

Physical properties of Virgin PTFE & Filled Grade o				f PTFE are dependent upon many factors such as Grad				es of PTFE – Conventional, Modified PTFE or Filled				PTFE, Particle size of resin – Fine Cut or Coarse,				Particle Shape of Resin – Spherical,													
Flake, Irregular, Type & content of filler, Manufac				turing Process – Compression Molding, Ram Extrusion				, Isostatic, Paste Extrusion. Due to this – Physica				l Properties of PTFE & Filled PTFE Products – have				the wide range of Values:-													
Sr. No.	Property	Unit	Test Method	Virgin PTFE		Chemically Modified PTFE		15% Glass Filled PTFE		25% Glass Filled PTFE		5% Glass +5% MoS2 Filled PTFE		15% Glass +5% MoS2 Filled PTFE		25% Carbon / 23% Carbon + 2% Graphite Filled PTFE		35% Carbon / 33% Carbon + 2% Graphite Filled PTFE		15% Graphite Filled PTFE		40% Bronze/ TSQ Filled PTFE		40% Bronze + 5% MoS2 Filled PTFE		60% Bronze Filled PTFE		55% Bronze + 5% MoS2 Filled PTFE	
				1	2	3	4	5	6	7	8	9	10	11	12	13													
1	Density	gm / cc	ASTM D-792	2.1 – 2.2		2.15 – 2.2		2.15– 2.22		2.22– 2.25		2.20 – 2.24		2.20– 2.24		2.0 – 2.2		2.0 – 2.14		2.10– 2.16		3.0 – 3.2		3 – 3.2		3.8 – 4.0		3.8 – 4	
2	Tensile Strength	kgf/cm ²										75– 250		150– 220		125– 200		100– 175		150– 200		125– 225							
3	Elongation of Break	%	ASTM D-638	250 – 400		400 – 450		225– 325		200– 300		200– 300		220– 320		80– 150		100– 150											
4	Compressive Strength	kgf/cm ²														85		80– 90		65– 75		85– 100		80– 95		115– 125		115– 125	
5	Deformation under load (Max.)																												
a	2 Hrs. 23 ⁰ C 113 kgf	%		12		3.5		10		9		11		10		5		4		6		5		5		4		4	
b	24 Hrs. 23 ⁰ C 113 kgf		ASTM D-621	15		5		12		11		13		12		7		6		8		6		6		5		5	
c	Permanent																												
d	2 Hrs. 150 ⁰ C 113 kgf			55		40		52		50		52		50		35		30		43		42		42		40		40	
6	Impact strength	J/cm	ASTM D-256	1.4 – 1.5		1.6 – 1.75		1.2 – 1.3		1.0 – 1.1		1.25 – 1.35		1.2 – 1.3		0.7 – 0.8		0.6 – 0.7		0.8 – 0.9		0.9 – 1.0		0.9 – 1.0		0.8 – 0.9		0.85 – 0.95	
7	Hardness	Shore D	ASTM D-2240	58 – 62		56 – 62		58 – 62		58 – 63														62 – 66		64 – 68		64 – 68	
8	Coefficient of Friction		ASTM-D-1894																										
a	Dynamic P-7 kg/cm ³ V-0.5			0.04– 0.06		0.02– 0.03		0.31– 0.37		0.5– 0.54		0.15– 0.20		0.15– 0.20		0.12– 0.17		0.13– 0.18		0.11– 0.16		0.11– 0.15		0.1– 0.14		0.12– 0.16		0.11– 0.14	
b	Static P-35 kg/cm ²			0.05– 0.08		0.04– 0.06		0.01– 0.12		0.11– 0.13		0.08– 0.01		0.08– 0.01		0.09– 0.11		0.01– 0.12		0.08– 0.10		0.08– 0.10		0.075– 0.09		0.08– 0.10		0.07– 0.09	
9	Wear Rate (Max.)	gm/s	ASTM-G-137	0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01	
10	Water Absorption (Max.)	%	ASTM D-570	0		0		0.015		0.013		0.015		0.015		0		0		0		0		0		0		0	
11	Continuous Service Temperature	⁰ C	ASTM-D-648	+260		+260		+260		+260		+260		+260		+260		+260		+260		+260		+260		+260		+260	
12	Heat Resistance (Max.)	%	ASTM-D-648	0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01		0.01	
13	Coefficient of Linear Thermal Expansion– 10 ⁻⁶ X	%	ASTM D-696	250 – 275		250																							