

Senior Design Project Description

Company Name	<i>Stanley Black and Decker</i>	Date Submitted	<i>12/2/2020</i>
Project Title	<i>Design of a Product Test Lab (SBD_TEST)</i>	Planned Starting Semester	Spring 2021

Personnel

Typical teams will have 4-6 students, with engineering disciplines assigned based on the anticipated Scope of the Project.

Please provide your estimate of staffing in the below table. The Senior Design Committee will adjust as appropriate based on scope and discipline skills:

Discipline	Number	Discipline	Number
Mechanical	3	Electrical	1
Computer		Systems	2
Other ()			

Company and Project Overview:

In 1843, Frederick Stanley started a small shop in New Britain, Connecticut, to manufacture bolts, hinges and other hardware of high quality from wrought iron. In 1910, Duncan Black and Alonzo Decker started their shop in Baltimore, Maryland, and six years later obtained the world's first patent for a portable power tool. Over the years the two companies amassed an unparalleled family of iconic brands and trusted products. In 2010, they came together as Stanley Black & Decker, a leading global diversified industrial. Known for superior quality, continual innovation and rigorous operational discipline, we remain driven by a passion for excellence and a commitment to serve the builders, makers and protectors of the world.

The Cheraw, SC Hand Tools Manufacturing Facility makes products such as Saws, Tape measures and Tool Boxes.





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In order to assure product quality, the company has a system of rigorous product testing. This project will be associated with that effort.

Project Requirements:

A key part of product design is product testing. To verify designs, Stanley Black and Decker puts their products through intensive testing which simulates the product usage by customers. Any problems in the design are found in testing and corrected before the products go to market. This testing is performed by technicians who use various commercial testing equipment, custom designed equipment and procedures designed by engineers to ensure the testing is sufficient to qualify all designs prior to sales.

At the Cheraw facility, the test lab is planned for an overhaul. The objective of this project is to design and implement the new lab. The design will include a facility layout which accommodates existing and new equipment. The team will develop and verify test procedures for any equipment where they do not currently exist. Stanley Black and Decker has a sister facility doing similar work and their procedures and past procedures will be available for student use.

Expected Deliverables/Results:

- Facility Design of new lab configuration using available space, existing and new machinery.
- Design test procedures where needed, which can be used to test the product designs and ensure the quality of the product design for the intended use.
- Implement and test the facility design and procedures in the second semester.

Disposition of Deliverables at the End of the Project:

Hardware developed is the property of the Industry Supporter. The work product will be displayed at the last Expo then immediately handed over to the supporter unless arrangements have been made to deliver at a future date.

List here any specific skills, requirements, specific courses, knowledge needed or suggested (If none please state none):

- Interest in product testing laboratory equipment (tensile testing, ball drop testing, shakers, etc.)
- Interest in design verification methodology
- Team must be capable of travelling to Cheraw, SC. Travel expenses are covered by the Project budget provided to the team by ISL.