

Caster Safety Precautions

1. Intended use

Casters make equipment easier to move and transport. They are fitted to handling equipment and other equipment for intermittent, manually operated use indoors or within premises. Select suitable casters for the application and operating conditions, install them correctly, and observe the specified conditions.

2. Caster selection and operating conditions

Select casters to suit the application, required functions and operating conditions. Pay particular attention to the following points.

1 Appropriate load capacity

The load capacity is the maximum load that allows easy movement and safe use when equipment is moved manually over a level floor. Estimate the total load and select products with a suitable load capacity. Even with four casters, the load may be supported at only three points. A factor of 0.8 is therefore generally applied to provide a margin, as shown below.

For four casters:

Maximum total load = load capacity per caster × 4 × 0.8

- Load capacity is stated in the SI unit daN (decanewton), a legal unit of measurement in Japan.
1 daN = 10 N ≈ 1.02 kgf (1 kgf ≈ 9.8 N = 0.98 daN)

2 Speed

Operate at room temperature on a level floor at no more than walking speed. Avoid continuous travel that generates heat. Do not use the casters for unintended purposes, such as towing by powered equipment.

Wheel diameter 75 mm or less: maximum 2 km/h

3 Operating conditions

Select the wheel diameter and material, mounting method (plate or threaded stem) and caster type (swivel or with brake) to suit the equipment. Check the actual product or catalog before making your selection.

4 Brakes

- Wear or damage after prolonged use may reduce brake performance without being noticeable.
- Where additional restraint is needed for safety, use other means, such as wheel chocks or floor locks, to supplement the brakes.

5 Operating environment

Casters are normally intended for use at room temperature within premises. Avoid special environments involving high or low temperatures, high humidity, acids, alkalis, salts, solvents, oils, seawater or chemicals, as these may accelerate deterioration.

3. Caster installation

Observe the following requirements when installing casters.

- ① Use casters from the same series together.
- ② Install the casters so that the ground-contact plane is level.
- ③ Install swivel casters with their swivel axes vertical.
- ④ Check the mounting connection. Use bolts, nuts, washers and other fasteners that match the mounting-hole dimensions, and secure them correctly to prevent loosening.
- ⑤ For threaded-stem casters, use an installation method that maintains the correct tightening torque. Tighten using the flats (hexagonal section) of the stem. **Overtightening the threaded section may cause it to break.** If using power tools, check the final tightness manually.
- ⑥ Do not tighten a threaded-stem caster by turning the whole caster while its swivel lock is engaged. This can deform or damage the lock components.

4. Precautions for use

1 Operating limits

- Do not exceed the appropriate rated load capacity.
- Avoid uneven load distribution.
- Avoid impacts, including dropping, vibration and contact from forklift forks.
- Avoid use on severely uneven surfaces or rolling over sharp floor projections.
- Do not tow trailers or similar equipment.
- Do not ride on caster-mounted equipment unless it is intended for that purpose.

2 Brakes

- Operate the brake on Natural Wood Twin-Wheel Casters by hand.
- Do not force equipment to move while the brakes are engaged.
- Do not apply excessive force to a brake or strike it with a hammer or similar tool.
- Do not leave equipment on a slope relying on the caster brakes. Where necessary, use other means, such as wheel chocks.
- Do not operate a brake while the equipment is moving.

3 Product modifications

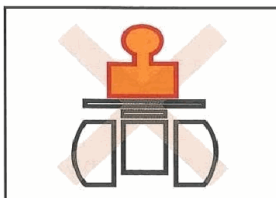
- Modifying, reassembling or painting the product, or carrying out welding or installation work, is the user's responsibility. We accept no liability for such work.

5. Inspection, maintenance and replacement

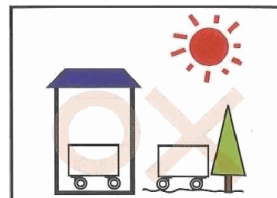
- ① Carry out regular inspection and maintenance to prevent accidents and ensure a long service life.
- ② During routine inspection, check that the caster mountings are secure; inspect casters for damage, cracks and deformation; check shaft fastenings; and inspect tires for damage, cracks and wear. Retighten any loose mounting or shaft fasteners. If any other abnormality is found, stop use immediately.
- ③ Replace the product immediately if deterioration, damage or any other fault occurs. Do not replace only individual components. Immediately remove any foreign matter caught in the swivel or wheel assembly, as it may prevent proper swiveling or rolling.



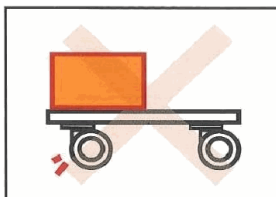
Do not use casters in the following ways.



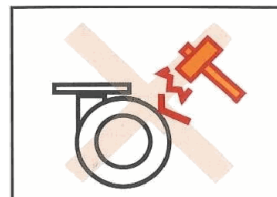
Do not exceed the rated load capacity.



Twin-wheel casters are intended for indoor use. Avoid outdoor use.



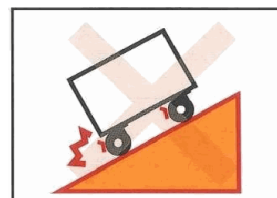
Avoid uneven load distribution.



Do not apply excessive force to a brake or strike it with a hammer or similar tool.



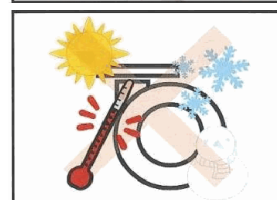
Do not roll over steps, severely uneven surfaces or sharp floor projections.



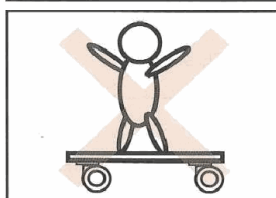
Do not leave equipment on a slope relying on the caster brakes.



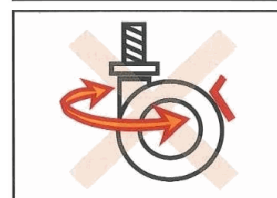
Do not tow trailers or similar equipment.



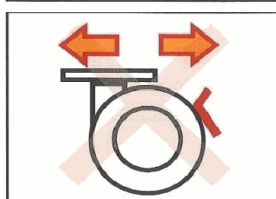
Avoid use in special environments.



Do not ride on caster-mounted equipment unless it is intended for that purpose.



Do not tighten the threaded stem while the swivel lock is engaged.



Do not force equipment to move while the brakes are engaged.



Avoid special environments involving acids, alkalis, salts, solvents or chemicals.