

# AUTOMOTIVE CASTER SOLUTIONS

AUTOMOTIVE

## DARCOR KEEPS THE AUTOMOTIVE INDUSTRY ROLLING

Darcor automotive casters are ergonomically designed and precision built to meet the stringent requirements of the global automotive industry. Scientific measurement proves that they start, roll, and swivel easier, vibrate less, and last longer—offering big benefits in both reduced injuries on the job and manufacturing downtime. Small wonder four of the five largest automotive companies in the world have chosen Darcor to better meet their mobility needs.

### Darcor Makes a Plant Floor Difference in Two Important Ways

#### > 1. Fewer Overexertion Injuries:

Because our automotive casters take significantly less force to move and turn, your people sustain significantly fewer injuries. It's that simple. And since industry spent—directly and indirectly—nearly \$70 billion in 2003 on injuries\*, there is much at stake in financial and human terms.

#### > 2. Reduced Line Downtime:

It doesn't take much to shut down a manufacturing line, including caster failure. Darcor casters have proven to reduce maintenance and downtime because they are virtually bulletproof. On average, every minute a line is down costs more than \$20,000.\*\* So there is a big incentive to make a small investment in the right casters.

The automotive industry spends as much on workers compensation as it does on steel.† Darcor casters help to reduce the cost to your people and your income statement.

\* Liberty Mutual Workplace Safety Index. \*\* Advanced Technology Services, Inc. † Automotive Industries Magazine

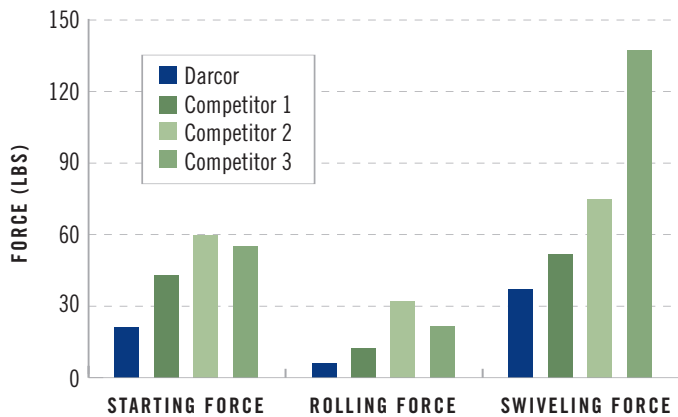


# DARCOR AUTOMOTIVE SUCCESS STORIES

CASE	EXCESSIVE NOISE European Auto Manufacturer	OVEREXERTION INJURIES American Auto Manufacturer	CASTER FAILURE Canadian Auto Manufacturer
<b>WORKPLACE ISSUE</b>	<ul style="list-style-type: none"> <li>Noise levels above government regulation</li> </ul>	<ul style="list-style-type: none"> <li>Back injuries occurring as a result of moving heavy loads (600–1400lbs)</li> </ul>	<ul style="list-style-type: none"> <li>AGV wheels are wearing out prematurely</li> </ul>
<b>BUSINESS IMPACT</b>	<ul style="list-style-type: none"> <li>Long term hearing loss</li> <li>Government fines</li> <li>Union concerns</li> <li>Reduced worker morale</li> </ul>	<ul style="list-style-type: none"> <li>Lost productivity</li> <li>Medical expenses</li> <li>Safety issue</li> <li>Increased maintenance expenses</li> </ul>	<ul style="list-style-type: none"> <li>Increased maintenance expenses</li> <li>Increased wheel costs</li> <li>Decreased productivity/asset utilization</li> </ul>
<b>DARCOR ANALYSIS</b>	<p><b>SITE AUDIT:</b></p> <ul style="list-style-type: none"> <li>Baseline testing</li> <li>Usage analysis</li> <li>Issue prioritization</li> <li>Floor conditions</li> <li>Weight</li> <li>Frequency of use</li> <li>Target noise levels</li> <li>G-Force testing</li> </ul>	<p><b>SITE AUDIT:</b></p> <ul style="list-style-type: none"> <li>Floor conditions</li> <li>Weight</li> <li>Frequency of use</li> <li>Cart design</li> <li>Composition of workforce</li> <li>Task specification</li> </ul>	<p><b>SITE AUDIT:</b></p> <ul style="list-style-type: none"> <li>Application</li> <li>Speed of vehicle</li> <li>Floor conditions</li> <li>Loads</li> <li>Wheel diameter/material</li> <li>Bearing construction</li> <li>Shock loads</li> <li>Side thrusts</li> <li>Machine uptime</li> </ul>
<b>DARCOR RECOMMENDATION</b>	<p>Use a wheel with improved shock dampening properties that will reduce G-Forces and noise</p> <p><b>SOLUTION: Darcor Neoprene Wheel</b></p>	<ol style="list-style-type: none"> <li>Change composition of wheel to reduce rolling resistance</li> <li>Use a wheel with lower compression set and higher resilience</li> <li>Use a precision sealed bearing to reduce maintenance</li> </ol> <p><b>SOLUTION: Darcor 400 series caster with Solid Elastomer wheel and sealed precision ball bearings</b></p>	<ol style="list-style-type: none"> <li>Use a more resilient wheel that will not generate as much heat</li> <li>Improve bearing construction to one that can withstand side thrusts</li> </ol> <p><b>SOLUTION: Use Darcor 4" Solid Elastomer wheel with sealed precision ball bearings</b></p>
<b>IMPROVEMENT TO BUSINESS (DROI)</b>	<ul style="list-style-type: none"> <li>Reduced noise levels from 95dB to 80dB</li> <li>Reduction in G-Force from 40G's to 4G's</li> <li>Improved work environment</li> <li>Cost effective solution</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in workplace injuries</li> <li>Increase in productivity</li> <li>Reduction in medical expenses</li> <li>Lower maintenance expenses</li> </ul>	<ul style="list-style-type: none"> <li>Reduced the cost of wheel purchase/replacement</li> <li>Increase in productivity/asset utilization</li> <li>Reduced noise level in the workplace</li> </ul>

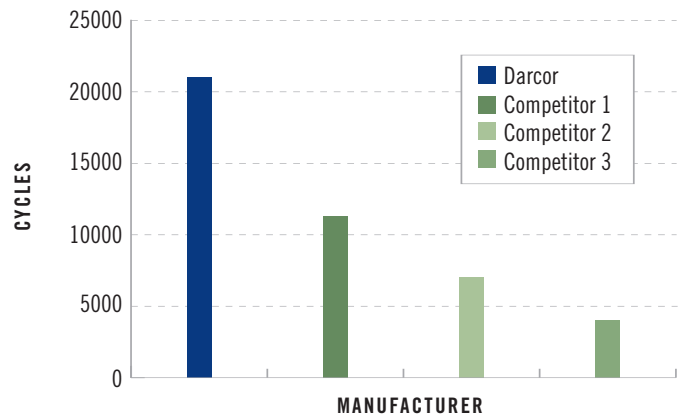
## DARCOR TESTING RESULTS

INJURY PREVENTION



Testing Weight 2000 lbs (Floor Surface: Concrete)  
Using: Darcor's Kingpinless Commando caster with a Solid Elastomer Wheel (KP406-PSE)

DRUM ENDURANCE TEST



Testing Weight 600 lbs Drum Speed: 3km/h Bump Height: 1"  
Using: Darcor's Kingpinless Commando caster with a Cast Iron Wheel (KP406-CI)

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