

Leah Ness

Project Abstract - St. Croix Forge



ST. CROIX FORGE
FORGING EXCELLENCE

INTERN

Leah Ness

BS Mechanical Engineering; University of Minnesota 2022 (*expected*)

PROJECT FOCUS

Energy, Waste

ADVISOR

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COMPANY

St. Croix Forge



COMPANY DESCRIPTION

St. Croix Forge is a horseshoe manufacturer located in Forest Lake, Minnesota owned by the international company Delta Mustad Hoofcare Center. St. Croix Forge is the largest steel horseshoe manufacturer in North America.

MOTIVATION

St. Croix Forge aims to reduce energy consumption in their manufacturing process without compromising production output and quality.

INCENTIVE

It is a company wide goal of Mustad to reduce their carbon footprint as much as possible. Reducing energy consumption and waste production brings down costs and the carbon footprint of the facility.

GENERAL APPROACH

Research focused on which parts of the manufacturing process consume the most energy and which parts produce the most scrap. These parts of the process were further researched to find ways to reduce energy, waste, and cost without affecting the quality of the shoes.

FOCUS OF RESEARCH / RECOMMENDATIONS

The recommendations of this project focused on reducing electrical consumption through the optimization of existing systems: by reducing scrap, upgrading to more efficient lighting, and finding more efficient alternatives for the forge press motors.