

Kent Adhesive Products Company (Kapco), Kent

Intervention Key Words: Lift Tables, Electric Pallet Truck, Anti-Fatigue Mats, Roll Tilter, Scrap Trimmer

Industrial Key Words: Other: Book Preservation, Laminating, Graphics

Risk Factor(s): Repetitive motion, Awkward Posture- Back deviations and Squatting/Kneeling, High Hand Force- Pinching/Gripping, Manual Handling- Lifting/Carrying and Pushing/Pulling

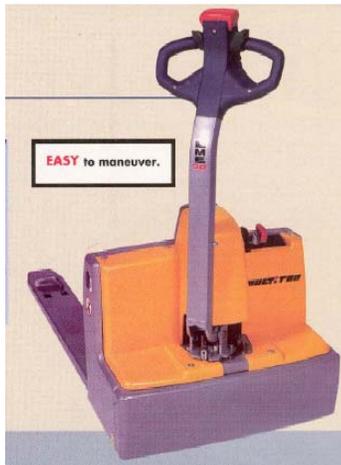
Situation:

Kent Adhesive Products Co. consists of 3 divisions, a Library Products Division, a Converted Products Division and a Graphics Products Division. Each of these divisions strives to prevent worker injury and Cumulative Trauma Disorders (CTDs). The Library Products Division at Kapco supplies adhesive coated materials to several different industries, produces and packages book preservation and repair products. The task of packaging the book cover materials consists of numerous tasks that are performed repetitiously throughout an 8 hour workday. Workers pack 200 covers per shipping box, and fill approximately 20 boxes per hour. Awkward posture, repetition and the use of high forces to transport the boxes create an unacceptable injury risk. A history of CTDs exists among these workers in the form of back strains and carpal tunnel syndrome. In the Converted Products Division workers must remove scrap from and lift 5' x 750' rolls of vinyl material. Numerous injuries result from this task due to the heavy lifting required to pick the rolls up on end and the repetitive scrap trimming. The Graphics Products Division faces similar problems. Here, workers must manipulate and move 2,000 lb rolls of coated paper and vinyl from the coating machines to storage racks. Rolls are then moved to the shipping department where they are loaded onto delivery trucks. Both of these tasks are done using manual lift trucks, requiring extreme force and awkward body positions to move the product

Solution:

To alleviate the CTD risks found in the Library Products areas, Kapco purchased a number of items. First, 3 electric rotating lift tables were bought to reduce the awkward positioning required to load pallets. Workers can now simply rotate the table to the side which they are working. Also purchased were 12 Anti-Fatigue mats. The purpose of the mats is to reduce stress on the employee's legs and back due to standing all day. Finally, an electric pallet truck was purchased to help the worker in relocating skids. This high force task was a significant CTD risk factor when done manually. The Graphics Products Division handled their CTD risk problem in a similar way. They also purchased an electric pallet truck in addition to a riding electric pallet truck. This will assist the workers in transferring products between areas. Off Coater Staging racks were built to alleviate any risk when removing rolls from the coating machines and are used in conjunction with the electric pallet truck discussed above. The Converted

Products Division approached their problem by purchasing two machines. First, they invested in a Roll Tilter, which mechanically lifts the vinyl rolls and places them on skids, once a task completed manually. Second, an Automatic Roll Scrap Trimmer was installed to eliminate the need for manual cutting of scrap off the rolls. All of these purchases were directed at reducing CTDs by decreasing the amount of force, twisting, lifting, bending and repetition required to perform the every day tasks throughout the work place. The total cost for all interventions was \$52,355. Kapco received a \$38,540 award from Safety Grant\$ for instituting ergonomic interventions to reduce CTDs.



Electric Pallet Jacks and Rotating Lift Tables were used to reduce CTD risks

Results: (Only Library Division Interventions Tracked)

- A 62% reduction in CTD rate (standardized per 200,000 hours worked) was observed over a 2 year period following the intervention, compared to the year prior to the intervention.
- Lost Days rate decreased 81% and Restricted Days rate decreased 6% over the same time period.
- Average Upper and Lower Extremity Risk Factor scores fell 25% following the intervention.