

TECHNICAL REFERENCE · PRINT & KEEP

Shock Load Rating for Casters Sizing & Spec

One-page quick reference · Full engineering guide + live tools at the QR codes below

Quick answer. Shock load is the momentary spike when a loaded caster hits a seam, threshold, or dock transition: minor seams spike 1.5x steady-state load, thresholds 2 to 3x, and dock plates 2.5 to 3x. Spec capacity as dynamic rating multiplied by the shock factor for the worst impact in the route, not steady-state load alone.

Shock Multipliers by Impact Type

Floor Discontinuity	Size	Shock Multiplier
Minor seam	1/16-1/8 in	1.3-1.5x
Expansion joint	1/8-1/4 in	1.5-1.8x
Threshold	1/4-1/2 in	2.0-3.0x
Dock transition	1/2-2 in	2.5-3.0x
Step or drop	2+ in	3.0x+
Smooth epoxy, no seams	0	1.0x

Dock Transition Specification

Dock Application	Min Wheel Size	Recommended Compound
Indoor dock, 1 inch drop	6 in	Soft poly or pneumatic
Outdoor dock, 1-2 inch drop	8 in	Pneumatic or phenolic
Heavy-duty freight dock	10 in	Phenolic or forged steel
Aerospace/defense dock	10-12 in	Pneumatic or solid rubber
Rail-to-truck transfer	12 in+	Solid rubber or pneumatic



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