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Caster Load Capacity: The 3-Corner Rule + Calculator

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Quick answer. Caster load capacity is the maximum weight one caster carries safely while rolling. Size with the 3-corner rule: total loaded weight divided by 3, plus a 20% safety factor, because one of four casters is always unloaded on uneven floors. A 3,000 lb cart needs four casters rated 1,200 lb each, not 750 lb.

The 3-corner rule in one paragraph

Loaded cart weight	3-corner divide	+ 20% safety	Minimum rating per caster
800 lb	267 lb	320 lb	Round up to 350 lb
1,500 lb	500 lb	600 lb	Round up to 650 lb
3,000 lb	1,000 lb	1,200 lb	Round up to 1,250 lb
5,000 lb	1,667 lb	2,000 lb	Round up to 2,000 lb
10,000 lb	3,333 lb	4,000 lb	Round up to 4,000 lb

Safety factor, why 20% is the minimum

Application class	Recommended safety factor	Why
Light commercial (office, retail)	15-20%	Light, consistent loads
Warehouse picking carts	20-30%	Variable load, some shock
Transfer carts (regular duty)	25-35%	Heavy, variable distribution
Heavy industrial (steel mill, foundry)	40-60%	Shock load, sustained high duty
Defense, aerospace, critical tooling	50-100%	Zero-failure tolerance



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