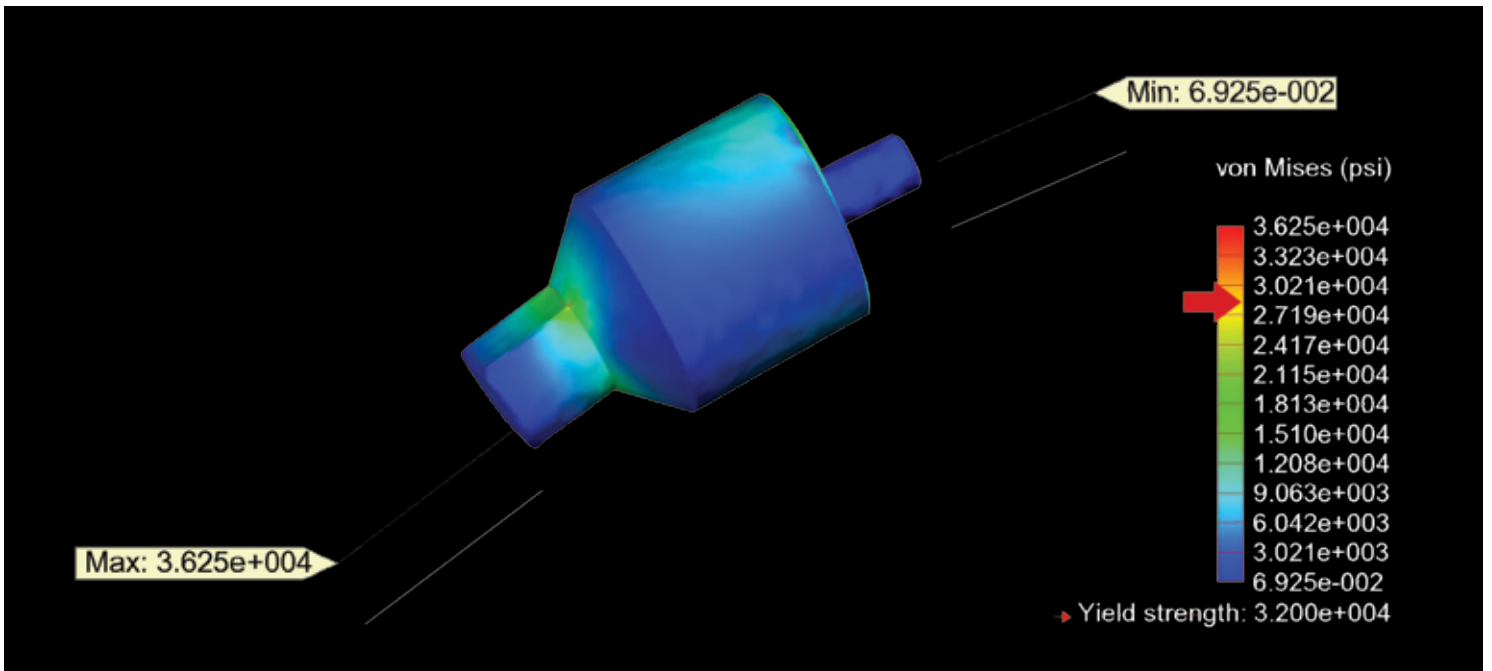


machine design

ssoe®. making clients successful.



Why SSOE? The SSOE Experience is the combination of our Value Promise and Great Client Service that results in trusted relationships.

To consistently exceed clients' expectations is a common goal in our industry. So, how is our promise of outstanding performance any different from others? We have proof. Greater than 98% of clients we surveyed would recommend SSOE Group to a colleague. And more than 150 of our clients have been with us for at least 20 years. These endorsements are a result of our Great Client Service—our corporate-wide commitment to understand and exceed your expectations and deliver unexpected benefits.

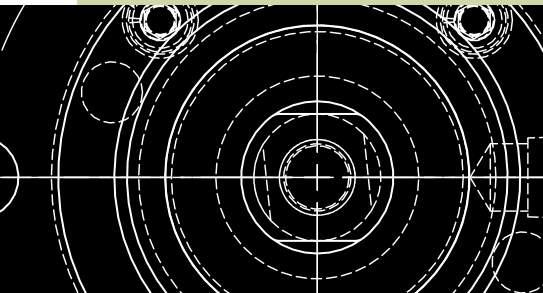
For decades, we've found ways to deliver greater value to clients. You can count on us to deliver high quality projects, on schedule, with fewer problems, and for lower total cost to save you time, trouble, and money. Through this Value Promise SSOE returned 105% of our fee to clients in the form of project savings over the last 5 years.

Advantages

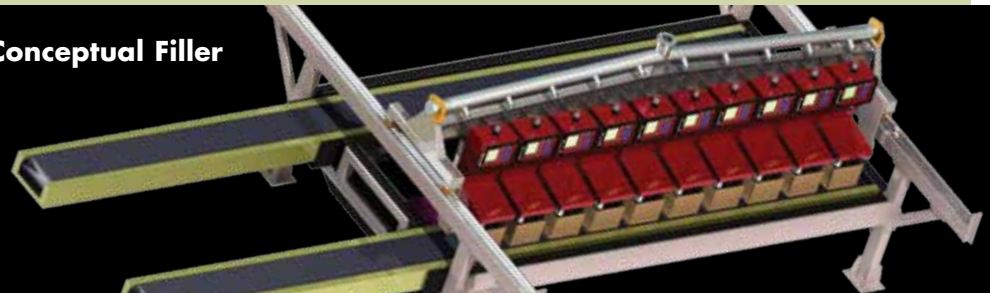
- Our extensive experience provides clients with tailored solutions including equipment modification, equipment procurement (and customization), and equipment design from the ground up.
- Working closely with our clients and focusing on project details helps us consistently provide reduced production costs, rapid changeover (RCO), and adherence to code compliance producing higher product quality and more reliable machinery, which results in an improved production rate overall.
- Our dynamic 3D technology for machine design allows us to animate the machine's functions for the client to review. This preliminary analysis in the design stage allows us to correct any potential design flaw, avoiding costly, time-consuming rework in the installation phase.

Design Services

- 2D assemblies and details
- 3D models linked to 2D drawings with final deliverables to suit client needs
- 3D design reviews
 - Complete design understanding
 - Reviews of the “real thing”
 - Manipulate during reviews
- 3D technical documentation
 - 3D images in many formats including JPEG and BMP
 - Use in maintenance, training, or operational documentation
- 3D system or component animation
 - Animation of systems or components reflect general function of the proposed solutions
- Automatic updating of 3D model, assembly drawings and 2D drawings if detail parts are changed
- Finite element analysis



Conceptual Filler



Project Types

Custom and commercial packaging equipment

- Aerosol enclosures and equipment guarding
- Capping
- Corrugate and container management
- Filling
- Graphite grinding equipment modifications / improvements
- Manufacturing and material processing equipment
- Material handling
- Process equipment design and modification
- Quality control equipment
- Raw material handling equipment
- Various types of rapid changeover equipment and tooling

Technical Specialties

- 3D design and modeling
- Commercial / Custom equipment integration
- Custom designed equipment
- Equipment troubleshooting / evaluations
- Finite element analysis
- Installation and start-up support
- Machine modification / retrofit design
- Process and systems capabilities studies
- Shop testing and inspection

Representative Clients

- BMW
- Chase Brass and Copper
- FedEx
- GrafTech
- Holcim
- Iams
- Johns Manville
- Morgan Advanced Materials
- Owens Corning
- Pilkington
- Procter & Gamble
- Saint-Gobain

Locations

Alliance, OH
Atlanta, GA
Birmingham, AL
Chandler, AZ
Cincinnati, OH
Columbus, OH
Denver, CO
Hamburg, Germany
Huntsville, AL
Kalamazoo, MI
León, Mexico
Lima, OH
Midland, MI
Mobile, AL
Monterrey, Mexico
Mumbai, India
Nashville, TN
Omaha, NE
Penang, Malaysia
Portland, OR
Raleigh-Durham, NC
Riverside, CA
St. Paul, MN
Santa Clara, CA
Shanghai, China
Toledo, OH
Troy, MI
Washington, DC

Markets

Energy
Life Sciences
Manufacturing / Process
Telecommunications

Services

Architecture
Construction management
Data / Fire / Security
Energy consulting
Engineering
Machine design
Master planning
Procurement
Project / Program management
Site selection
Tool install
Virtual Design and Construction

Rankings

Engineering News-Record (ENR)

- Top 5 Automotive Plant Design Firm for the past 9 years
- Top 10 Manufacturing Design Firm for the past 5 years
- Top 20 Chemical Plant Design Firm for the past decade
- Top 25 Industrial Process Design Firm for the past decade

ENR Global Sourcebook

- Top 10 International Automotive Assembly Plant Design Firm for the past 5 years
- Top 35 International Manufacturing Design Firm for the past 5 years

Building Design + Construction (BD+C)

- Top 10 Engineering / Architecture Firm for the past 4 years
- Top 10 Industrial Sector Engineering Firm for the past 4 years
- Top 15 BIM Engineering Firm for the past 5 years

Named "Best AEC Firm to Work For"
(Building Design + Construction)

Named a "Great Workplace"
(Great Place to Work®)

SSOE Facts

- SSOE was founded in 1948 and currently has more than 20 locations worldwide.
- We are a global project delivery firm for architecture, engineering, and construction management with projects in 40 countries.
- SSOE offers program management services from design through construction, to commissioning and start-up, for seamless project delivery.
- SSOE's focus is using the appropriate project delivery method for your goals, including Virtual Design and Construction (VDC), which brings our clients better and faster results through more integrated teams and advanced technologies. Even when a more traditional delivery model is used, you'll see significant benefits from the collaboration strategies and technological capabilities our leadership in VDC necessitates.



www.ssoe.com



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