maximum safe height for lumber piles when lumber is piled and removed mechanically, as by forklift trucks.

Tie pieces are needed not only to stabilize the pile, but also to provide air circulation Tie pieces should not extend into walkways, but should be cut flush with the pile Green lumber should have tie pieces on every layer, whether stored indoors or outdoors

Lumber stored outdoors should be covered to prevent checking or twisting Lumber stored indoors should be in a well-ventilated building

Bagged material should be cross-tied with the mouths of the bags toward the inside of the pile When the pile is 5 ft high, it should be stepped back one row It should then be stepped back one row for each additional 3 ft of height A pile of sacks should never be undermined by the removal of sacks from lower rows first.

Pipe and bar stock places a heavy load on the floor, therefore, the floor area must be selected with bearing strength in mind Because of the hazard to passers-by while stock is being withdrawn from the rack, fronts of pipe and bar stock storage racks should not be located on main aisles

Pipe and other round materials should be piled in layers with strips of wood or iron between the layers The strip should have blocks at one end, or the end should be turned up

Material such as lumber or pipe is particularly dangerous because of its tendency to roll or slide Dropping instead of placing such objects on a pile frequently causes them to slide or bounce Employees are likely to be injured if they attempt to stop rolling or sliding objects with their hands or feet

Bar steel stock in the larger sizes should be stored in racks designed so that the heavier bars rest on rollers The center distance between rollers will be governed by the sizes of the bars and should permit easy withdrawal of them. Rollers with multiple sections make withdrawal easier.

Racks should incline toward the back so that bars cannot roll out. Light bar stock may be stored vertically in specially constructed racks.

Sheet metal Racks similar to those for bar stock may be provided for plate and sheet stock except that rolls are not always applicable To handle sheet steel stock in bundles, materials handling equipment such as overhead or portable cranes should be used Oiled sheets require additional caution in handling.

Burlap and sacking Large reserves of burlap sacking must be protected against spontaneous ignition. The room should be of fire-resistant construction and provided with sprinklers and with dust-tight lights The sacks should not be piled too high, and the interior of the pile should be ventilated

Straw, excelsior, and other packing materials are usually received baled and should preferably be stored in that condition in a separate building Because they are a fire hazard, only the amount necessary for immediate use should be taken into the packing room

For storing enough for immediate use, the best bins are made entirely of metal or of wood lined with metal and are provided with covers that are normally closed

Large bins may have several compartments with counterweighted covers The counterweight ropes should have fusible links to ensure automatic closing of covers in case of fire Counterweights should be boxed in to prevent injury if ropes break.

Fig. 17-11. Various methods of stocking and piling materials (see also Fig 17-1) Palletized materials are speedily and efficiently handled by forklift trucks; however, pallets must be securely and evenly loaded. Note sacking, cartons, and wire coils are overlapped. Barrels and kegs must be adequately supported by planking or channels between layers.

No material should be piled within 18 in. (vertically) of sprinkler heads. Additional clearance (up to 36 in) should be provided over large, closely packed piles of combustible stock Floor load limits should be carefully observed