Company Information

F&S Tool, Inc.

Founded in 1983, F&S is a privately held company operating a 90,000 square foot facility located on the shores of Lake Erie in Erie, Pennsylvania, USA. F&S Tool specializes in high output, high efficiency hot runner injection molding applications typically with 2-6 million cycles expected per year. In addition to injection molding, F&S Tool is an expert in high volume compression molding applications with similar throughputs. F&S Tool offers the option to use our facility as an integration center that could include sending your machine, automation and auxiliaries for full molding cell performance certification with our in-house technical experts prior to shipment. As an alternative, F&S Tool offers the use of a range of injection molding machines for sampling, short or medium run production in one of our 20 machine bays with ISO 9001 compliance.

Strategic Partnership

- Mutual investment protection
- Nimble organization able to make and execute changes mid-stream
- Cycle time guarantee with complete SigmaSoft® virtual molding simulation analysis
- Virtual molding evaluation including finite element analysis (FEA) refines the design to achieve the fastest cycle with the most robust build in advance of mold production
- Steel safe expertise to achieve the desired part characteristics on-schedule
- 2 year, 4 million shot warranty

Construction

Experience a carefully planned design:

- Balanced fill especially with asymmetrical gates due to precise gate alignment, hot runner manifold collaboration and temperature control optimization/calibration expertise
- Ultra Cool™, patented cooling assembly, creating fully serviceable conformal cavity cooling
- Exceptional core support due to imaginative cavity stack construction and creative robust ejection techniques
- Agathon® ball bearing cages to reduce cavity stack friction and improve mold and/or cavity alignment
- Internal multi-stage mechanical Cam Action ejection used to stage plate movement – proven to be durable and Repeatable for millions of cycles
- Delta Cam fingers for precise crash-proof mechanical slides and parting line core movement
- Designed metallurgical lubricity between components and/or surfaces
- Coatings to prevent rust (electroless nickel), extend surface life and dimensional integrity (tungsten DLC [diamond like coating] or WCC)
- 100% interchangeability for all cavity stack components

Services

- Part design for optimal production and performance
- Complete mold design, build and key part characteristic qualification including multi-component fit and functionality
- SigmaSoft® virtual molding simulation analysis including finite element analysis (FEA) for cycle optimization and robustness
- Production intent prototype molds to ensure a timely product launch
  - Cavity stack construction is identical to the production mold
    - Prove part functionality and the molding cycle at the prototype step
- Turnkey molding cell integration including post molding automation certification in one of our 20 machine bays
- Contract molding - short or medium production runs
  - ISO 9001 certified, processing and quality experts on-staff, equipped with internal 3 axis CNC Zeiss CMM
  - Pre-launch volumes to certify secondary operations or assembly line performance
  - Bridging production requirements on critical projects

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Plate & Mold Production

In 2014 F&S Tool bolstered internal plate production with a 30,000 square foot [2,787 square meter] expansion. Precisely milling the plates allows F&S to provide superior cavity support/alignment, less movement friction, a reduction in clamp tonnage and control of the workflow for on-time delivery. The only operations done out of house are gun drilling, plating, heat treating and polishing.

Kuraki horizontal boring machine
- Travels of 98.5 x 62.6 x 47.2 inches [2501 x 1590 x 1198 millimeters]

Yasda precision jig bore
- Travels of 110 x 48.7 x 30 inches [2794 x 1236 x 762 millimeters]

Turn-key Development Center
In 2016 F&S added a 25,000 square foot [2,322 square meter] turn-key molding development center with 20 machine bays for complete certification prior to shipment including post molding automation. The 10 ton crane can accommodate up to a three section 30 ton stack mold (10 tons per section) in one of our sample machines or in your production cell.

Made in the USA
Advantages for North American customers:
- Local, fast support
- Shipping time and expense reduction
- Simplified travel; faster, less expensive

Cube and Stack Molds
Visit F&S to see our 2 x 8 cube mold in action (second quarter 2017). The proprietary line of pharmaceutical pop-top containers will display a fusion of F&S key strengths and industry changing productivity standards in the smallest possible footprint. The cube provides an actual application for you to use as a baseline for potential projects at F&S Tool. When compared to the existing 8 cavity single face mold, the cube is expected to reduce the cycle time by 38% and increase the production capacity from 22.5 to 77.9 million units at 85% efficiency, a 246% improvement. The $1.7M capital project is projected to reduce part cost by 44% and have a return on investment (ROI) of 22 months.
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