Nearly one-third of wheelchair failures are experienced by casters that fail within 6-12 months of use and can cause bruises or injuries to users.

The material, size, shape, tolerances and coating of different caster components mainly, caster bearings, fork, tires and wheel constitute a caster’s quality. Standardized testing can assess quality and provide caster selection guidelines for reliable use.

### Choosing Caster Tires Based on Use:

<table>
<thead>
<tr>
<th>Rough Terrain</th>
<th>Smooth Surfaces</th>
<th>Adverse Environments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use wide, softer polyurethane or pneumatic tires with a bevel</td>
<td>Use narrow tires with tread</td>
<td>Use tires with greater depth</td>
</tr>
</tbody>
</table>

### Choosing Caster Wheel Design:

**Lightweight Casters > 6in. or 120mm diameter**
- Prevent flutter with shorter fork trail
- Have lower rolling resistance
- Are suitable for beginners

**Casters < 6in. or 120mm diameter**
- Are less susceptible to flutter
- Provide clearances for footrests
- Are suitable for experienced/active users
CHOOSING CASTER BEARINGS:

Precision-ground, sealed bearings are recommended with:
- Greater load bearing capacities & tighter tolerances
- Biweekly maintenance to avoid corrosion, contamination and degradation

CHOOSING CASTER FORKS & FASTENERS:

- Powder-coated forks with at least 1/4in. or 6mm thickness
- Use spacers between fork prongs and axle bearings to maintain tolerances
- Use axle bolt having a shank of proper length and avoid the prong resting on the bolt threads
- Use Grade-8 or higher stem bolts of 1/2 in or 120mm and axle bolts of 5/16 in or 8mm

RECOMMENDATION: Choose a caster design after trying out the wheelchair with a new client outside of the clinic and evaluating the ease of use, comfort and balance.

How do I benefit from information on caster quality and standards, if I am a...

WHEELCHAIR USER
Wheelchair users can learn how caster features and maintenance affect wheelchair use and health

MANUFACTURER
Manufacturers can develop or improve design based on standard caster testing

HEALTHCARE PROVIDER
Clinicians can learn about caster selection based on user needs and use conditions.

POLICY MAKER
Policy makers can adopt standards to ensure high quality casters are used to avoid user injuries

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