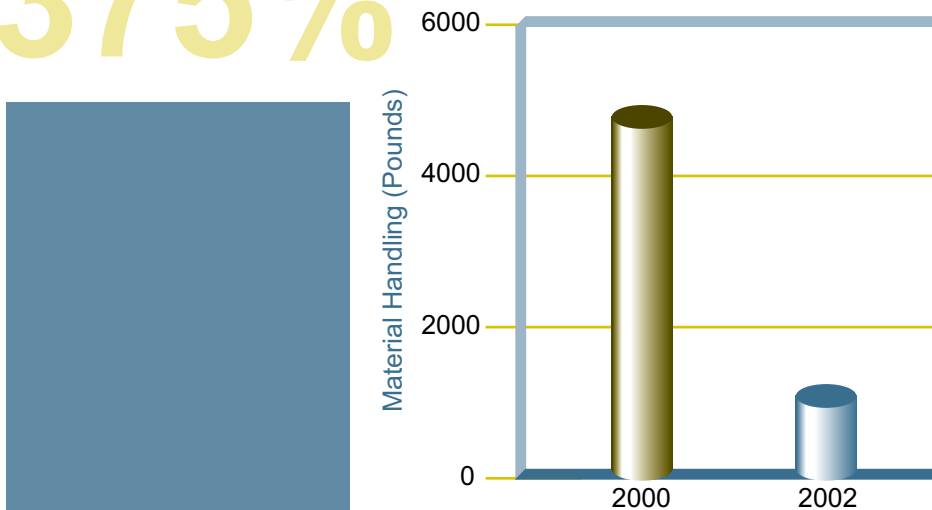


# Dow Corning

## Dow Corning Eliminates Injuries While Improving Throughput and Product Quality with Humantech

Dow Corning, a global leader in silicon-based technology and innovation, offers more than 7,000 products and services in the worldwide marketplace. The Hemlock, Michigan, plant, with 154 employees, specializes in manufacturing silicones used in the health care industry for medical tubing, among other uses. The facility is registered with the Federal Food and Drug Administration as a bulk pharmaceutical plant.

### 375% Increase in Productivity



Humantech assisted Dow Corning's silicone processing operation in analyzing ergonomic risk and redesigning a silicone processing operation, resulting in the elimination of injuries, improved quality consistency, and a 375% increase in productivity.

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## The Challenge

Dow Corning's silicone processing operation had previously been designated as the highest risk area in the facility. Employees in this area were manually handling between 4,000 and 6,000 pounds of silicone material during an eight-hour shift. The operation had a history of injuries, a high incident rate of work-related musculoskeletal disorders, and a high OSHA recordable rate.

The silicone processing operation contained four distinct job tasks including cutting the base, operating a compound mixer, milling, and straining and packaging. Each of these tasks required the operators to handle, manipulate, and lift silicone chunks weighing between 15 and 50 pounds repetitively throughout the shift, resulting in high ergonomic risk for the hands, wrists, shoulders, neck, and back.

## The Solution

In 2000, Dow Corning enlisted Humantech to assess the silicone processing operation and recommend improvements to the process. Humantech conducted an ergonomic design review of the operation, which included collecting forces, workstation measurements, and operator comments, and performing ergonomic risk assessments. The review identified areas where the greatest ergonomic risk existed and provided recommendations for ergonomic improvements.

The recommendations were prioritized based on cost and time to implement, as well as ergonomic impact. They were divided into four regions ranging from immediate priorities (high-impact and easy to implement) to future improvements (high-impact but difficult to implement). The result was a prioritized implementation plan with both short-term solutions and long-term design changes. In all, over 90 potential improvements were identified.

The facility quickly took action on the high-impact and easy-to-implement recommendations, resulting in an initial reduction of recordable injuries and an increase in employee support. With this success, the facility moved forward with Humantech's long-term implementation plans. Over the course of two years, the facility redesigned the operation to include a conveyor system, an automated cutter, and an automated strainer, all of which created a continuous feed of materials.

## The Results

Humantech returned to the facility in 2003 to reanalyze the improved milling, straining, and packaging operation. The ergonomic risk surveys and summary indicated that the redesign process has reduced the ergonomic risk of two job tasks from high ergonomic risk, combining them into one operation with medium ergonomic risk.

In the process of reducing ergonomic risk, the facility dramatically reduced the operation's manual material handling by 80% to less than 1,000 pounds per employee per eight-hour shift. Remarkably, productivity of the operation has increased 375% since the redesign. There have been zero OSHA recordables since the implementation, operators are elated with the changes, and product quality consistency has improved. The plant can now take on larger orders and deliver them faster. Labor cost savings are estimated to be a minimum of \$300,000 per year, with additional financial benefits including increased sales and reduced workers' compensation costs.

With the success of this project, Dow Corning's Hemlock plant has experienced a complete shift in its safety culture and is looking forward to applying similar strategies to its remaining operations.

### About Humantech

For 30 years, global companies have relied on Humantech for workplace improvements. By combining the science of ergonomics and our unique 30-Inch View®—where people, work, and environment intersect—we deliver practical solutions that impact safety, quality, and productivity. At Humantech, we believe people make productivity happen. The 30-Inch View is a registered service mark of Humantech, Inc., 2008.