



Our WearGard and MolyGard strength characteristics meet or exceed most metals traditionally used in wear rings. While many compounds are available, the most commonly used bearing materials are WearGard, MolyGard and filled PTFE

Parker also offers other engineered bearing materials for specialized applications demanding higher temperatures and side loads. Parker's UltraComp™ CGT provides high temperature bearing performance up to 500 °F. Composite, fabric-reinforced resins are also available to accommodate side loads far more severe than glass-loaded nylon compounds can withstand. Composite resins also resist moisture swell in water-glycol emulsions and other water-based fluids. Polyacetal, Nylatron and many different PTFE filler combinations are also available for specialized applications.

W4733 — WearGard

Heat stabilized, internally lubricated, 35% glass-reinforced nylon for tight-tolerance wear rings. WearGard is the premium material for the most severe applications due to its dimensional stability, high compressive strength and Parker's proprietary internal lubrication for reduced friction. WearGard is an extremely high endurance compound, retaining its physical properties without degradation. WearGard also features Parker's distinctive green coloring and is available in the WPT and WRT profiles.

W4650 — MolyGard

Heat stabilized, internally lubricated, 30% glass-reinforced nylon for standard-tolerance wear rings. Very similar physical properties to WearGard, but with an economical advantage. MolyGard is for use in light to medium duty hydraulic applications. Available in the WN profile

0401 — 40% Bronze-Filled PTFE

Primarily used in light duty hydraulic applications, this self lubricated, long-wearing material offers superior frictional characteristics and high temperature capabilities. Not recommended for use with aluminum bores and soft metal rods or in applications involving moderate to heavy side-loading. Available in the PDT and PDW profiles

0307 — 23% Carbon, 2% Graphite-Filled PTFE

The most popular material for pneumatic applications, this self-lubricated compound ensures long life, low friction and high temperature capabilities. The carbon-graphite fillers allow for outstanding performance without the risk of scratching or scoring soft metal surfaces. Available in the PDT and PDW profiles

Physical and Mechanical Properties of Engineered Plastics

Property	Unit	W4733	W4650	W4738	0871 – 0874	Test Method
		WearGard 35% Glass- Reinforced Nylon	MolyGard 30% Glass- Reinforced Nylon	UltraCOMP CGT 10% Carbon, 10% Graphite, 10% PTFE Filled	Composite Fabric- Reinforced Resins	
Permissible Compressive Load, <i>q</i>	psi	21700	21700	—	65200	—
Tensile Strength	psi	18300	17500	20400	9500	ASTM D638, 73 °F
Tensile Modulus	Kpsi	899	952	—	470	ASTM D638, 73 °F
Compressive Strength	psi	21500	21000	21700	35000	ASTM D695, 73 °F
Shear Strength	psi	9820	9390	—	—	ASTM D732, 73 °F
Flexural Strength	psi	25500	22600	30500	—	ASTM D790, 73 °F
Flexural Modulus	Kpsi	1100	860	1175	280	ASTM D790, 73 °F
Notched IZOD Impact Strength	Ft-Lbs/in	1.15	1.37	1.69	10	ASTM D256, 73 °F
Deformation Under Load	%	0.4	0.6	—	4.0	ASTM D621, 24 hrs @ 4000 psi, 73 °F
Water Absorption	%	0.5	0.8	0.06	0.1	24 hour immersion, ASTM D570, 73 °F
Temperature Range	°F	-65 to +275	-65 to +275	-65 to +500	-40 to +250	—
Rockwell Hardness	M Scale	87	77	100	100	ASTM D785
	R Scale	117	114	—	—	ASTM D785

Physical and Mechanical Properties of PTFE Compounds

Property	Unit	0401	0307	Test Method
		40% Bronze Filled PTFE	23% Carbon, 2% Graphite Filled PTFE	
Permissible Compressive Load, <i>q</i>	psi	9400	3600	—
Tensile Strength	psi	3200	2250	ASTM D1457-81A
Elongation	%	250	100	ASTM D4894
Deformation Under Load	%	3.1	2.5	ASTM D621, 24 hrs @ 2000 psi, 70 °F
Coefficient of Friction	—	0.23	0.24	ASTM D3702
Temperature Range	°F	-200 to +575	-360 to +575	—
Shore D Hardness	—	65	64	ASTM D2240-75