

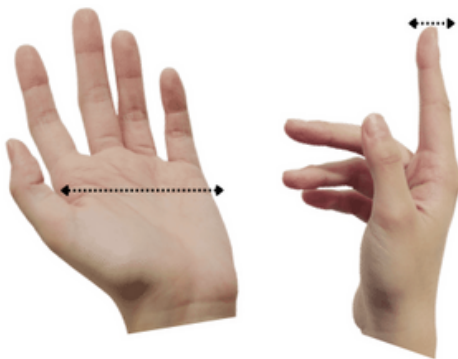
Ergonomic Design Guidelines

Goal

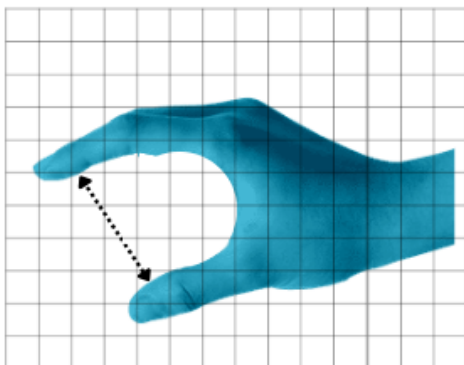
Developing Design Guidelines to Address New Industry Trends

Project Description

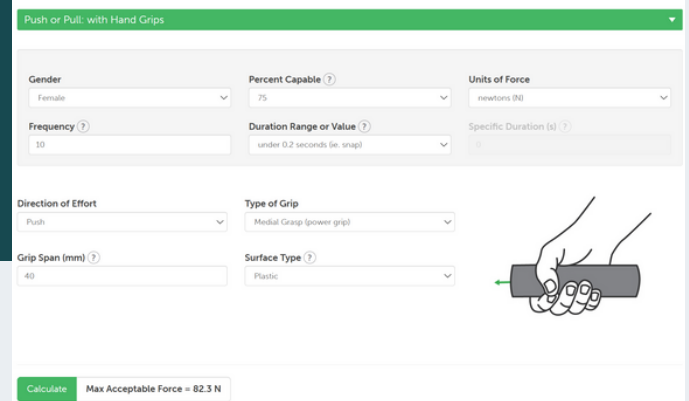
The client noticed a trend of increasing component sizes and a subsequent increase in the associated assembly force for this part. Sandalwood facilitated a project that identified the impact to assembly hand postures as well as developed guidelines and specifications related to maximum assembly force, grip size, and contact surface area for these new conditions.



Hand anthropometry for the industrial population was considered when developing guidelines around clearances and contact surface requirements.



The team identified and defined limitations for grip spans of the new assembly postures.



Ergonomic assessments were performed to define the acceptable assembly forces specific to each hand posture.

Objectives

- Identify new components and their characteristics.
- Identify the hand postures used by operators to assemble these larger components.
- Perform assessments to define maximum acceptable forces for assembly.
- Define the grip sizes and contact surface area requirements for various assembly conditions based on hand postures and assembly forces

Results

Developed written guidelines with a focus on design for assembly of the component.

Worked directly with several major suppliers to identify new and emerging trends in design, as well as to identify and incorporate information that would aid their understanding of the requirements. This improved the quality of the document as well as fostered relationships between suppliers and the client.

Developed specifications for assembly of the component using six unique hand posture-to-component combinations.

Addressed 22 additional knowledge gaps and emerging challenges within the specifications, which provided guidance to suppliers and ergonomists for the design and assessment of these components.



Sandalwood is an engineering and ergonomics consulting firm. Since starting in 1989, Sandalwood has designed over 3,000 projects that have executed strategic solutions for manufacturers.

By providing their knowledge, research, technology, and resources, Sandalwood supports its clients from the executive level to the factory floor so you can...

Work Smarter. Work Safer.

Learn more at:

WWW.SANDALWOOD.COM

