

TECHNICAL REFERENCE · PRINT & KEEP

Side Load Capacity for Casters Sizing & Spec

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Quick answer. Side load capacity, the lateral force a caster tolerates perpendicular to its vertical axis, is typically 20 to 40 percent of the vertical load rating. Common sources are carts pushed against walls or racks, forklift drag, and dock-edge strikes. Treat side load as a separate spec line and design to the worst-case lateral force, never assume it equals vertical capacity.

Typical Side-Load-to-Vertical-Load Ratios

Caster Series	Vertical Rating	Side Load Rating	Ratio
Light-duty stamped	500 lb	75-100 lb	15-20%
Medium-duty stamped	1,500 lb	300-375 lb	20-25%
Heavy-duty welded	3,500 lb	1,050-1,225 lb	30-35%
Forged heavy-duty	6,000 lb	2,100-2,400 lb	35-40%
Steel forged custom	10,000 lb	4,000+ lb	40%+
Kingpinless welded	12,000 lb	5,000+ lb	40%+

Environments That Cause Side Loading

Environment	Typical Side Load	Recommended Rating
Forklift drag	500-2,000 lb	Forged heavy-duty
Narrow-aisle warehouse	200-500 lb	Heavy-duty welded
Dock edge strike	1,000-3,000 lb impulse	Forged + reinforced plate
Powered tow turns	300-1,500 lb	Heavy-duty welded min
Cart train	200-800 lb	Heavy-duty welded
Fixed-station cart	<100 lb	Medium-duty stamped



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