

# WearGard™ Bearing Materials

No. 5213B1-USA

## WearGard™ family of bearing and wear ring materials delivers endurance and reliability in hydraulic cylinder life

WearGard™ is Parker's newest family of tight tolerance bearing and wear ring materials offered to the market for hydraulic cylinder applications. WearGard offers performance enhancements compared to industry standard bearing materials. Heat stabilized material ensures a product that is dimensionally stable and a design that supports side loading. WearGard materials have successfully endured hundreds of thousands of cycles of harsh performance testing, showing excellent results. Testing is ongoing. Contact Parker Engineered Polymer Systems (EPS) Division to discuss your application.

### Features

- Glass-reinforced nylon
- Parker's proprietary, internal lubrication
- Heat stabilized compound
- Distinctive coloring

### Benefits

- Higher compressive strength and dimensional stability as required for hydraulic cylinder applications
- Minimal stick/slip combined with less hardware abrasion will eliminate chatter and squeal noise
- Material retains its excellent physical properties at high temperatures (to 275°F). Without a heat stabilized material, expect reduced component life due to physical property degradation
- Ensures recognition of the distinctive WearGard material. Eliminates doubt as to wear ring and bearing material source or design.

### Size Availability

Tight tolerance WearGard wear rings are 1/8 inch in thickness (0.123 - 0.125) in diameters from 1/2 to 6 inches. Additional custom sizes are available to meet your application need. Standard WearGard wear rings are butt cut. Step cut and scarf cut wear rings are also available.



### Typical Bearing/Wear Ring Applications

Parker's WearGard materials are the perfect solution for tight tolerance bearing and wear ring products in hydraulic cylinder applications.

WearGard 4734 with proprietary internal lubrication, is used as the bearing material directly molded onto Parker's all-in-one Integrated Piston™ for hydraulic cylinders. For detailed information and test data, see Parker Catalog EPS-5220/USA.

WearGard 4733 is our tight tolerance wear ring material. Application markets include agriculture, mobile, forestry, construction, mining and many others. Contact Parker EPS Application Engineers for questions regarding specific application compatibilities.

### WearGard (4733) Typical Physical Properties:

Physical Property	ASTM Test Method	Values
Hardness (Rockwell "R")	D-785	87
Tensile Strength (psi)	D-638	18,300
Elongation (%)	D-638	X
Specific Gravity	D-792	X.XX
Compressive Strength (psi)	D-695	21,500
Deformation Under Load (%)	D-621	
Parallel		0.40
Perpendicular		0.XX
Notched Izod Impact Strength (ft-lbs/in)	D-256	1.15

Data is to be used as a guide only. Actual test values may be different.

Copyright © 2002, Parker Hannifin Corporation, Cleveland, OH. All Rights Reserved

## WearGard™ Bearing Material

### Bearing/Wear Ring Material Comparison Typical Physical Properties



	MolyGard™ W4650	WearGard™ W4733	WearGard™ W4734
Color	Black	Green	Green
General Use Description	Proprietary reinforced nylon for industrial tolerance (0.120 - 0.125)	Enhanced performance material for tight tolerance (0.123 - 0.125)	Integrated Piston™ assembly bearing material
<b>Water absorption (%)</b> 24 hour immersion ASTM D570, 73°F	0.80	0.50	0.83
<b>Tensile Strength (psi)</b> ASTM D638, 73°F	17,500	18,300	17,400
<b>Tensile Modulus (Kpsi)</b> ASTM D638, 73°F	952	899	808
<b>Shear Strength (psi)</b> ASTM D732, 73°F	9,390	9,820	8,430
<b>Flexural Strength (psi)</b> ASTM D790, 73°F	22,600	25,500	22,800
<b>Flexural Modulus (Kpsi)</b>	860	1100	1030
<b>Notched IZOD Impact Strength</b> (Ft-Lbs/in) ASTM D256, 73°F	1.37	1.15	2.03
<b>Deformation Under Load (%)</b> ASTM D621 24 hrs. @ 4000 psi, 73°F	0.60	0.40	0.43
<b>Compressive Strength (psi)</b> ASTM D695, 73°F	21,000	21,500	21,100
<b>Rockwell Hardness</b> ASTM D785 "M" Scale "R" Scale	77 114	87 117	69 109

**Warning!** – Failure, improper selection or improper use of the products and/or systems described herein or related items can cause death, personal injury or property damage. This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through his own analysis and testing is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.