

POWER TRUCKS

rear, depending on the location of the operator's seat, precautions must be taken to avoid striking pedestrians, especially when these trucks are carrying long loads. Red flags may be attached to the ends of the load, or flagmen may be stationed in congested areas, particularly if the truck is used after dark.

Powered handtrucks

The principal hazards in the operation of powered handtrucks include the operator's being pinned between the truck and a fixed object or allowing the truck to run up on his heels. Operators should walk ahead of the truck, leading it from either side of the handle and facing the direction of travel. During forward travel, they should keep one hand on the handle. Where the truck must be driven close to a wall or other obstruction, down an incline, or onto an elevator, the operator should put the truck in reverse and walk behind it facing the direction of travel.

Robot trucks

The use of robot trucks requires that aisles where the truck operates be clearly marked and clear of material. Employees should be forbidden to jump on or off or ride these trucks. No attempt should be made to load or unload a robot truck that is in motion.

Pallets

An understanding of what constitutes a sound pallet will be helpful to the safety man, since an improperly designed and constructed pallet may collapse while being handled and endanger personnel.*

Most pallets (Fig. 20-16) have two parts: the deck or surface of the pallet and the stringers separating the upper and lower decks. To designate pallet size, the length of the stringer is given first, followed by the length of the deckboards. A pallet with 2- by 4-in. stringers 32 in. long, running parallel to the forks, and deckboards 40 in. long, running across the forks, would be referred to as a 32 by 40 pallet.

Three elements are involved in the safest, most durable pallets: sound lumber, secure fastenings, and proper construction.

Lumber

Unless handled infrequently, as in long-term storage, pallets are exposed in vary-

ing degrees to such conditions as wear and tear caused by repeated entry and striking of forks and handtruck wheels, impact or strain exerted by dropped articles, static loads imposed by storage and stacking, and distortion or bending by various types of handling equipment. The lumber must have sufficient strength for nails, bolts, and other fastenings to hold the pallet together without breaking under stress.

A good pallet should be constructed throughout with sound lumber, and be free of decay and free of knots with an average diameter greater than one-third the width of the board or stringer. There should be no knots in nailing areas, in the centers of deckboards, where the greatest bending stresses are imposed, nor along the bottom and top edges of deckboards. Posts used in construction should also be free from knots. Pinworm holes, mineral streaks, and stain are permissible defects in pallet parts, since they do not affect the structural strength of the wood.

A hardwood pallet has long life and great strength because of its density. The softwood pallet is lighter and therefore a better shipping medium. The most popular hardwoods for pallets (because of their strength) are red and white oak, hard maple, hickory, birch, beech, white ash, and rock elm. Cumbwoods, which are softer species, are much used. Softwoods often used include southern pine, Douglas fir, ponderosa pine, cottonwood, hemlock, and spruce.

Softwood pallets are generally made from seasoned lumber, but the majority of hardwood pallets are made from unseasoned or partially seasoned lumber. The best hardwood pallets of nailed construction have deckboards of air-dried material and stringers or blocks with a moisture content up to 40 per cent. Nailing difficulties make it economically impossible to manufacture a hardwood pallet with seasoned stringers or blocks. Air-dried material should be speci-

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