

60680

ROLLERS & BUMPERS

Material

Nitrile, urethane or neoprene bonded to a steel insert. Hardness from 20-60 durometer (Shore A).

Tips

Finned rollers have grooves on the surface, creating less surface contact with the workpiece, and allowing dirt, debris and liquid to pass.

Technical Notes

Roller only - allows for custom mounting.

Order No.	Material	Durometer	d ₁	l ₁	d ₂ min. max.	No. of fins
60680.W1002	Nitrile	20	50,8 (2")	23.37	28,58/28,65	3
60680.W1003	Nitrile	35	50,8 (2")	23.37	28,58/28,65	3
60680.W1006	Nitrile	60	50,8 (2")	23.37	28,58/28,65	3
60680.W1012	Nitrile	20	50,8 (2")	23.37	28,58/28,65	3
60680.W1013	Nitrile	35	50,8 (2")	23.37	28,58/28,65	3
60680.W1016	Nitrile	60	50,8 (2")	23.37	28,58/28,65	3
60680.W1022	Nitrile	20	50,8 (2")	23.37	28,58/28,65	3
60680.W1023	Nitrile	35	50,8 (2")	23.37	28,58/28,65	3
60680.W1026	Nitrile	60	50,8 (2")	23.37	31,80/31,90	3
60680.W1032	Nitrile	20	50,8 (2")	23.37	31,80/31,90	3
60680.W1033	Nitrile	35	50,8 (2")	23.37	31,80/31,90	3
60680.W1036	Nitrile	60	50,8 (2")	23.37	31,80/31,90	3
60680.W1042	Nitrile	20	50,8 (2")	23.37	31,80/31,90	3
60680.W1043	Nitrile	35	50,8 (2")	23.37	31,80/31,90	3
60680.W1046	Nitrile	60	50,8 (2")	23.37	31,80/31,90	3
60680.W1052	Nitrile	20	50,8 (2")	23.37	31,80/31,90	3
60680.W1053	Nitrile	35	50,8 (2")	49.28	28,58/28,65	6
60680.W1056	Nitrile	60	50,8 (2")	49.28	28,58/28,65	6
60680.W1062	Nitrile	20	50,8 (2")	49.28	28,58/28,65	6
60680.W1063	Nitrile	35	50,8 (2")	49.28	28,58/28,65	6
60680.W1066	Nitrile	60	50,8 (2")	49.28	28,58/28,65	6
60680.W1072	Nitrile	20	50,8 (2")	49.28	28,58/28,65	6
60680.W1073	Nitrile	35	50,8 (2")	49.28	28,58/28,65	6
60680.W1076	Nitrile	60	50,8 (2")	49.28	28,58/28,65	6
60680.W1083	Nitrile	35	50,8 (2")	49.28	31,80/31,90	6
60680.W1086	Nitrile	60	50,8 (2")	49.28	31,80/31,90	6
60680.W1093	Nitrile	35	50,8 (2")	49.28	31,80/31,90	6
60680.W1096	Nitrile	60	50,8 (2")	49.28	31,80/31,90	6
60680.W2003	Urethane	35	50,8 (2")	49.28	31,80/31,90	6
60680.W2006	Urethane	60	50,8 (2")	49.28	31,80/31,90	6
60680.W2013	Urethane	35	50,8 (2")	49.28	31,80/31,90	6



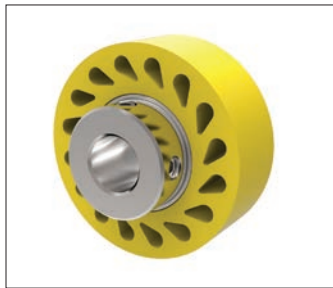
Order No.	Material	Durometer	d ₁	l ₁	d ₂ min./max.	No. of fins
60680.W2016	Urethane	60	50,8 (2")	49.28	31,80/31,90	6
60680.W2023	Urethane	35	50,8 (2")	23.37	28,58/28,65	3
60680.W2026	Urethane	60	50,8 (2")	23.37	28,58/28,65	3
60680.W2033	Urethane	35	50,8 (2")	23.37	28,58/28,65	3
60680.W2036	Urethane	60	50,8 (2")	23.37	28,58/28,65	3
60680.W2043	Urethane	35	50,8 (2")	23.37	28,58/28,65	3
60680.W2046	Urethane	60	50,8 (2")	23.37	28,58/28,65	3
60680.W2053	Urethane	35	50,8 (2")	23.37	28,58/28,65	3
60680.W2056	Urethane	60	50,8 (2")	23.37	28,58/28,65	3
60680.W2063	Urethane	35	63,5 (2,5")	23.37	31,80/31,90	3
60680.W2066	Urethane	60	63,5 (2,5")	23.37	31,80/31,90	3
60680.W2073	Urethane	35	63,5 (2,5")	23.37	31,80/31,90	3
60680.W2076	Urethane	60	63,5 (2,5")	23.37	31,80/31,90	3
60680.W2083	Urethane	35	63,5 (2,5")	23.37	31,80/31,90	3
60680.W2086	Urethane	60	63,5 (2,5")	23.37	31,80/31,90	3
60680.W2093	Urethane	35	63,5 (2,5")	23.37	31,80/31,90	3
60680.W2096	Urethane	60	63,5 (2,5")	23.37	31,80/31,90	3
60680.W3002	Neoprene	20	63,5 (2,5")	49.28	28,58/28,65	6
60680.W3003	Neoprene	35	63,5 (2,5")	49.28	28,58/28,65	6
60680.W3006	Neoprene	60	63,5 (2,5")	49.28	28,58/28,65	6
60680.W3012	Neoprene	20	63,5 (2,5")	49.28	28,58/28,65	6
60680.W3013	Neoprene	35	63,5 (2,5")	49.28	28,58/28,65	6
60680.W3016	Neoprene	60	63,5 (2,5")	49.28	28,58/28,65	6
60680.W3022	Neoprene	20	63,5 (2,5")	49.28	28,58/28,65	6
60680.W3023	Neoprene	35	63,5 (2,5")	49.28	28,58/28,65	6
60680.W3026	Neoprene	60	63,5 (2,5")	49.28	31,80/31,90	6
60680.W3032	Neoprene	20	63,5 (2,5")	49.28	31,80/31,90	6
60680.W3033	Neoprene	35	63,5 (2,5")	49.28	31,80/31,90	6
60680.W3036	Neoprene	60	63,5 (2,5")	49.28	31,80/31,90	6
60680.W3042	Neoprene	20	63,5 (2,5")	49.28	31,80/31,90	6
60680.W3043	Neoprene	35	63,5 (2,5")	49.28	31,80/31,90	6
60680.W3046	Neoprene	60	63,5 (2,5")	49.28	31,80/31,90	6
60680.W3052	Neoprene	20	63,5 (2,5")	49.28	31,80/31,90	6
60680.W3053	Neoprene	35	101,6 (4")	49.28	28,58/28,65	8
60680.W3056	Neoprene	60	101,6 (4")	49.28	28,58/28,65	8
60680.W3062	Neoprene	20	101,6 (4")	49.28	28,58/28,65	8
60680.W3063	Neoprene	35	101,6 (4")	49.28	28,58/28,65	8
60680.W3066	Neoprene	60	101,6 (4")	49.28	28,58/28,65	8
60680.W3072	Neoprene	20	101,6 (4")	49.28	28,58/28,65	8
60680.W3073	Neoprene	35	101,6 (4")	49.28	31,80/31,90	8
60680.W3076	Neoprene	60	101,6 (4")	49.28	31,80/31,90	8
60680.W3083	Neoprene	35	101,6 (4")	49.28	31,80/31,90	8
60680.W3086	Neoprene	60	101,6 (4")	49.28	31,80/31,90	8
60680.W3093	Neoprene	35	101,6 (4")	49.28	31,80/31,90	8
60680.W3096	Neoprene	60	101,6 (4")	49.28	31,80/31,90	8



Product overview



Solid rollers - have a smooth surface and a solid body



Durasoft rollers - have a smooth contact surface with teardrop holes to allow greater roller compression under load.



Finned rollers - are grooved and provide self-cleaning as dirt, debris and liquid pass under the contact surface of the roller.

Durability levels



20 durometer:
Stiff foam rubber



35 durometer:
Pencil rubber top



60 durometer:
Car tyre

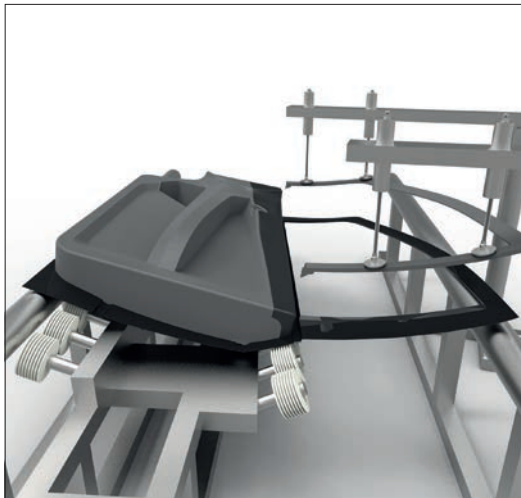


80 durometer:
Skateboard wheel



90 durometer:
Hockey puck

Applications



Rollers are used in car manufacturing to guide and align doors during bonding and curing applications



Bumpers have found their way into commercial exercise equipment to provide protection and stability during use.



Materials colour guide and properties

Nitrile and neoprene



Nitrile - one colour



Neoprene - one colour

Urethane



35 Durometer (Yellow)



60 Durometer (Blue)



80 Durometer (Red)



95 Durometer (Orange)

Material properties

Base Elastomer	Chemical Name	Advantages	Disadvantages	Max. Temp	Min. Temp
Nitrile	Nitrile Butadiene	Resistant to petroleum, oil, alcohol & abrasion.	Affected by degreaser solvents.	Continuous 79°C Intermittent 107°C	-51°C
Neoprene	Chloroprene	Flame and weather resistant. Resistant to Petroleum, oil, ozone & high temp.	Affected by phosphate hydraulic fluids, aromatic hydrocarbons.	Continuous 93°C Intermittent 121°C	-40°C
Urethane	Di-Isocyanate Polyurethane	Highest abrasion resistance, strength & load bearing. High elongation, hardness. Resistance to Ozone & Oxygen.	Affected by ether, esters, acid, aromatics, alkalis.	Continuous 93°C Intermittent 121°C	-54°C

Property:	Nitrile	Neoprene	Urethane	
Tensile Strength	✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	
Ozone Resistance	✓	✓ ✓	✓ ✓ ✓ ✓	
Cut Resistance	✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	
Abrasion Resistance	✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	
Resistance To:	Nitrile	Neoprene	Urethane	
Compression Set	✓ ✓	✓ ✓ ✓	✓ ✓ ✓	
ASTM #1 Oil	✓ ✓ ✓ ✓	✓ ✓	✓ ✓ ✓ ✓	
ASTM #2 Oil	✓ ✓ ✓ ✓	✓ ✓	✓ ✓ ✓ ✓	
Reference Fuel B	✓ ✓ ✓	✓ ✓	✓ ✓ ✓ ✓	
Ketones: MEK	✓	✓ ✓	✓	
Aromatics: Toluene	✓ ✓ ✓	✓	✓ ✓ ✓ ✓	
Aliphatics: Hexane	✓ ✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓ ✓	
Ethyl Acetate	✓	✓ ✓ ✓	✓	
Cellosolve	✓ ✓	✓ ✓ ✓ ✓	✓	
Methylene Chloride	✓	✓	✓ ✓ ✓ ✓	
Trichloroethylene	✓	✓	✓ ✓ ✓ ✓	
Diethylene Glycol	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	✓ ✓ ✓	
Isopropyl Alcohol	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	
Caustics: 10% NaOH	✓ ✓ ✓	✓ ✓ ✓	✓	
Acids: H2SO4	✓ ✓	✓ ✓ ✓	✓	
Excellent	✓ ✓ ✓ ✓	Good ✓ ✓ ✓	Fair ✓ ✓	Poor ✓



The tables below show the maximum theoretical radius loads that can be applied to the respective bearings. Refer to individual product tables to identify bearing type supplied with roller.

Bearing Type	Inside diameter (inches)	Outside diameter (inches)	Width (inches)	Load (Kg)	Speed (rpm)
A - Standard Double	.313/.317	.870/.875	.498/.502	55	50
				36	100
				24	250
				20	500
B - Standard Single	.500/.505	1.245/1.250	.370/.380	119	50
				79	100
				51	250
				47	500
C - Standard Double	.500/.505	1.245/1.250	.745/.755	192	50
				128	100
				83	250
				70	500

Standard bearings

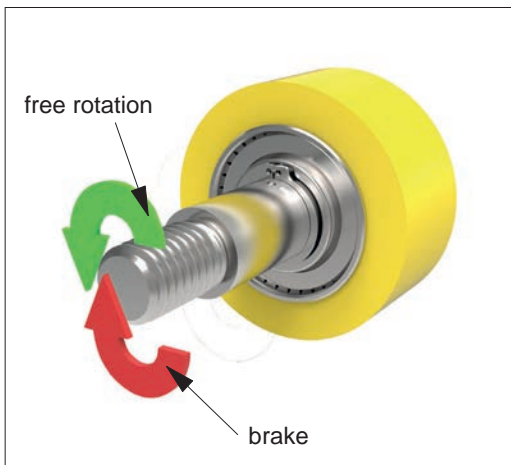
With the calculations above, typical life is approximately 2500 hours.

Bearing Type	Inside diameter (inches)	Outside diameter (inches)	Width (inches)	Load (Kg)	Speed (rpm)
H	.3745/.3750	.6245/.6255	.865/.875	167	33
				146	50
				116	100
				85	250
I	.6245/.6250	.8745/.8755	.990/1.000	277	33
				242	50
				192	100
				142	250

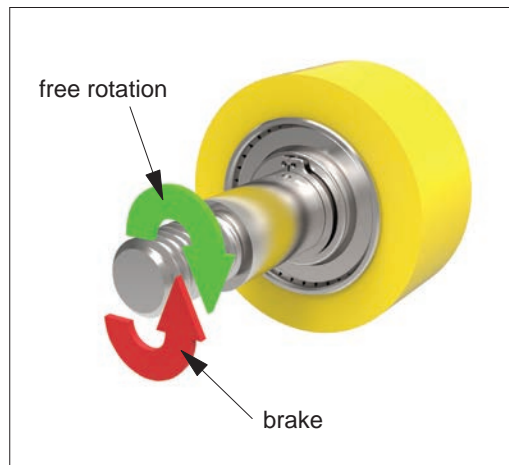
Clutch bearings

With the calculations above, typical life is approximately 1,000,000 revolutions or 500 hours. The bearings are shielded and pre-lubricated for life with grease.

A clutch roller can only be used in one direction, as shown. See data table for clutch direction of particular part.



Left clutch bearing



Right clutch bearing