### Caster Selection Table

<table>
<thead>
<tr>
<th>Specification</th>
<th>Allowable Load (N)</th>
<th>Light Load</th>
<th>Light / Medium Load</th>
<th>Medium Load</th>
<th>Low Profile</th>
<th>Medium and Heavy Load</th>
<th>Heavy Load</th>
<th>Super Heavy Load</th>
<th>Ultra Heavy Load</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>80~4000N</td>
<td>300~1800N</td>
<td>1000~3200N</td>
<td>3000N</td>
<td>4000~6000N</td>
<td>~15000N</td>
<td>3000~6000N</td>
<td>4000~9000N</td>
<td>~15000N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Overview

- **Casters**
  - **Light Load**
  - **Medium Load**
  - **Heavy Load**
  - **Super Heavy Load**
  - **Ultra Heavy Load**

### Absorption

**Mount Plate**

- **With Leveling Wheels**
  - Commonly used casters are directly mounted with plates on carriages and machines.
  - Integrated leveling mounts secure the casters on the floor.

### Caution on Caster Use

1. **Allowable Load**
   - The allowable loads shown in the tables of the catalog indicate the limit load that can be transported by human power on a flat surface. Calculate loaded weight, then select a caster with proper allowable load. Even when 4 casters are used, total load might be supported at 2 points, therefore limit of total load is generally calculated by the following formula:
   
   \[ \text{Limit of Total Load} = \text{Allowable Load per Caster} \times 4 \times 0.8 \]

   - Caution: When different sizes of casters are used in combination, calculation should be done for the caster with the smallest load capacity.

2. **Operating Speed**
   - Operating speed should be walking speed or slower in intermittent usage. Avoid powered pulling (except for some casters) and continuous operation that may cause heat generation.

3. **Stoppers**
   - Note that the performance may degrade without user attention due to wear and damages from long-term operation. Braking power generally depends on wheel materials. To ensure safe use, use wheel stops, floor stoppers, etc.

4. **Operating Environment**
   - It is assumed that the casters are used in normal temperature. Avoid unusual environment that might be affected by high temperature, high humidity, acids, alkalis, solvents, oils, and other chemicals.

5. **How to Mount**
   - Mount firmly with proper bolts and nuts.
   - Install a swivel caster with its turning axle vertical.
   - Install the mounting plate horizontally.
   - Just screw into pipes, frames, etc., to mount.

### Comparison of Swiveling-starting Resistance for Different Wheel Materials

<table>
<thead>
<tr>
<th>Item</th>
<th>Synthetic Rubber</th>
<th>Urethane Rubber</th>
<th>Polyurethane</th>
<th>Natural Rubber</th>
<th>Polyurethane Rubber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion Resistance</td>
<td>Excellent</td>
<td>Good</td>
<td>Acceptable</td>
<td>Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>Oil Resistance</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Acceptable</td>
<td>Poor</td>
</tr>
<tr>
<td>Water Resistance</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>Cost</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Acceptable</td>
<td>Poor</td>
</tr>
<tr>
<td>Noise</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
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<tr>
<td>Allowable Load</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Acceptable</td>
<td>Poor</td>
</tr>
<tr>
<td>Moving Resistance</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
</tr>
</tbody>
</table>

### Movement Resistance

- **Wheel Diameter (mm)**: Selection must be based on material properties.
- **Rubber Wheels**: Most common wheel material. Soft operating feel and good running characteristics. Economical, but not oil resistant, and the black rubber wheels may stain floor surfaces.
- **Urethane Wheels**: Compared with rubber, higher hardness with good starting property. Good oil resistance and non-soiling to floor surfaces.
- **Polyurethane Wheels**: High hardness and smooth traveling with no deflection. Disadvantages are floor scuffing, noise, and larger traveling resistance on rough surfaces due to its minimal deflection.

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**Comparison of Swiveling-starting Resistance (Road Surface: Measured on Steel Plate)**

- **0150 Rubber**: Acceptable to Poor
- **0150 Urethane**: Excellent to Good
- **0150 Polyurethane**: Ideal for light loads, too soft for heavy loads.