

# Wheel Selection Guide

## RWM offers bearings for every application

In recommending the correct wheel for the application, the type of floor material and the type of wheel material used will have a definite effect on the performance of the casted equipment. The following chart is designed to give a basic recommendation on the performance of different wheels in various conditions.

### Wheel Selection

There are many factors involved in selecting the proper wheel for an application. Among these are:

- wheel size
- wheel type
- load capacity
- ease of movement
- bearing type
- anticipated life

Associated factors would involve the application itself. Floor conditions should be taken into account:

- type of floor
- foreign material on the floor
- any extraordinary conditions such as water or chemicals
- temperatures other than ambient
- amount of usage

### Wheel Bearings

The following bearings are listed in order of ease of effort to begin and maintain rolling action:

- Sealed precision ball bearings
- Annular ball bearings
- Flanged ball bearings
- Caged roller bearings
- Roller bearings
- Precision tapered roller bearings
- Delrin bearings
- Plastic sleeve (Celcon) bearings
- Oilite bearings
- Plain bore

### Sealed Precision Ball Bearings

Sealed precision ball bearings are recommended for maximum rolling ease with no maintenance lubrication required. They provide quiet operation for medium duty to heavy duty loads. Used in pairs, they press-fit into the wheel hub. Precision ball bearings (standard or stainless steel) for light or heavy-duty applications can be provided for both radial and thrust loads.



### Annular Ball Bearings

Annular ball bearings are "precision" type ball bearings that provide full-length support across the wheel width. The outside races are locked to the inside race by ball bearings and our unique encapsulated raceway. They are ideal for light to medium duty (loads to 1,200 pounds per wheel, radial load rating, manual operation). Side thrust load rating is approximately 20% of radial capacity.



### Flanged Ball Bearings

Flanged ball bearings are a unique antifriction design that will eliminate seizing of the bearings and the wheel. These versatile bearings are supplied with shields and are constructed of hardened bearing quality steel with full complement of ball bearings and are pre-greased. The load is transmitted from the outer race to the ball, and from the ball to the inner race. Since the ball is a sphere, it only contacts the inner and outer race at a very small point, which helps it spin very smoothly.



### Caged Roller Bearings

Caged roller bearings consist of a cage-type roller assembly and a drawn cup outer race. These bearings turn on hardened and ground spanner bushings that provide a long wearing precision inner race. Press fit bearings are used in combination with metal retainer/thrust washers. Rubber sealed retaining washers are available for sealed wheels. Caged roller bearings have high radial capacity. Some applications of wheels do not require the use of the spanner bushings.



### Roller Bearings

Straight roller bearings consist of a cage-type roller assembly and a split outer race. These bearings turn on hardened and ground spanner bushings which provide a long wearing precision inner race. Press fit combination metal retainer/ thrust washers hold the bearings in place. Rubber sealed retaining washers are available for sealed wheels. Straight roller bearings have high radial capacity, but minimal side thrust load rating. Some applications of wheels do not require the use of the spanner bushings.



### Precision Tapered Roller Bearings

Tapered roller bearings are true precision bearings designed for the heaviest loads, and/or high-speed operation. In addition to great radial capacity, they have a side thrust load rating of 60% to 90% of radial capacity rating. The assembly consists of an outer race or cup and a tapered cone roller assembly, normally held in position with closures. When required, more positive grease or dust seals can be provided. Spacers are provided to tighten the caster legs against the bearing assembly. Two bearings are installed per wheel.



### Delrin Bearings

Delrin bearings are extremely durable under a wide range of temperature and humidity conditions. They are corrosion resistant. Wheels with the Delrin bearings are well suited for applications where brine conditions, steam cleaning, or where excessive water or liquids are present. Light oil or grease lubrication is always recommended.



### Plastic Sleeve (Celcon) Bearings

For environments unsuitable to metal bearings, celcon bearings offer economical chemical and corrosion resistance. Wheels with celcon bearings are well suited for applications where brine conditions, steam cleaning, excessive water or liquids are present. Light oil or grease lubrication is always recommended. These types of bearings are available in both flanged or sleeve type bearings.



### Oilite Bearings

Oilite bearings are an inexpensive, highly efficient, caster wheel sleeve bearing made of powdered metal thoroughly impregnated with oil. These bearings are press-fit into the wheel bore and have a "built-in" lifetime lubrication for normal usage. For severe service, lubricant can be replenished through the hollow axle. These bearings can ride on a spanner bushing or directly on the axle, depending on the application requirements.



### Plain Bore

A plain bore means the bore of the wheel is riding directly on the spanner bushing or the caster axle. Plain bore wheels are used for light or seldom moved loads and where ease of starting and rolling is not an important consideration.

Contact factory for additional bearing options.