

EXPERT ASSISTANCE LEADS TO SIGNIFICANT SAVINGS AND AN
INNOVATIVE DESIGN

ABOUT AMERICAN MUSCLE DOCKS AND FABRICATION. American Muscle Docks & Fabrication, which began as Valley Manufacturing Inc. in 1963, provides metal fabrication services. It also manufactures, builds, and distributes commercial and residential marine dock systems and metal hardware. In 2012, Valley Manufacturing purchased Follansbee Dock Systems and began operating as American Muscle Docks & Fabrication in a new 20,000 sq. ft. facility.

THE CHALLENGE. American Muscle Docks & Fabrication was accustomed to building quality, reputable products that more than met the needs of its customers. However, American Muscle Docks & Fabrication recognized the need to better understand the requirements of its product, once installed, in order to gain additional market share. American Muscle Docks & Fabrication contacted the WVMEP, part of the MEP National Network™, for assistance in locating an engineering resource to assist in the review of its designs.

MEP CENTER'S ROLE. The WVMEP met with American Muscle Docks & Fabrication to understand exactly what the company wanted to accomplish. After this discussion, WVMEP facilitated a meeting between Dr. Terrance Musho, CAD/FEA professor at West Virginia University, and American Muscle Docks & Fabrication. At the conclusion of this meeting, Dr. Musho agreed to help American Muscle Docks & Fabrication through a student project. This project would utilize finite element analysis to better understand how a typical dock construction reacts to forces of nature, after being installed in lakes and rivers.

Successful completion of this project fostered a relationship between Dr. Musho and American Muscle Docks & Fabrication that led to several other areas of assistance, including analysis of the gangway construction currently used. This analysis resulted in a new, innovative structural profile and construction process for gangways that will allow American Muscle Docks & Fabrication to provide a product that is far superior to its competition, at a lower price point.

"We at American Muscle Docks cannot thank the WVMEP staff and Dr. Musho enough for their work and for designing a product that will help take our business to the next level. We greatly appreciate the help of WVMEP for setting up this relationship and for seeing it through its entirety."

-Luke Diserio, CEO American Muscle Docks

RESULTS



Reduced time to assemble gangways by nearly **75%**



Reduced the number of components for each gangway by approximately **50%**



Additional market share of approximately **\$500,000 - \$1,000,000**



Better understanding of the engineering requirements of its products

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