

NEW WAREHOUSE DESIGN

CLIENT:

A medical products manufacturer had expanded to the point that a new warehouse was required to consolidate four locations. Optimized design was required prior to the final design.

DESCRIPTION OF OPERATION:

The company had outgrown their east coast facility and had expanded to four locations. A new warehouse was required to consolidate those locations as well as incorporate additional operations from other divisions. A very narrow aisle configuration was selected, but there was concern regarding slotting logic to provide optimum efficiency.

OBJECTIVES:

Gross & Associates was asked to provide a design for the warehouse. Part of the assignment involved the use of computerized simulation of actual operations to evaluate slotting logic as well as verify the effectiveness of the very narrow aisle configuration.

RECOMMENDATIONS:

Gross & Associates provided an initial design utilizing conventional very narrow aisle design concepts. However, based upon the computer simulation it was determined that aisle contention near high volume product storage locations caused bottlenecks for the turret trucks and picking jacks. The final design, therefore, incorporated several innovative recommendations.

1. Slotting logic was developed to concentrate the high volume items in several areas, determined by the required ease of replenishment.
2. Fifty-seven aisles in the warehouse were set at the conventional 60-inch width, however, in the high volume areas, 16 aisles were designed at 10-foot widths to permit easy bypass.
3. A wire-guided vehicle is used to move large quantities of material. In order to minimize interference with the manned vehicles, the path of the AGV is run in the flues between racks.

RESULTS:

The results of the simulation study indicated that a 40% picking efficiency increase resulted from the incorporation of the wider aisles. The final operational results have supported this estimate.

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