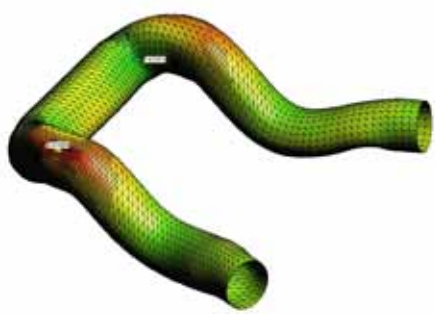
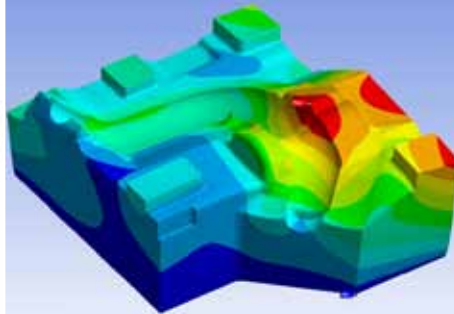


Tube Forming Technologies

Hydroforming, Bending, Press Forming



Part Design



Die Design



Production

Schuler Hydroforming

TURNING IDEAS INTO REALITY

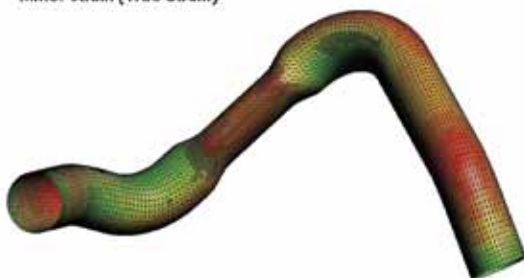
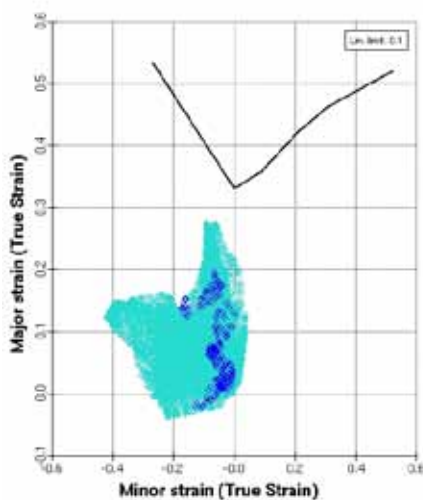
Schuler Hydroforming, Inc. supports the design and development process at every stage, from original concept to final production, with production and engineering facilities located in Canton, Michigan.



PART FEASIBILITY AND DEVELOPMENT

Schuler experience is valuable for assessing feasibility and optimizing designs to reduce cost and, in some cases, reducing the number of manufacturing steps required. An early intensive review of the part geometry can significantly shorten the development cycle.

Starting with a CAD file, Schuler engineers can perform a part analysis to determine the feasibility of making your product by hydroforming. The CAD file (IGS, UG, STEP) is used to analyze cut sections along the part to determine the circumferential expansion and minimum corner radius. Both of these factors are important in the feasibility assessment.



BENEFITS OF EARLY FEA ANALYSIS

- Reduce the cost of dies
- Reduce required equipment costs
- Increase the quality of the part
- Optimize the process of final part quality by considering bending, pre-forming or other processes

ENGINEERING AND SIMULATION

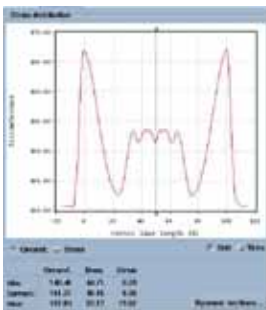
Schuler has the ingenuity and know-how to create the most reliable and efficient solution, taking into consideration production volume, difficult geometry and specific process applications.

Before any die block is milled or raw material is ordered, Schuler will perform an in-depth FEA of your part and its die/tooling requirements to predict potential material failures and part weaknesses. If necessary, our engineers will make design recommendations for part quality based on these results.

By analyzing a part early in the design process, while there is still flexibility, Schuler's engineers will often be able to suggest subtle design changes that reduce manufacturing costs or improve the final quality.

FEASIBILITY SERVICES

- Chart of circumferential expansion along the part
- Estimate of starting tube diameter
- Estimate of forming sequence (bending, hydroforming, cutting)
- Estimate of pressure requirement and press tonnage



PROTOTYPING

Prototyping with Schuler can bring significant savings in production tooling costs and ensure that the expected part quality and cycle time can be realized.

We provide hydroforming press time, engineering and supervision support at our facilities in Canton, Michigan to troubleshoot and optimize the forming process as a try-out before actual start-up production. This step in the design process can determine whether bending, pre-forming, or other process steps can be eliminated, reduced, or consolidated before full production begins.

DIES

Providing the highest quality die is critical to both the success of our customers as well as ourselves. Schuler puts over twenty years of hydroforming experience into each one of its dies.

The product and process design must first pass a rigorous FEA model measuring strain and estimating fatigue under the worst conditions before we begin to manufacture a die.

Schuler dies can be designed to:

- Eliminate engineered scrap
- Allow material expansions over 70%
- Pierce holes of almost any shape or quantity
- Accommodate line automation

PART PRODUCTION AT SCHULER HYDROFORMING

To support the progress of hydroforming technology, Schuler offers production capacity with a fully integrated line in Canton, MI. Operating since 2003, this line runs transportation, industrial, appliance and furniture components. Schuler has the capacity and flexibility to take on additional production.



PRODUCTION PRESSES AND TURNKEY HYDROFORMING LINES

Whether a project is large or small, Schuler can meet your hydroforming press needs. We offer a broad range of press tonnages, bed sizes, and hydraulic capacities to fit any application.



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