

LOAD WEIGHT

The first consideration of caster selection is to determine the combined weight of the load and equipment. Allowance should be made for uneven distribution of weight, since this can result in one wheel carrying more load than the rest. Mechanical loading can also impose severe shock loading, which adds to the loading factor. Two charts to aid in this selection are:

CASTER MOUNTING COMBINATIONS and **DETERMINING LOAD RATINGS PER WHEEL**. Please note in the load rating chart for extreme conditions, ratings take into consideration uneven floors, curbs and holes in the floor which cause severe impact loads.

TIPS ON WHEEL SELECTION

In general, the greater the load, the larger the wheel diameter should be for better weight distribution and easier rolling.

- Larger wheels roll easier than small wheels.
- Hard treads roll easier than soft treads.
- Resilient treads roll over rough surfaces more easily than hard treads.
- Larger wheels with larger bearings give longer life and easier rolling.

ELECTRIC CONDUCTIVITY

Insulant materials with a resistivity greater than 10^{15} ohms, such as plastics, build up a charge by friction. The electrostatic charge is discharged through the body when the object is touched. This can be prevented by the use of electrically conductive (anti-static) wheels, which conduct the charge away or prevent it from building up. Electric conductive wheels have a leakage resistance equal to or less than 10^4 ohms. Electric conductive rubber tires are subject to 100% quality control inspection, each being tested at 500v DC.

FLOOR CONSIDERATIONS

All metal wheels will damage floors if the load is heavy. Resilient wheels are not so easy to move, but are floor protective. Remember, it costs more to repair the floor than the wheel running on it. Make sure the wheels selected are large enough to pass over the cracks in the floor, tracks, dock plates, grates, moldings or other obstructions. In some cases, dual wheels are the best for the application. The larger the wheel and the more resilient the wheel, the greater the ability to move over rails and other similar objects.

RUBBER & URETHANES give maximum quiet and floor protection. Steel is the hardest on floors, thus Nylacron™ is a great compromise - giving moderate floor protection with high weight capacity. For floor protection on linoleum, tile, etc. use cushion neoprene or polyurethane. For carpeted floors, use donut or hi-modulus neoprene or polyurethane.

Other Considerations:

- Noise
- Dirt, chips, threads or other detrimental substances
- Grease, oil, water or chemicals.
- Temperature extremes

TYPE SERVICE

Intermittent: Occasionally moved loads, short travel distances or for dollies used to move materials in storage or warehouse operations.

Continuous: For continuous service, either manually or mechanically powered, a heavier duty caster with anti-friction bearings is necessary.

MECHANICALLY POWERED TRAILER-TYPE

This type operation requires special heavy duty construction with large swivel bearings to withstand the high impact and shocks encountered. Large Precision Ball Bearings should be considered in the swivel for main load bearing and a tapered thrust bearing for side thrusts. Large Precision Ball Bearings are recommended for wheel bearings to take the side thrust loads and higher speeds, as well as being maintenance free.

INSTITUTIONAL

Most institutional application require medium duty casters. In wet applications or for excessive washings, cart washables or stainless steel casters may be required. A lower cost alternative to stainless steel casters could be epoxy-coated rigs with Nylacron™, Nylon, Solid Elastomer or Krypton™ Wheels having Stainless Steel Sealed Precision Ball Bearings.