

Piling & Shelving

WHY THIS MATTERS

Warehousing had 930 worker fatalities in 2023 according to the Bureau of Labor Statistics, and nearly 144,000 warehouse workers lost time to injury in 2021–2022. Falling stock, collapsed racks and improperly piled materials are leading causes — and they are almost entirely preventable with proper stacking, inspection and housekeeping.

930

Warehouse fatalities per year (BLS 2023)

144K

Warehouse injuries with lost time (BLS)

16 ft

Max lumber stack — manual handling (OSHA)

5 Rules for Safe Piling & Shelving

Every stack, pile and storage rack must follow these rules:

- 1 STACK, BLOCK, INTERLOCK**
Secure all tiers to prevent sliding, falling or collapse (OSHA 1926.250).
- 2 HEAVY ITEMS LOW**
Place heavier loads on lower or middle shelves — never up high.
- 3 RESPECT LOAD LIMITS**
Post and never exceed maximum rack capacity and floor load limits.
- 4 INSPECT RACKS DAILY**
Look for bent uprights, damaged beams and missing safety pins.
- 5 KEEP AISLES CLEAR**
No materials blocking aisles, exits or sprinklers — 18" sprinkler clearance.

Before You Start — Quick Checklist

- Are rack load capacities posted and visible?
- Are heavy items on lower shelves?
- Are aisles and fire sprinklers clear?
- Are uprights straight, undamaged, anchored?
- Are bags cross-keyed every 10 layers?
- Are damaged racks tagged out of service?

Key Standards & Techniques to Know

OSHA 1926.250: All materials stored in tiers must be stacked, racked, blocked, interlocked or otherwise secured.

Bagged Materials: Step back the layers and cross-key bags at least every 10 bags of height.

Brick & Block: Loose brick stacks max 7 ft; taper back 2" per foot above 4 ft. Masonry block taper above 6 ft.

Lumber: Max 16 ft manual, 20 ft with forklift. Remove all nails from used lumber before stacking.

Cylinders & Pipe: Structural steel, pipe and bar stock must be stacked and blocked to prevent spreading or tilting.

Sprinkler Clearance: Maintain at least 18 inches between top of stack and fire sprinkler heads.

Common Mistakes That Cause Injuries

- ✗ Overloading shelves beyond the posted weight capacity — racks collapse without warning
- ✗ Stacking heavy items high and lighter items low — top-heavy loads tip and fall
- ✗ Ignoring bent uprights or damaged beams — "it's fine for now" ends in collapse
- ✗ Storing materials against fire sprinklers — blocks suppression and violates code

Safety Tips to Remember

- ✓ Stack straight and even on a level surface — no leaning piles
- ✓ Band, shrink-wrap or cross-tie pallets to keep loads stable
- ✓ Tag damaged racks RED and block the area until repaired
- ✓ Use rack upright guards to protect from forklift strikes

Discussion Questions for Your Team

1. What is the weight limit on the racks where you work — and where is it posted?
2. When was the last time our shelving was formally inspected?
3. Have you seen any damaged uprights or beams recently? Where?
4. Do we have 18" clearance below our sprinklers everywhere?
5. What is our procedure for reporting a damaged rack?

TOOLBOX TALK SIGN-OFF

Date: _____

Supervisor: _____

Project: _____

Location: _____

Attendance sheet attached: [] Yes