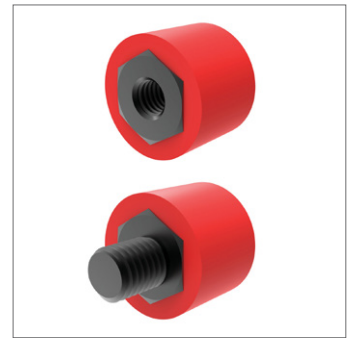
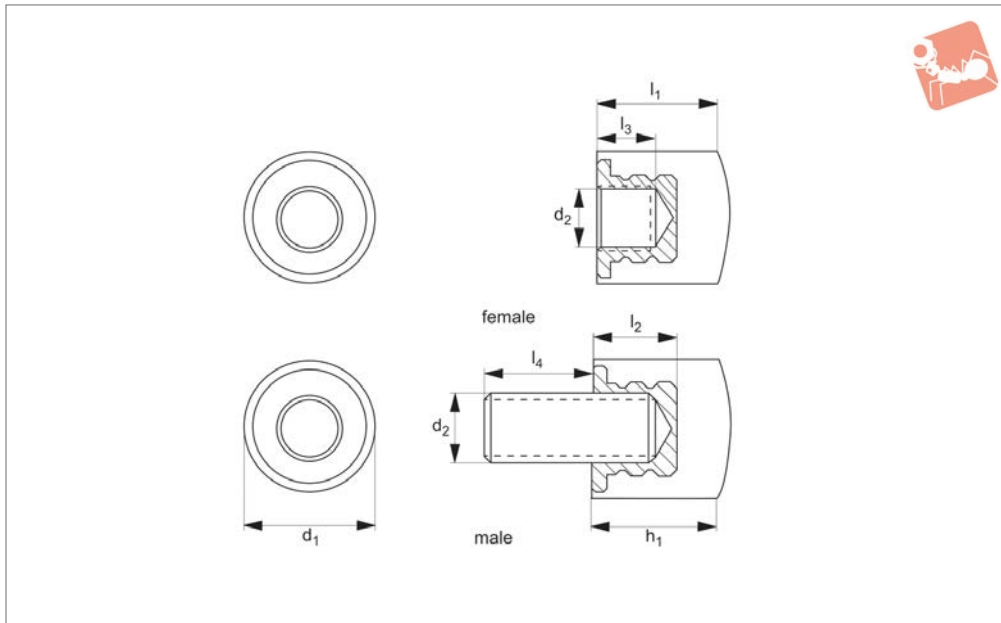




# Metric Bumpers - Round male and female

## Rollers & Bumpers



**60880**

ROLLERS & BUMPERS

### Material

**Black Neoprene:** flame and weather resistant. Resists: oil, ozone and gasoline. Temperature resistance: -5°C to +93°C (shortly +120°C).

**Urethane:** highly abrasion resistant, high strength and load bearing. High elonga-

tion and hardness. Resists ozone and oxygen. Temperature resistance: -18°C to +93°C (shortly +120°C).

### Technical Notes

Bumpers are moulded to solid steel cores. They are used to guard, stop, align, posi-

tion, or protect parts through stages of manufacturing.

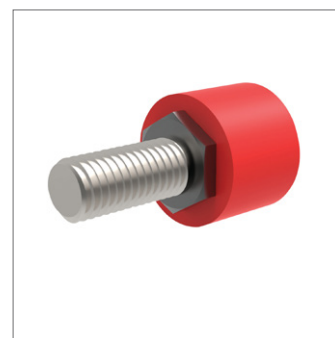
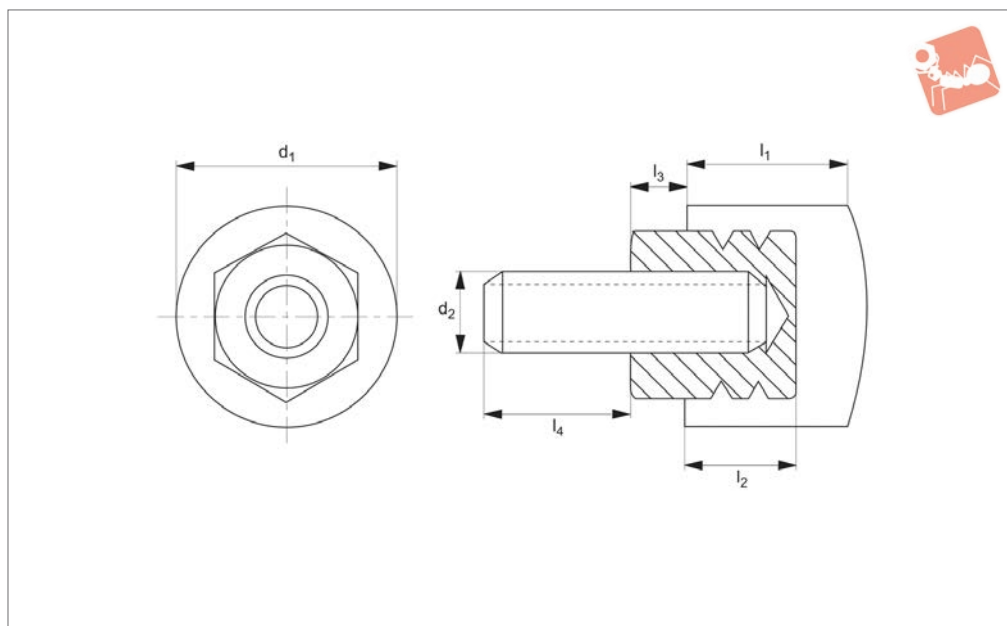
### Tips

All dimensions metric.

| Order No.   | Material | Type   | $l_1$ | $d_1$ | $d_2$      | $l_2$ | $l_3$ | $l_4$ | Durometer | Duro. urethane |
|-------------|----------|--------|-------|-------|------------|-------|-------|-------|-----------|----------------|
| 60880.W0411 | Neoprene | Female | 16    | 19    | M 6 x 1,00 | 9.0   | 6     | -     | 70        | 80             |
| 60880.W0412 | Neoprene | Female | 16    | 19    | M 8 x 1,25 | 9.0   | 6     | -     | 70        | 80             |
| 60880.W0413 | Neoprene | Female | 32    | 32    | M10 x 1,50 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0414 | Neoprene | Female | 32    | 32    | M10 x 1,25 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0415 | Neoprene | Female | 32    | 32    | M12 x 1,75 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0416 | Neoprene | Female | 32    | 32    | M12 x 1,25 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0417 | Neoprene | Female | 32    | 32    | M16 x 2,00 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0418 | Neoprene | Female | 42    | 45    | M16 x 2,00 | 22.5  | 16    | -     | 40        | 80             |
| 60880.W0419 | Neoprene | Female | 57    | 57    | M20 x 2,50 | 35.0  | 26    | -     | 40        | 80             |
| 60880.W0420 | Neoprene | Female | 57    | 57    | M24 x 3,00 | 35.0  | 25    | -     | 40        | 80             |
| 60880.W0615 | Neoprene | Male   | 32    | 32    | M10 x 1,50 | 19.0  | -     | 15    | 40        | 80             |
| 60880.W0616 | Neoprene | Male   | 32    | 32    | M10 x 1,50 | 19.0  | -     | 30    | 40        | 80             |
| 60880.W0617 | Neoprene | Male   | 32    | 32    | M12 x 1,75 | 19.0  | -     | 15    | 40        | 80             |
| 60880.W0618 | Neoprene | Male   | 19    | 32    | M12 x 1,75 | 19.0  | -     | 30    | 40        | 80             |
| 60880.W0619 | Neoprene | Male   | 32    | 32    | M16 x 2,00 | 19.0  | -     | 15    | 40        | 80             |
| 60880.W0620 | Neoprene | Male   | 32    | 32    | M16 x 2,00 | 19.0  | -     | 30    | 40        | 80             |
| 60880.W0621 | Neoprene | Male   | 42    | 45    | M16 x 2,00 | 22.5  | -     | 15    | 40        | 80             |
| 60880.W0622 | Neoprene | Male   | 42    | 45    | M16 x 2,00 | 22.5  | -     | 30    | 40        | 80             |
| 60880.W0451 | Urethane | Female | 16    | 19    | M 6 x 1,00 | 9.0   | 6     | -     | 70        | 80             |
| 60880.W0452 | Urethane | Female | 16    | 19    | M 8 x 1,25 | 9.0   | 6     | -     | 70        | 80             |
| 60880.W0453 | Urethane | Female | 32    | 32    | M10 x 1,50 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0454 | Urethane | Female | 32    | 32    | M10 x 1,25 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0455 | Urethane | Female | 32    | 32    | M12 x 1,75 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0456 | Urethane | Female | 32    | 32    | M12 x 1,25 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0457 | Urethane | Female | 32    | 32    | M16 x 2,00 | 19.0  | 13    | -     | 40        | 80             |
| 60880.W0458 | Urethane | Female | 42    | 45    | M16 x 2,00 | 22.5  | 16    | -     | 40        | 80             |
| 60880.W0459 | Urethane | Female | 57    | 57    | M20 x 2,50 | 35.0  | 25    | -     | 40        | 80             |
| 60880.W0460 | Urethane | Female | 57    | 57    | M24 x 3,00 | 35.0  | 25    | -     | 40        | 80             |
| 60880.W0635 | Urethane | Male   | 32    | 32    | M10 x 1,50 | 19.0  | -     | 15    | 40        | 80             |
| 60880.W0636 | Urethane | Male   | 32    | 32    | M10 x 1,50 | 19.0  | -     | 30    | 40        | 80             |
| 60880.W0637 | Urethane | Male   | 32    | 32    | M12 x 1,75 | 19.0  | -     | 15    | 40        | 80             |



| Order No.          | Material | Type | l <sub>1</sub> | d <sub>1</sub> | d <sub>2</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | Durometer | Duro. urethane |
|--------------------|----------|------|----------------|----------------|----------------|----------------|----------------|----------------|-----------|----------------|
| <b>60880.W0638</b> | Urethane | Male | 19             | 32             | M12 x 1,75     | 19.0           | -              | 30             | 40        | 80             |
| <b>60880.W0639</b> | Urethane | Male | 32             | 32             | M16 x 2,00     | 19.0           | -              | 15             | 40        | 80             |
| <b>60880.W0640</b> | Urethane | Male | 32             | 32             | M16 x 2,00     | 19.0           | -              | 30             | 40        | 80             |
| <b>60880.W0641</b> | Urethane | Male | 42             | 45             | M16 x 2,00     | 22.5           | -              | 15             | 40        | 80             |
| <b>60880.W0642</b> | Urethane | Male | 42             | 45             | M16 x 2,00     | 22.5           | -              | 30             | 40        | 80             |



### 60890

ROLLERS & BUMPERS

#### Material

**Black Neoprene:** flame and weather resistant. Resists: oil, ozone and gasoline. Temperature resistance: -5°C to +93°C (shortly +120°C).

**Urethane:** highly abrasion resistant, high strength and load bearing. High elonga-

tion and hardness. Resists ozone and oxygen. Temperature resistance: -18°C to +93°C (shortly +120°C).

#### Technical Notes

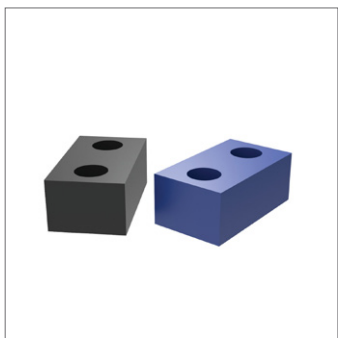
Bumpers are moulded to solid steel cores. They are used to guard, stop, align, posi-

tion, or protect parts through stages of manufacturing.

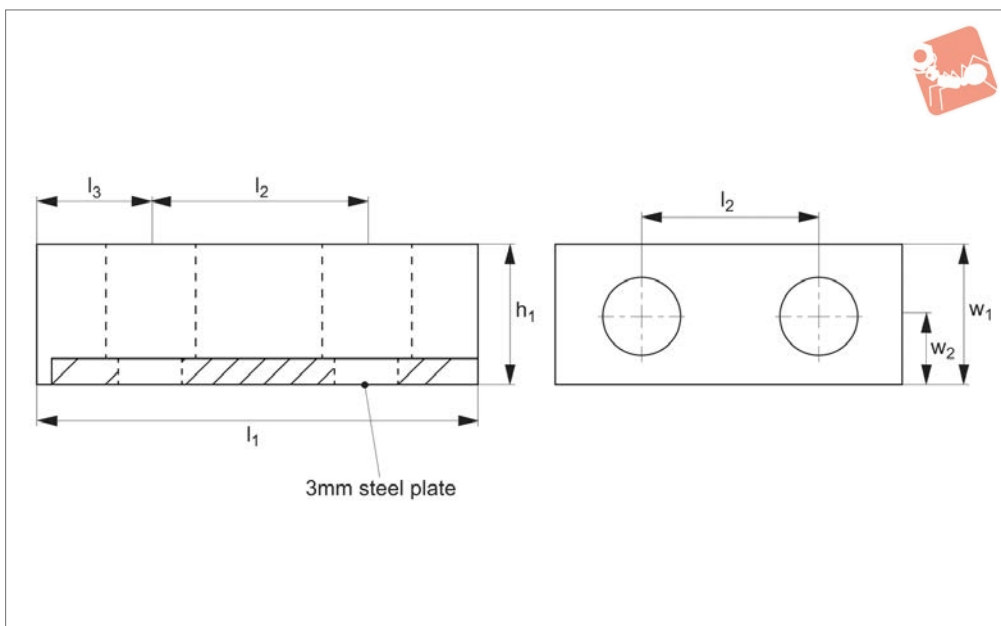
#### Tips

**All dimensions metric.**

| Order No.   | Material | $l_1$ | $d_1$ | $d_2$      | $l_2$ | $l_3$ | $l_4$ |
|-------------|----------|-------|-------|------------|-------|-------|-------|
| 60890.W0501 | Neoprene | 16    | 19    | M 6 x 1,00 | 9     | 3.2   | 15    |
| 60890.W0502 | Neoprene | 16    | 19    | M 6 x 1,00 | 9     | 3.2   | 30    |
| 60890.W0503 | Neoprene | 16    | 19    | M 8 x 1,25 | 9     | 4.0   | 15    |
| 60890.W0504 | Neoprene | 16    | 19    | M 8 x 1,25 | 9     | 4.0   | 30    |
| 60890.W0701 | Urethane | 16    | 19    | M 6 x 1,00 | 9     | 3.2   | 15    |
| 60890.W0702 | Urethane | 16    | 19    | M 6 x 1,00 | 9     | 3.2   | 30    |
| 60890.W0703 | Urethane | 16    | 19    | M 8 x 1,25 | 9     | 4.0   | 15    |
| 60890.W0704 | Urethane | 16    | 19    | M 8 x 1,25 | 9     | 4.0   | 30    |



## 60900



### Material

**Black Neoprene:** flame and weather resistant. Resists: oil, ozone and gasoline. Temperature resistance: -5°C to +93°C (shortly +120°C).

**Urethane:** highly abrasion resistant, high strength and load bearing. High elonga-

tion and hardness. Resists ozone and oxygen. Temperature resistance: -18°C to +93°C (shortly +120°C).

### Technical Notes

Bumpers bonded to steel plate. They are used to guard, stop, align, position, or

protect parts through stages of manufacturing.

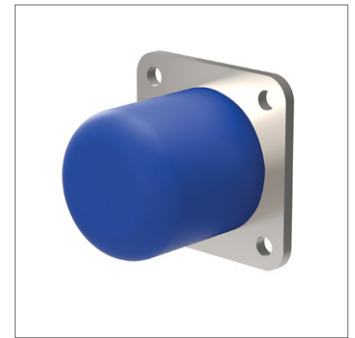
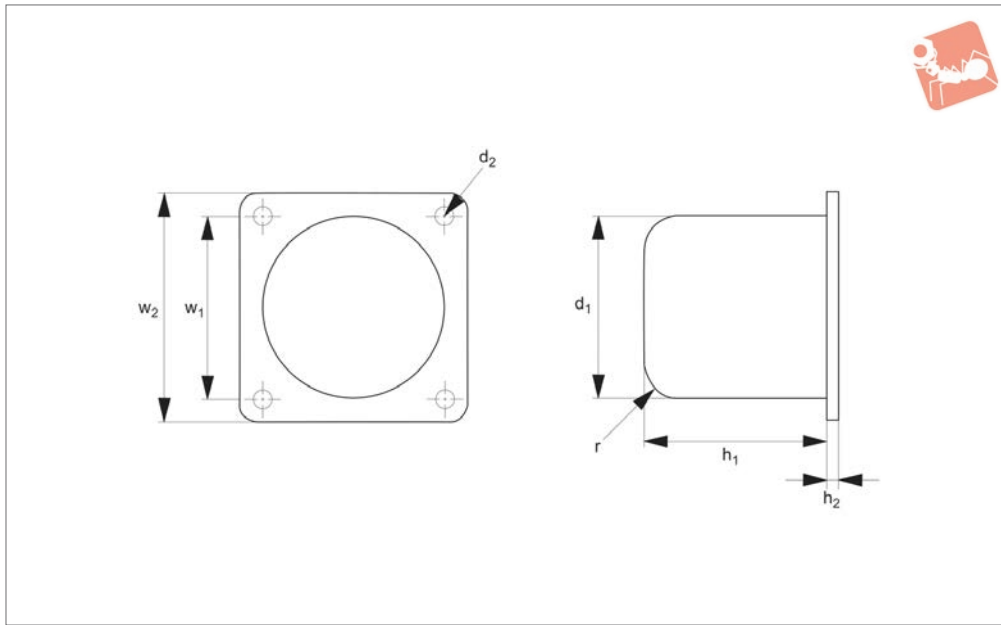
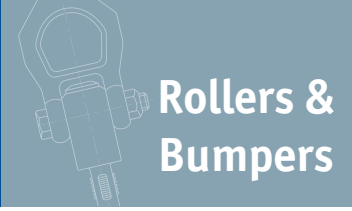
### Tips

**All dimensions metric.** Special cut bumpers available on request.

| Order No.   | Material | $l_1$ | $d_1$ | $h_1$ | $w_1$ | $l_2$ | $l_3$ | $w_2$ | Duro. | No. of holes |
|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|
| 60900.W0510 | Neoprene | 44.45 | 6     | 19.0  | 25.4  | 25.4  | 9.5   | 12.7  | 35    | 2            |
| 60900.W0511 | Neoprene | 19.0  | 6     | 16.0  | 19.0  | -     | 9.5   | 9.5   | 80    | 1            |
| 60900.W0512 | Neoprene | 63.5  | 6     | 16.0  | 16.0  | 38.1  | 12.7  | 7.9   | 80    | 2            |
| 60900.W0515 | Neoprene | 44.45 | 6     | 19.0  | 25.4  | 25.4  | 9.5   | 12.7  | 80    | 2            |
| 60900.W0516 | Neoprene | 50.8  | -     | 50.8  | 50.8  | -     | -     | -     | 80    | -            |
| 60900.W0701 | Urethane | 19.0  | 6     | 16.0  | 19.0  | -     | 9.5   | 9.5   | 60    | 1            |
| 60900.W0702 | Urethane | 63.5  | 6     | 16.0  | 16.0  | 38.1  | 12.7  | 7.9   | 60    | 2            |
| 60900.W0703 | Urethane | 44.45 | 6     | 9.5   | 25.4  | 25.4  | 9.5   | 12.7  | 60    | 2            |
| 60900.W0704 | Urethane | 44.45 | 6     | 12.7  | 25.4  | 25.4  | 9.5   | 12.7  | 60    | 2            |
| 60900.W0705 | Urethane | 44.45 | 6     | 19.0  | 25.4  | 25.4  | 9.5   | 12.7  | 60    | 2            |
| 60900.W0711 | Urethane | 19.0  | 6     | 16.0  | 19.0  | -     | 9.5   | 9.5   | 80    | 1            |
| 60900.W0712 | Urethane | 63.5  | 6     | 16.0  | 16.0  | 38.1  | 12.7  | 7.9   | 80    | 2            |
| 60900.W0713 | Urethane | 44.45 | 6     | 9.5   | 25.4  | 25.4  | 9.5   | 12.7  | 80    | 2            |
| 60900.W0714 | Urethane | 44.45 | 6     | 12.7  | 25.4  | 25.4  | 9.5   | 12.7  | 80    | 2            |
| 60900.W0715 | Urethane | 44.45 | 6     | 19.0  | 25.4  | 25.4  | 9.5   | 12.7  | 80    | 2            |
| 60900.W0716 | Urethane | 50.8  | -     | 50.8  | 50.8  | -     | -     | -     | 80    | -            |



# Metric Bumpers - Round with steel plates



**60910**

ROLLERS & BUMPERS

### Material

**Urethane:** highly abrasion resistant, high strength and load bearing. High elongation and hardness. Resists ozone and oxygen. Temperature resistance: -18°C to

+93°C (shortly +120°C).

steel plate.

### Technical Notes

Used for stops, guides, bumpers and protection. Moulded urethane bonded to

### Tips

**All dimensions metric.**

| Order No.   | d <sub>1</sub> | h <sub>1</sub> | w <sub>1</sub> | d <sub>2</sub> | l <sub>2</sub> | w <sub>2</sub> | R     | Durometer |
|-------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|-----------|
| 60910.W0701 | 50.8           | 50.8           | 50.8           | 7.13           | 4.76           | 63.50          | 9.53  | 60        |
| 60910.W0702 | 63.5           | 63.5           | 63.5           | 7.13           | 4.76           | 82.55          | 12.70 | 60        |
| 60910.W0703 | 76.2           | 76.2           | 76.2           | 10.31          | 6.35           | 101.60         | 15.88 | 60        |
| 60910.W0704 | 101.6          | 101.6          | 101.6          | 10.31          | 6.35           | 127.00         | 19.05 | 60        |
| 60910.W0711 | 50.8           | 50.8           | 50.8           | 7.13           | 4.76           | 63.50          | 9.53  | 80        |
| 60910.W0712 | 63.5           | 63.5           | 63.5           | 7.13           | 4.76           | 82.55          | 12.70 | 80        |
| 60910.W0713 | 76.2           | 76.2           | 76.2           | 10.31          | 6.35           | 101.60         | 15.88 | 80        |
| 60910.W0714 | 101.6          | 101.6          | 101.6          | 10.31          | 6.35           | 127.00         | 19.05 | 80        |



## Wixroyd Rollers

### Product overview



**Solid rollers** - have a smooth surface and a solid body

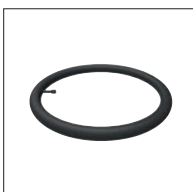


**Durasoft rollers** - have a smooth contact surface with teardrop holes to allow greater roller compression under load.



**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

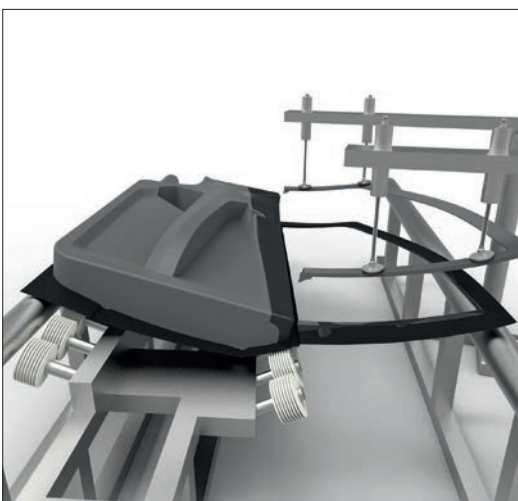


80 durometer:  
Skateboard wheel



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 - one colour



Neoprene - one colour

### Nitrile and neoprene



35 Durometer (Yellow)



60 Durometer (Blue)



80 Durometer (Red)



95 Durometer (Orange)

### Urethane

| 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<br>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<br>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<br>Intermittent 121°C | -54°C     |

### Material properties

| 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.

### Standard bearings

| 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         |

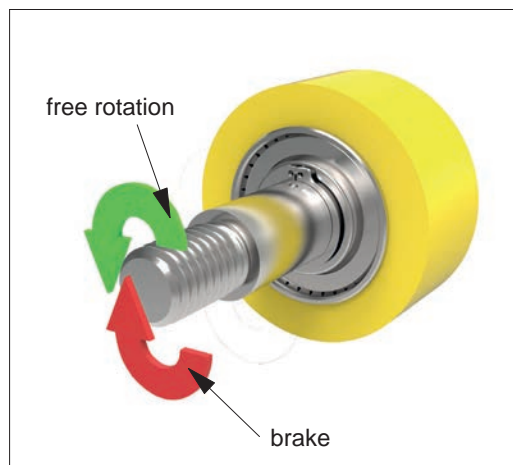
With the calculations above, typical life is approximately 2500 hours.

### Clutch bearings

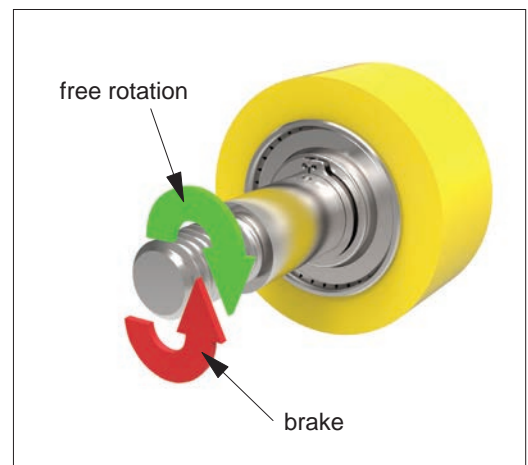
| Bearing Type | Inside diameter (inches) | Outside diameter (inches) | Width (inches) | Load (Kg) | Speed (rpm) |
|--------------|--------------------------|---------------------------|----------------|-----------|-------------|
| H            | .3745/.3750              | .6245/.6255               | .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         |

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