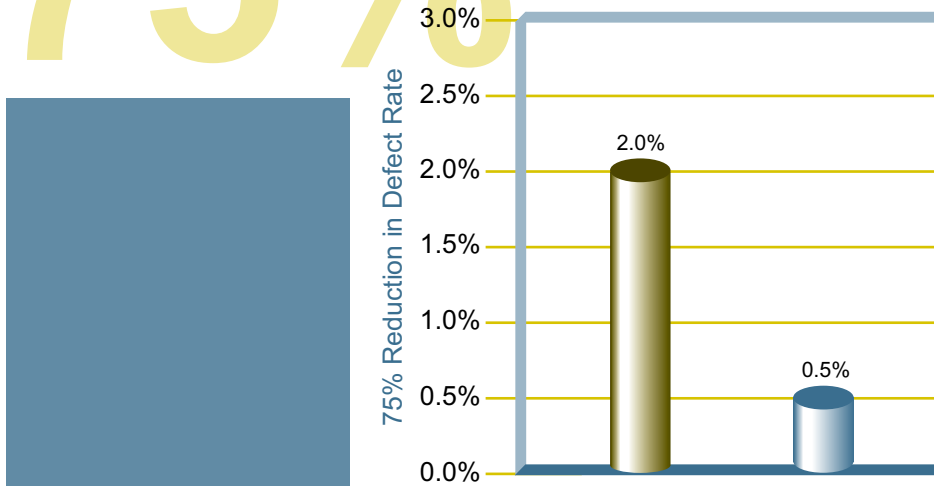


# Corning

## Corning Improves Safety, Quality, Delivery, and Cost with Improved Ergonomics

Corning, Inc. is an advanced materials company with over 70 manufacturing locations worldwide. With a rich heritage in glass fabrication, Corning serves the scientific, telecommunications, and television industries with a variety of high-tech products. Corning's Goose Creek, South Carolina, manufacturing facility has approximately 100 production personnel producing lens blanks for microchip engraving.

### 75% Reduction in Defect Rate



Humantech assisted Corning's Goose Creek, South Carolina, facility in the redesign of a work cell and material handling system, resulting in a dramatic reduction of ergonomic risk, improved quality, and cost avoidance estimated at \$3.6 million per year.

# Corning

## The Challenge

Corning Goose Creek's core drill process consists of six operations, with manual handling of lens blanks and precision loading in machines at each step of the process. The lens blanks are extremely delicate, yet awkward to control, and chips may occur if the blanks are mishandled. A chipped blank is refurbished and used for a smaller core, resulting in a \$30,000 revenue loss.

The Goose Creek team faced the challenge of the lens blanks increasing from 20 or 30 pounds to 70 pounds each. Tracy Armstrong, the facilities and environmental coordinator, recognized that ergonomic issues would be magnified with the increased weight. Employees would potentially be exposed to greater ergonomic risk, and there would be a potential for significantly decreased quality.

Humantech ergonomists confirmed Tracy's perceptions; several operations were going to be high risk for the hands, wrists, and back. Given these findings, management anticipated that chipped blanks would increase by 10 or more per month, resulting in at least \$300,000 in lost revenue per month.

## The Solution

The facility enlisted Humantech to complete an ergonomic assessment of the core drill process, which ultimately resulted in the design and installation of an articulating arm to eliminate manual handling.

Humantech conducted an ergonomic assessment that considered all aspects of the core drill process. This assessment identified three major areas of ergonomic concern:

- Part positioning in certain machines
- Part transportation between operations
- Hand work with powered hand tools

Low-cost enhancements were identified to resolve the issues associated with hand work. However, the positioning and transporting of parts required a more systematic improvement to the process.

The next step was to design a material handling system to address blank transporting and positioning. Transfer carts with jib hoists were considered, but this was a costly proposition and didn't address the precision placement of the blanks into the manufacturing equipment. An articulating arm on a rail system was chosen as the best approach. This required a reconfiguration of the work cell to ensure that all operations could be serviced by the arm.

The solution was agreed upon by all parties (health and safety, production, quality), and the final step was to design the arm. Corning relied on Humantech for guidance through the vendor search and concept development, an iterative process that involved multiple communications with multiple candidates. The selected vendor was asked to build the arm for a pre-installation performance test.

This test turned out to be critical—operators could easily transport the blanks with the arm, but were not positioned for the precision placement into the machines. Auxiliary handles were added to the design, allowing operators to properly reposition themselves and the blanks.

## The Results

Corning Goose Creek successfully deployed the cell redesign and articulating arm achieving an 83% reduction in ergonomic risk. Today, no operations present high ergonomic risk and all manual lifting has been eliminated from the process. The improvements have reduced the number of chipped blanks, increasing the company revenue by at least \$3.6 million per year.

Most importantly, no injuries have occurred and no shipments have been affected by the heavier parts. Safety, quality, delivery, and cost have all been improved through cost-effective ergonomic improvements.

### 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.