
Mechanical	Elongation at break	ASTM D4894	%	≥ 200	≥ 400	≥ 280	≥ 450
	Tensile strength	ASTM D4894	MPa	≥ 20	≥ 28	≥ 25	≥ 30
	Shore D hardness	ASTM D2240	Shore D	≥ 54	≥ 54	≥ 54	≥ 54
	Ball hardness	ASTM D785	MPa	≥ 23	≥ 23	≥ 23	≥ 23
	Compression strength at 1% deformation	ASTM D695	MPa	≥ 4	≥ 4	≥ 4	≥ 4
	Deformation under load (140 kg/cm <sup>2</sup> for 24h at 23°C)	ASTM D621	%	10 - 13	9 - 12	10 - 13	9 - 12
	Permanent deformation (after 24h at 23°C)	ASTM D621	%	6 - 7.5	4.5 - 6	6 - 7.5	4.5 - 6
	Coefficient of static friction	ASTM D1894	-	0.08 - 0.10	0.08 - 0.10	0.08 - 0.10	0.08 - 0.10
	Coefficient of dynamic friction	ASTM D1894	-	0.06 - 0.08	0.06 - 0.08	0.06 - 0.08	0.06 - 0.08
	Wear factor K	ASTM D3702	-	2.9	2.9	2.9	2.9
Wear coefficient		$\frac{\text{cm}^3 \text{ min}}{\text{kg m h}} \cdot 10^{-8}$	20000 - 25000	20000 - 25000	20000 - 25000	20000 - 25000	
Thermal	Thermal conductivity	ASTM C177	W/m·K	0.34	0.24	0.34	0.24
	Flammability	UL94	-	V - 0	V - 0	V - 0	V - 0

The information in this technical data sheet have been collected from reliable statistic series.

All informations are intended only as general guide lines for use at user discretion.

Fluorseals does not guarantee any specific result and do not assume any liability in connection with the use of the product.

## Technical data sheets

	Properties	Method	Units	fluteck™	fluteck™	fluteck™	fluteck™	fluteck™	fluteck™	fluteck™
				P1500 PTFE	K300 PEEK	C100 PCTFE	C200 ECTFE	F100 PFA	E200 FEP	E400 ETFE
Physical	Specific Gravity	ASTM D792	g/cm <sup>3</sup>	2.130 - 2.190	1.30 - 1.32	2.10 - 2.16	1.62 - 1.68	2.13 - 2.18	2.12 - 2.16	1.72
	Water absorption - 24 hours	ASTM D570	%	0.01	0.1	< 0.01	< 0.10	< 0.03	< 0.01	< 0.01
	Mold shrinkage - along the flow	ASTM D955	%	1.50 - 2.00	1 - 1.5	1.50 - 2.00	2.5	4 - 5	3 - 5	2 - 3.5
Mechanical	Elongation at break	ASTM D638	%	≥ 280	≥ 10	40 - 150	≥ 200	≥ 250	≥ 300	≥ 200
	Tensile strength (23°C)	ASTM D638	MPa	> 25	≥ 95	31 - 45	40	> 23	25	> 35
	Flexural strength, at break	ASTM D790	MPa	no break	≥ 140	40 - 50	40	no break	no break	38
	Flexural modulus	ASTM D790	MPa	600 - 700	3800	1200	1500	500	600	1000
	Shore D hardness	ASTM D785	-	D54	D80	D80	D75	D60	D56	D65
	IZOD notched impact (23°C)	ASTM D256	J/m	161	≥ 85	150	no break	no break	no break	no break
	Coefficient of dynamic friction (vs. itself)	ASTM D1894	-	0.06 - 0.08	≤ 0.2	0.35	0.2	0.21	0.3	0.23
Thermal	Melting temperature (°F/°C)	ASTM D3418	(°F/°C)	621/327	644/340	410/210	432/222	582/305	500/260	518/270
	Max operating temperature (°F/°C)	-	(°F/°C)	500/260	572/300	302/150	302/150	500/260	400/204	302/150
	Flammability rating	UL 94	-	V - 0	V - 0	V - 0	V - 0	V - 0	V - 0	V - 0
	Heat deflection tem- perature (0.45 MPa)	ASTM D648	(°F/°C)	132/55	315/157	176/80	194/90	163/73	158/70	176/80
	Min. short term service temperature	-	(°F/°C)	- 320/ - 196	- 148/ - 100	- 328/ - 200	- 148/ - 100	- 328/ - 200	- 328/ - 200	- 148/ - 100
Electrical	Dielectric constant, at 1KHz	ASTM D150	-	2.1	3.2	2.3	2.48	2	2.15	2.6
	Dielectric strength (23°C, 1.0 mm)	ASTM D149	KV/mm	≥ 30	≥ 22	32	30	33	35	30
	Dissipation factor, at 1KHz	ASTM D150	-	0.0001 - 0.0003	0.003	0.0012	0.0012	0.00082	0.00094	0.015
	Arc resistance (sec)	ASTM D495	sec	300	40	> 320	> 120	> 180	> 300	> 100
	Volume resistivity, at 50% RH	ASTM D257	(ohm*cm)	> 10 <sup>18</sup>	> 10 <sup>17</sup>	> 10 <sup>17</sup>	> 10 <sup>17</sup>	> 10 <sup>18</sup>	> 10 <sup>18</sup>	> 10 <sup>17</sup>

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All informations are intended only as general guide lines for use at user discretion.

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