

BELUNS PTFE – Physical Properties of PTFE and Filled PTFE Products

Physical properties of Virgin PTFE & Filled Grade of PTFE are dependent upon many factors such as Grades 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, Manufacturing Process – Compression Molding, Ram Extrusion, Isostatic, Paste Extrusion. Due to this – Physical Properties of PTFE & Filled PTFE Products – have the wide range of Values:

Property	Unit	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
Density	gm / cc	2.1-2.2	2.15-2.2	2.15-2.22	2.22-2.25	2.2-2.25	2.2-2.25	2-2.2	2-2.15	2.1-2.16	3-3.3	3-3.2	3.8-4.0	3.8-4
Tensile Strength	kgf/cm2	210-375	300-325	180-260	125-200	175-250	150-220	125-200	100-175	150-200	125-225	125-225	100-200	100-200
Elongation of Break	%	250-400	400-450	225-325	200-300	200-300	220-320	80-150	100-150	150-250	200-350	200-350	150-300	150-300
Compressive Strength	kgf/cm2	40-50	45-55	65-76	75-85	60-70	65-75	75-85	80-90	65-75	85-100	80-95	115-125	115-125
Impact strength	J/cm	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
Hardness	Shore D	58-62	56-62	58-62	58-63	60-65	60-65	60-66	60-65	60-65	62-66	62-66	64-68	64-68
Wear Rate (Max.)	gm/s	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
Water Absorption (Max.)	%	0	0	0.015	0.013	0.015	0.015	0	0	0	0	0	0	0
Continuous Service Temperature	C	260	260	260	260	260	260	260	260	260	260	260	260	260
Heat Resistance (Max.)	%	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
Coefficient of Linear Thermal Expansion– 10-6 X %		250-275	250-275	240-265	235-255	245-270	240-265	225-250	215-240	240-265	200-225	200-225	175-200	175-200
Dielectric Strength	Kv/mm	22-24	30-35	15-16	11 – 12	15-16	15-16	1 – 2	1 – 2	1 – 2	Conductive	Conductive	Conductive	Conductive

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