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Heavy Duty Casters: Spec, Rigging & Procurement Guide

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Quick answer. Heavy duty casters carry 2,000 to 44,000 lb per wheel. Spec them by dividing total load by 3 for per-wheel capacity with safety factor, choosing kingpinless rigs over kingpin designs for shock duty, and matching wheel material: polyurethane for floor protection, forged steel for maximum capacity. Verify plate bolt pattern and freight lead times before ordering.

What heavy duty means in the caster industry

Class	Per-wheel capacity	Typical total load (4 wheels, 3-wheel spec)	Common uses
Heavy duty	2,000-10,000 lb	6,000-30,000 lb cart	Industrial carts, die carts, tow trailers
Extra heavy duty	10,000-20,000 lb	30,000-60,000 lb cart	Aerospace GSE, shipyard cradles
Ultra heavy duty	20,000-44,000 lb	60,000-130,000 lb cart	Large dies, transformer skids

Load math: per-wheel capacity with safety factor

Gross cart load	Required per-wheel capacity	Recommended caster
6,000 lb	2,500 lb	6" or 8" forged steel, kingpinless
12,000 lb	5,000 lb	8" poly-on-steel, kingpinless
20,000 lb	8,400 lb	8" or 10" forged steel, tapered roller
40,000 lb	16,700 lb	10" or 12" forged wheel, precision bearing
80,000 lb	33,400 lb	12" forged, custom ultra-heavy rig



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