

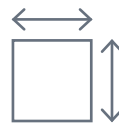
HUSKY[®]

UltraShot[™] Injection System

Mold the Unmoldable



Product
Quality



Design
Freedom



Preserve Resin
Properties



Process
Control

The UltraShot™ Injection System

The UltraShot™ Injection System delivers plastic in a way that increases part design flexibility, while reducing risk and improving part quality and speed of mold qualification. The key to the UltraShot™ Injection Technology is that it produces pressure near the cavity with a precise, servo-controlled injection system; providing unmatched control of cavity filling and balance for critical parts and challenging applications.



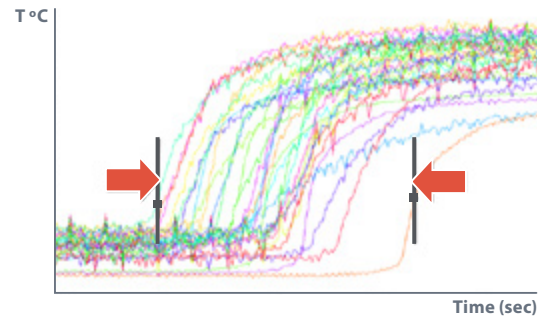
Improve Part Quality and Production Consistency

The UltraShot™ Injection System pressurizes the resin near the cavities, reducing the influence of resin compressibility and shear, and thermal variations on balance and part quality. Eliminating these influences, the UltraShot™ Injection System achieves industry-leading balance and exceptional part quality.

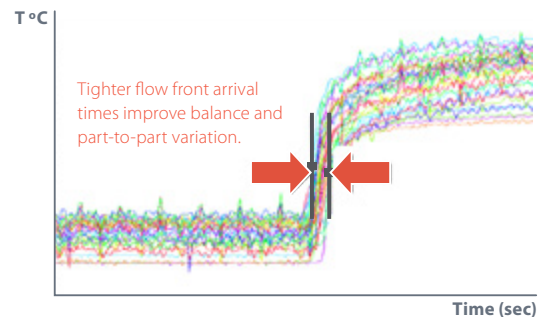
Unlike conventional hot runners, balance and part quality do not degrade with higher cavitation tooling. The discrete injection circuit design is scalable to 128 cavities, providing the same process conditions regardless of mold size. Elimination of the scaling effects leads to faster qualification time from pilot to product tooling while reducing risk.



Flow Front Arrival Time with
Conventional Hot Runner



Flow Front Arrival Time with
UltraShot™ Injection Technology

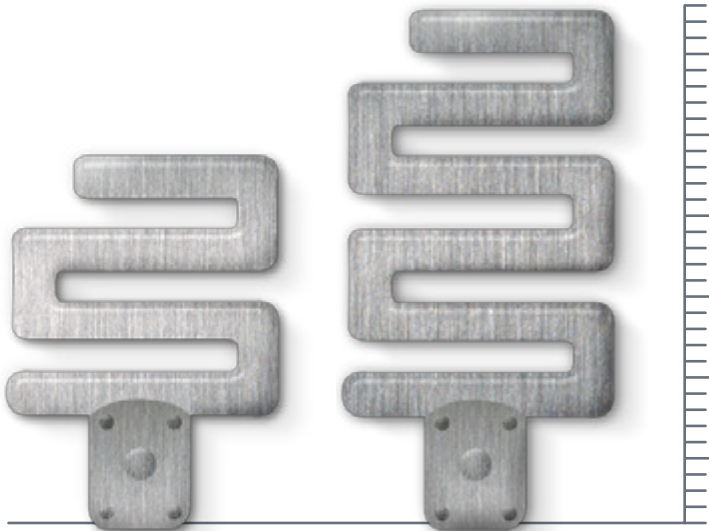




Improve Part Design Freedom

Typical design rules for injection molding do not apply with the UltraShot™ Injection System. The UltraShot™ technology delivers very high pressure at the gate with greater control than conventional injection molding systems. This means that parts can be designed the way they need to be and not constrained by the requirements of the injection molding process. Parts completed with other processes or post-mold assembly can now be produced in a single injection molding cycle.

The UltraShot™ Injection System filled the entire part where a conventional injection molding process at **40,000psi (2,758 bar)** could not.



Conventional
Hot Runner

UltraShot™
Injection System: L/T = 140





Preserve Resin Properties

Compared to conventional hot runners, melt in the UltraShot™ Injection System experiences fewer high-pressure injection cycles, preserving the original resin properties. This leads to lower molded-in stress and better mechanical and optical properties in the molded part. With the UltraShot™ technology you get the best physical properties for your molded part.

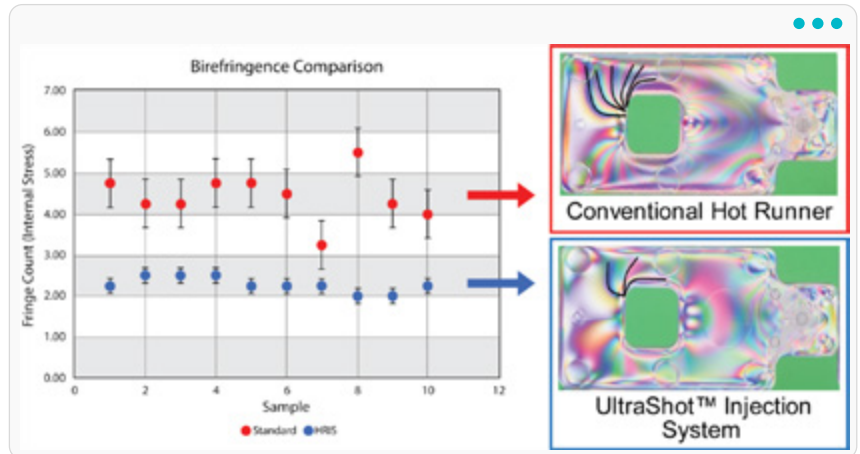


Utilize Advanced Closed-Loop Process Control

Powered by the Altanium® Mold Controller, the UltraShot™ Injection System provides highly advanced process monitoring and control for injection molding. Injection is performed with electric servo motors providing accurate and repeatable performance. The Altanium® Mold Controller offers real-time visual graphing of key injection parameters. In addition, each parameter can be set with tolerance bands and alarm outputs to give unprecedented control of the injection molding process.

Altanium® Mold Controller

Integrates industry leading hot runner temperature and mold servo control in the same unit.



The lower fringe count with the UltraShot™ Injection System means less molded-in stress and better optical properties

Market Success Story

Production Improvement of a Medical Device



The Challenge

4+4 conventional hot runner tests:

- Unable to mold full parts
- Unable to control core shift

Development Applications

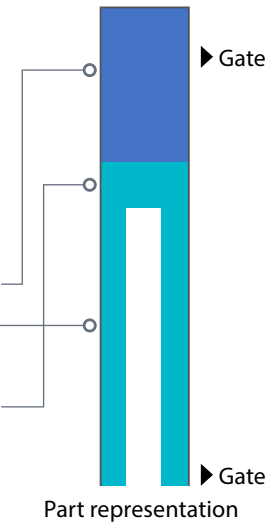
Very long hollow tubes

- Test #1: L/T= 290
- Test #2: L/T= 580

Different resins filled from opposite ends of part

- Soft TPU shot very sensitive to residence time
- Hard TPU shot

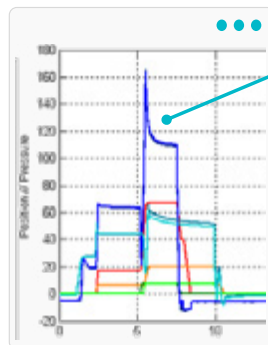
Location and integrity of hard to soft component weld line critical to function



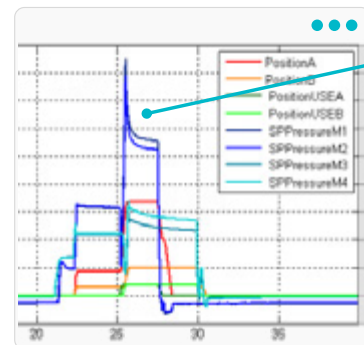
Performance Validation

- Excellent short shot balance (~95% @ 50% short shot (>2X std. HR))
- Drastic reduction in core shift compared to standard HR
- Consistent hard/soft joint location with ability to accurately adjust

Process monitoring provided real-time identification of core shift



No core shift

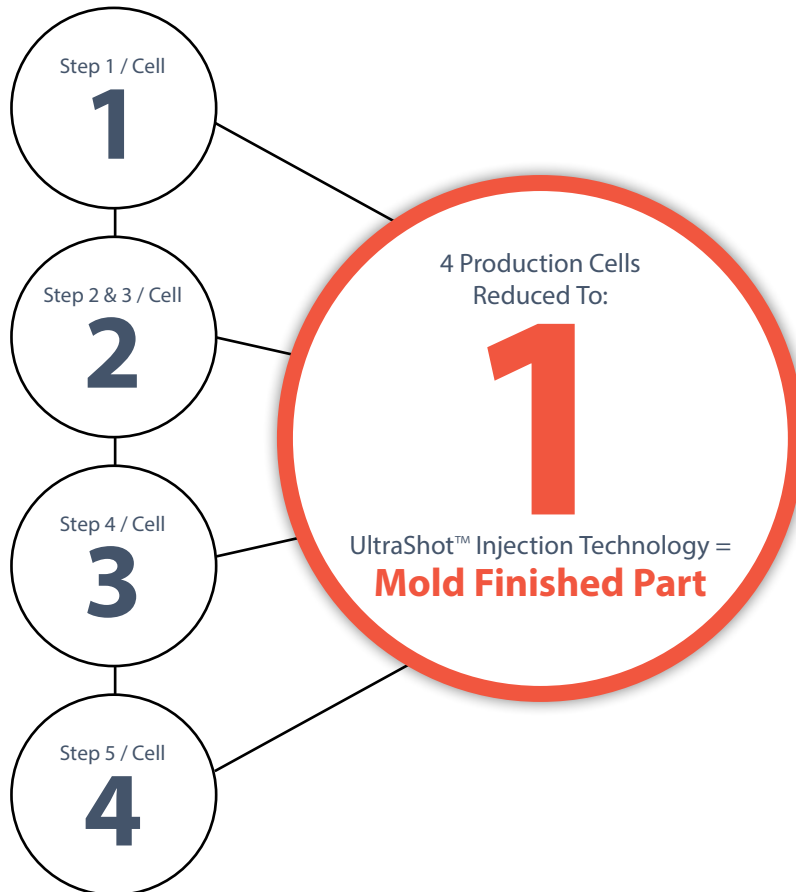


Core shift

The Result

Significant Increase In Production Efficiencies

- Product originally deemed not viable due to manufacturing cost and risk
- The UltraShot™ Injection System eliminates several manufacturing steps and production cells
- With the UltraShot™ Technology, a finished molded part could be produced in just one manufacturing step



HUSKY®

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 Please recycle. 20-028 September 2020

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