WCT Group
Western Consolidated Technologies

PTFE Material Selection Guide

Material Code	Base Polymer	Filler	Color	Typical Service Temperature		Typical Physical Properties			Relative Functional Performance *			Comments
				Low	High	Ultimate Tensile Strength (psi)	Elongation at Break (%)	Hardness (Shore D)	Friction	Wear Resistance	Fluid Pressure	
W100	PTFE	Unfilled	White	-420	475	4300	350	60	A	C	C	Excellent sealability, chemical resistance and very low friction.
W110	PTFE	Carbon / Graphite	Black	-180	525	2300	120	64	B	A	A	Good general purpose material for long life and high pressure service.
W120	PTFE	Graphite	Black	-300	500	2900	215	61	A	B	C	Low friction, dry running, improved wear resistance. Frequently chosen for applications with low lubrication.
W130	PTFE	Mineral	White	-180	525	2950	250	66	B	B	B	Common material for food service applications.
W141	PTFE	Glass Fiber	Blue	-180	525	3150	240	62	B	B	A	Improved temperature and pressure performance. Common material for a variety of applications.
W142	PTFE	Glass Fiber + Molybdenum Disulfide	Gray	-180	525	2840	240	62	B	A	A	High wear resistance. Commonly used for high speed and rotary applications.
W150	PTFE	Aromatic Polyester	Tan	-180	500	2930	245	60	B	B	B	Good, low permeability material for low viscosity fluids and high pressure.
W160	PTFE	Bronze	Metallic	-180	525	3400	260	64	B	A	A	Good wear and extrusion resistance, particularly in hydraulic oil. Primarily used in reciprocating fluid power applications: rod and piston seals, wear bands.
W180	PTFE	Carbon Fiber	Black	-180	525	3300	210	63	B	A	A	High creep and wear resistance. Good choice for back-up rings and high-performance seal jackets.
W190	PTFE	Pigment	Blue	-300	475	4300	350	60	A	C	C	Enhanced wear and extrusion resistance of virgin PTFE.
W200	Modified PTFE	Unfilled	White	-300	475	4400	375	60	A	C	B	Many of the properties of Virgin PTFE, but with enhanced cold-flow and extrusion resistance. Good for long service, wide temperature ranges and low viscosity media.
W300	UHMW	Unfilled	Natural	-240	180	6400	350	68	C	A	B	Great dynamic properties when sealing in water.
W400	PEEK	Unfilled	Tan	-40	500	15000	20	85	C	A	A	High performance engineering plastic with high temperature limit, very high extrusion resistance and long wear.
W403	PEEK	Carbon/Graphite/PTFE	Black	-40	500	21000	2	83	C	A	A	Very high compressive strength and wear resistance. High temperature applications, particularly bearings and backup rings.
W700	Hytrel (TPE)	Unfilled	Natural	-40	275	5800	400	55	C	B	A	Resilient material with very high sealability over a wide temperature range.

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