

Duo-Corp., North Lima

Intervention keywords: Milling Cutter, Twin-head Corner Cleaner, Chisling, Welding

Industry: Manufacturing

Risk Factor(s): Awkward Posture-Back deviations

Situation:

Duo-Corp. is a vinyl basement and utility window manufacturer, for both new construction and replacement applications, within the concrete block and poured wall foundation markets. Duo-Corp operates 3 production lines with nearly 1,000 windows manufactured per day. Along with repetitive use of screw guns to assemble their products, operators weld the corners of the vinyl window mainframes using sophisticated welding equipment. After the process is complete, excess vinyl remains in each inside and outside corner of the frame. This excess, or “weld burn-off”, must be removed by the operator. The outside of the frame is cleaned by a corner cleaner machine, but the inside must be manually cleaned out using a chisel. Operators clean out 20 internal welds per window, which comes out to a total of 8,000 welds per day. The chisel is hard and sharp, which leads to a risk of cutting or puncture wounds. Additionally, there is a risk of low back pain due to the position the operator must take, bending forward to see the “burn-off” to be removed.



Operator Chiseling Out Weld “Burn-off”

Solution:

Duo-Corp. approached these risks by installing a CCD-2, Twin-head corner cleaner and milling cutter from Edinburgh Fixture and Machine. This new equipment would totally eliminate the process of chiseling out the weld burn-off that accumulates after the vinyl window mainframe is welded. This equipment will eliminate nearly 1 million chisels per year, and reduce the risk of punctures, cuts, and low back pain to the employees of Duo-Corp. The cost of the intervention totaled \$30,500. Safety Grants awarded Duo-Corp. \$21,328 to offset the costs.



CCD-2 Twin Head Corner Cleaner and Milling Cutter

Results:

- CTD Risk Factor Scores decreased 50% following the intervention.
- Employee Turnover Rates increased from 689 to 963.9 per 200,000 hours worked.
- Productivity has been affected by the decreased physical strain experienced by the employee, who must still slightly chisel the totally clear the weld. This rate has been reduced by 95%, with the total cycle time being reduced by 25%.
- Quality has been increased as machine cleans more completely, reducing scrap from 10% to less than 1%.
- CTD, Lost Days, Restricted Days, and Claims were 0 one year prior to the intervention, and remained 0 following the intervention.