

FLEXSTEEL INDUSTRIES, INC.

Accelerating development of custom furniture collections with SolidWorks



Named for the famous “flexsteel” spring that revolutionized furniture comfort, Flexsteel Industries, Inc., has led the North American furniture industry for over a century. In recent years, the furniture manufacturer has become “America’s Seating Specialist,” offering products ranging from home furniture and hospitality collections to vehicle seating for boats, motor homes, and travel trailers. Contract work, through which the company produces sofas, sleepers, chairs, ottomans, dining products, task seating, recliners, and leather furniture under contract for use in institutional settings, represents a growing part of the company’s business.

In 2008, Flexsteel’s Contract Furniture Group decided to upgrade its product development platform from AutoCAD® 2D tools to a 3D design system. According to Andrew Rudisill, engineering SolidWorks supervisor in Flexsteel’s Contract Furniture Group, the furniture manufacturer made the move to increase productivity and improve accuracy. “In the contract furniture business, where you have to submit a winning bid, cost is an important factor,” Rudisill stresses. “By shortening development times, minimizing errors, and accelerating production, Flexsteel could better control costs, win more business, and grow market share. That’s why we decided to move to 3D.”

After evaluating several 3D packages, including NX®, Pro/ENGINEER®, and SolidWorks® software, Flexsteel chose SolidWorks Professional design software. Flexsteel selected SolidWorks software because it’s easy to use; includes visualization, configuration, and surfacing tools; and provides the smoothest transition path from 2D. The company also acquired SolidWorks Composer technical communication software, with which it plans to improve product and manufacturing documentation.

“The ease of migration from AutoCAD to SolidWorks made for an easy decision,” Rudisill explains. “The mindset of furniture design revolves around sketches, so the move to SolidWorks provided the best opportunity to achieve our productivity goals without disrupting existing processes.

“Flexsteel weighed training and implementation requirements and determined that SolidWorks was the 3D parametric design system that provides the shortest time-to-deployment,” Rudisill adds.

Using SolidWorks Professional design software, Flexsteel Industries has improved accuracy and increased productivity in the development of its furniture products.

Challenge:

Streamline development to save time and cut costs, increase efficiency to support greater throughput, and improve handling of custom-configured products.

Solution:

Transition from 2D design tools to SolidWorks Professional 3D design software.

Results:

- Shortened product development cycles by five to seven weeks
- Reduced errors and rework by 40 percent
- Cut prototyping requirements by 30 percent
- Introduced new custom-configured business model

Shorter development cycle equals faster time-to-market

After implementing SolidWorks software, the furniture manufacturer reduced product development times by five to seven weeks, allowing the company to routinely achieve faster time-to-market. "Designing furniture involves developing the frame as well as the upholstery," Rudisill notes. "With SolidWorks, not only can we design a sound frame, but we can also leverage surfacing tools to enhance specific upholstery features, such as folds, darts, buttons, and pillowed cushions."

"SolidWorks has enabled Flexsteel to reduce time and costs by taking the fat out of our development cycle as we strive to make it as lean as possible," Rudisill continues. "By relying on SolidWorks as the core of our engineering effort, we are achieving our development and business goals."

Minimizing errors and prototyping requirements

In addition to shortening design cycles, using SolidWorks software has allowed Flexsteel to realize reductions in design errors, associated rework, and prototyping requirements. The company has cut design errors and rework by 40 percent, while prototyping requirements have gone down by 30 percent. Rudisill attributes these benefits to the ability to more fully visualize and interrogate designs before they are released to production.

"Using SolidWorks, there are simply fewer surprises in production, and we can often refrain from actually making a hard prototype to evaluate a design concept," Rudisill says. "SolidWorks lets us create an upholstered look or facilitate a process change. We're reducing costs and hitting our delivery dates, which is what we set out to do."

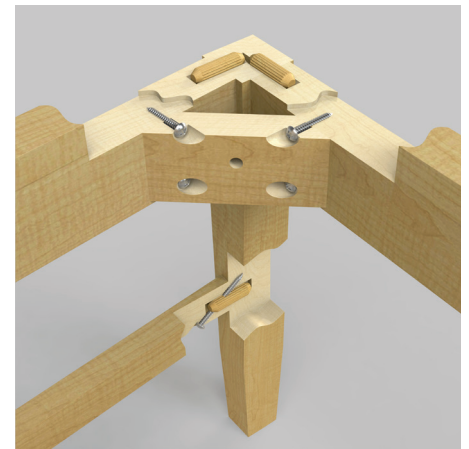
Configuring and visualizing furniture collections

With SolidWorks design configuration and visualization capabilities, Flexsteel has gone beyond improvements to existing development processes and is automating the design and marketing of entire furniture collections. For example, with the company's modAllure line of custom chairs, customers can choose from multiple options with a broad range of styles, all of which are illustrated using photorealistic renderings produced with PhotoView 360. Instead of having to manufacture and stock every combination, Flexsteel can market the chairs and quickly ramp up production of a specific customer order because all possible configurations are contained within the SolidWorks design.

"On the modAllure line, there are probably 100,000 possible configurations," Rudisill explains. "All of these possibilities are contained in the design table associated with the SolidWorks model. Using design configurations and renderings of key combinations of options and styles, we can put an important tool in the hands of our sales professionals while simultaneously providing customers with the freedom and flexibility to make the chairs that they order their own. The modAllure line represents a new way of doing business at Flexsteel that provides a distinct competitive advantage."

"SOLIDWORKS HAS ENABLED FLEXSTEEL TO REDUCE TIME AND COSTS BY TAKING THE FAT OUT OF OUR DEVELOPMENT CYCLE AS WE STRIVE TO MAKE IT AS LEAN AS POSSIBLE."

Andrew Rudisill
Engineering SolidWorks Supervisor



With SolidWorks 3D design tools, Flexsteel Industries can better visualize and configure its products, resulting in time savings, cost reductions, and on-time delivery.



Flexsteel Industries, Inc.
212 Industrial Road
Starkville, MS 39759 USA
Phone: +1 662 323 5481
www.flexsteel.com
VAR: Alignex, Inc.,
Edina, MS, USA



Dassault Systèmes
SolidWorks Corporation
175 Wyman Street
Waltham, MA 02451 USA
Phone: 1 800 693 9000
Outside the US: +1 781 810 5011
Email: generalinfo@solidworks.com
www.solidworks.com

