

STEP into the Future

Evolve Additive Solutions Enhances Production Portfolio with New Global Parts Service and Two New Materials

Press Conference hosted by Evolve Additive Solutions

November 8, 2023

Agenda

- Introductions
- Evolve Company Overview
- About STEP Technology
- Introducing STEP Parts Now
- New Materials & Applications
- Q&A

Meet the Evolve Team

Jeff Blank
President & COO



Jeff Hanson
SVP Go-To-Market



Melissa Hanson
VP Marketing



About Evolve Additive Solutions

- Began as an incubation project inside of Stratasys - 10 + years of development
- Spun out in 2017 and created Evolve Additive Solutions
- Inventor of STEP: Selective Thermoplastic Electrophotographic Process
- Headquartered in Minnetonka, Minnesota, USA
- Materials & Electrophotographic Technology Center in Rochester, New York
- Currently 55 employees and growing
- 150+ issued patents and 100+ perpetual cross-licenses

STEP Technology = No More Compromises

Superior Part Performance across 4 Key Categories:

1. Feature Fidelity

13 μm layers and 22 μm particles produce strong, high-resolution parts with high edge-quality detail

2. Surface Finish

Ultra smooth surface finish from smaller particles and closed-loop printing process; 3-6 μm Ra as-printed

3. Repeatability

Highly accurate prints, from part-to-part and build-to-build

4. Mechanical Properties

Engineering-grade thermoplastics are used to produce fully dense, high-performance parts

Think of STEP's particle size by comparing the size of a tennis ball to a basketball

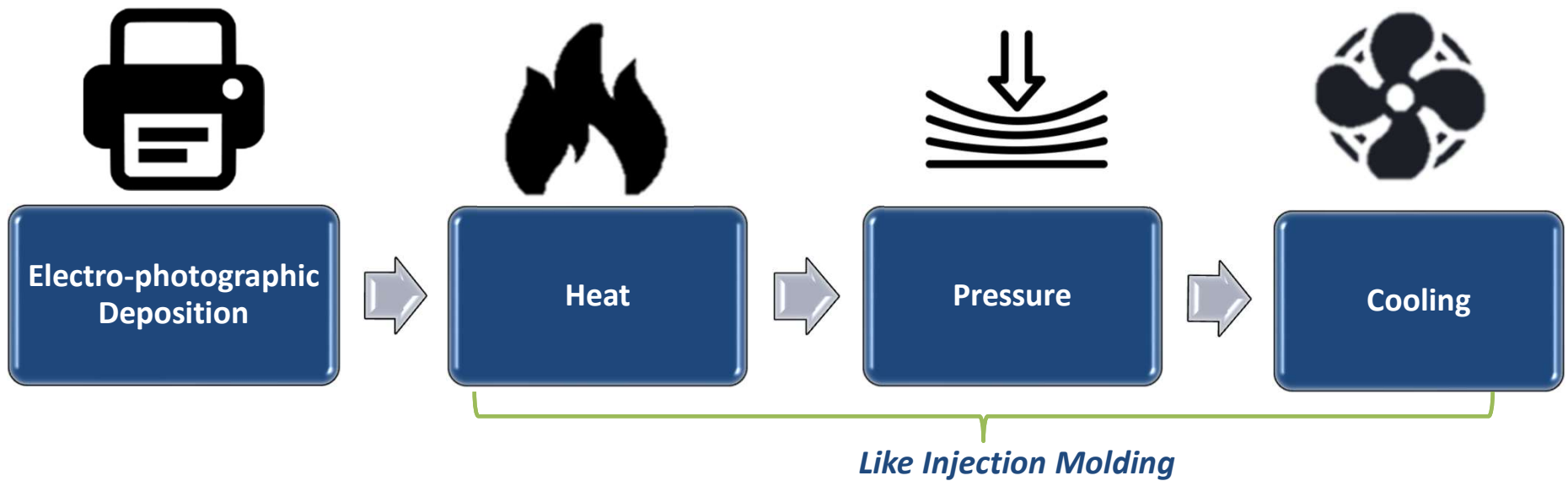
Evolve STEP
22 μm



Powder Bed Fusion
80 μm

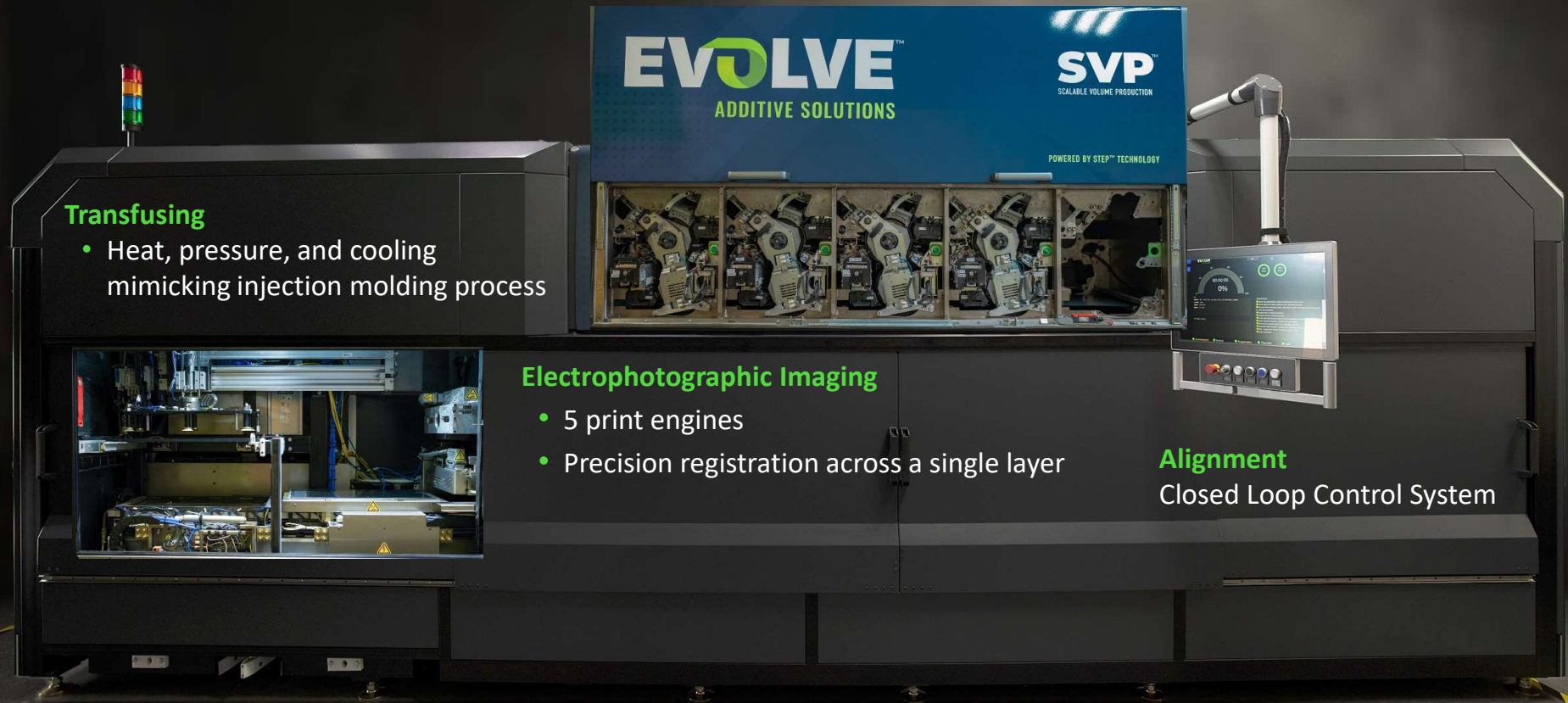
How STEP Works:

A Process Similar to Injection Molding



This process occurs at each layer, producing fully dense parts.

The Scaled Volume Production System (SVP)



SVP – Scaled Volume Production

STEP – Selective Thermoplastic Electrophotographic Process

STEP Prints the Finest Features; Best Dimensional Tolerances

Powder Bed
Fusion PA-11

Thin layers and small particles allow for **tight corners** and **smooth mating surfaces**

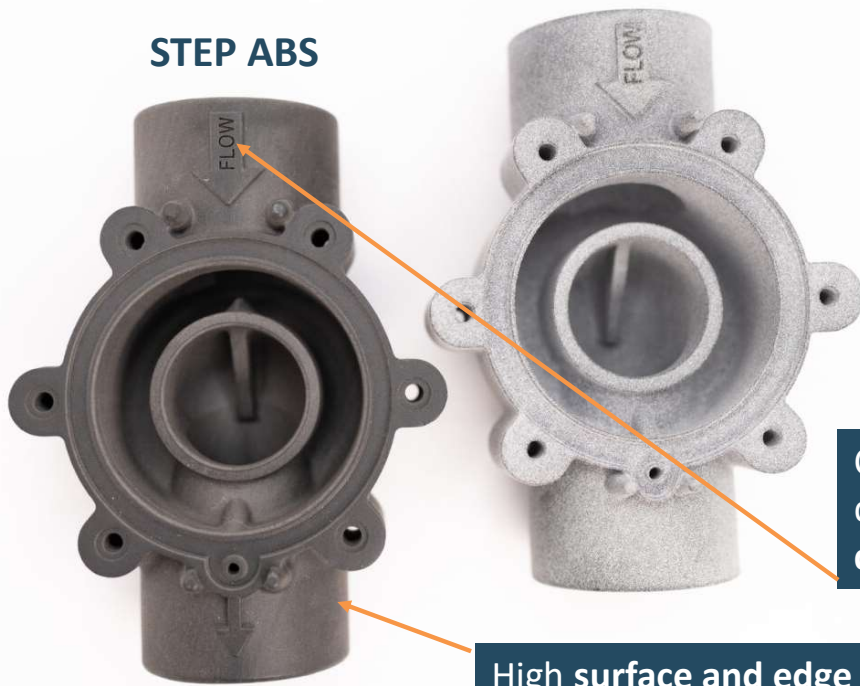
Crisp, debossed **text** down to 4-pt.

High surface and edge fidelity eliminates need for post-finishing

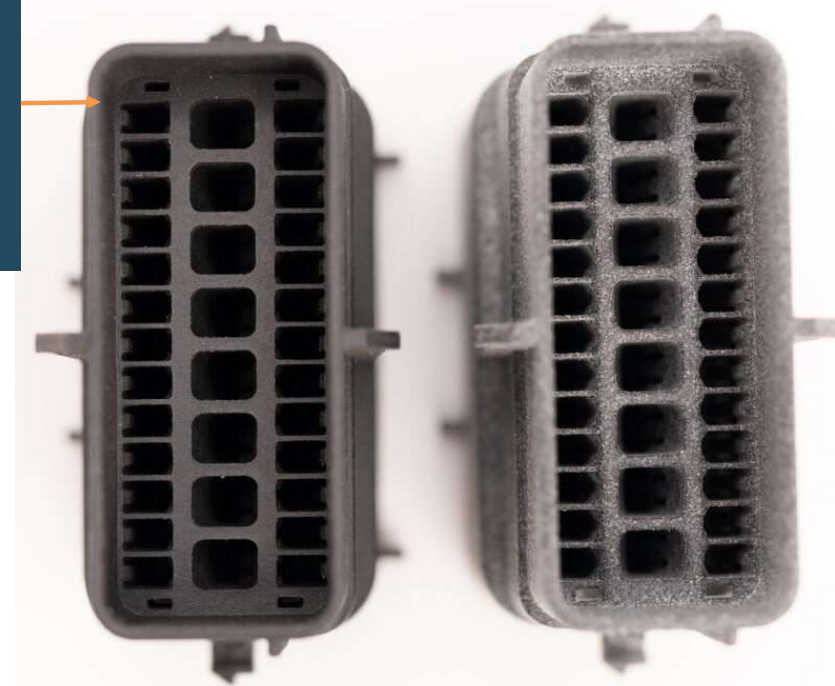
Powder Bed
Fusion PA-11

STEP ABS

Electrical Interconnect Housing



Irrigation Valve



STEP

PARTS NOW
BY EVOLVE ADDITIVE SOLUTIONS



EVOLVE
ADDITIVE SOLUTIONS

Why STEP Parts Now

- Meet **growing market demand** for additive manufacturing (AM) for true production
 - With STEP, you no longer need to choose between fidelity, repeatability and engineering-grade materials
 - STEP provides a seamless transition from prototype through production
- Provide **greater access to STEP technology** around the world – an onramp to adoption
- **Application discovery, development and delivery**

STEP
PARTS NOW
BY EVOLVE ADDITIVE SOLUTIONS



STEP ABS Check valves

EVOLVE
ADDITIVE SOLUTIONS

Establishing STEP Production Centers of Excellence

STEP
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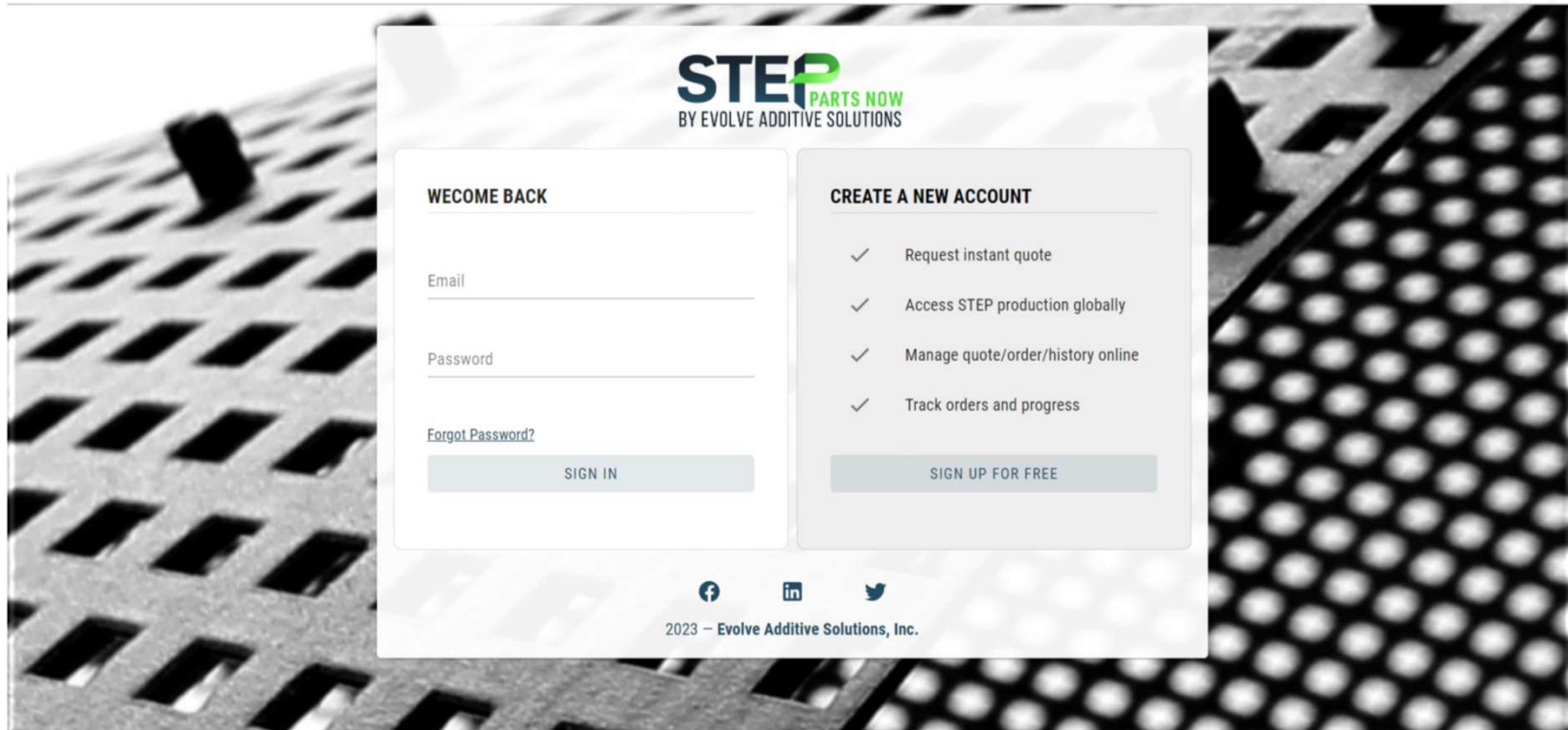
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NEW ABS Gray Material



Badging

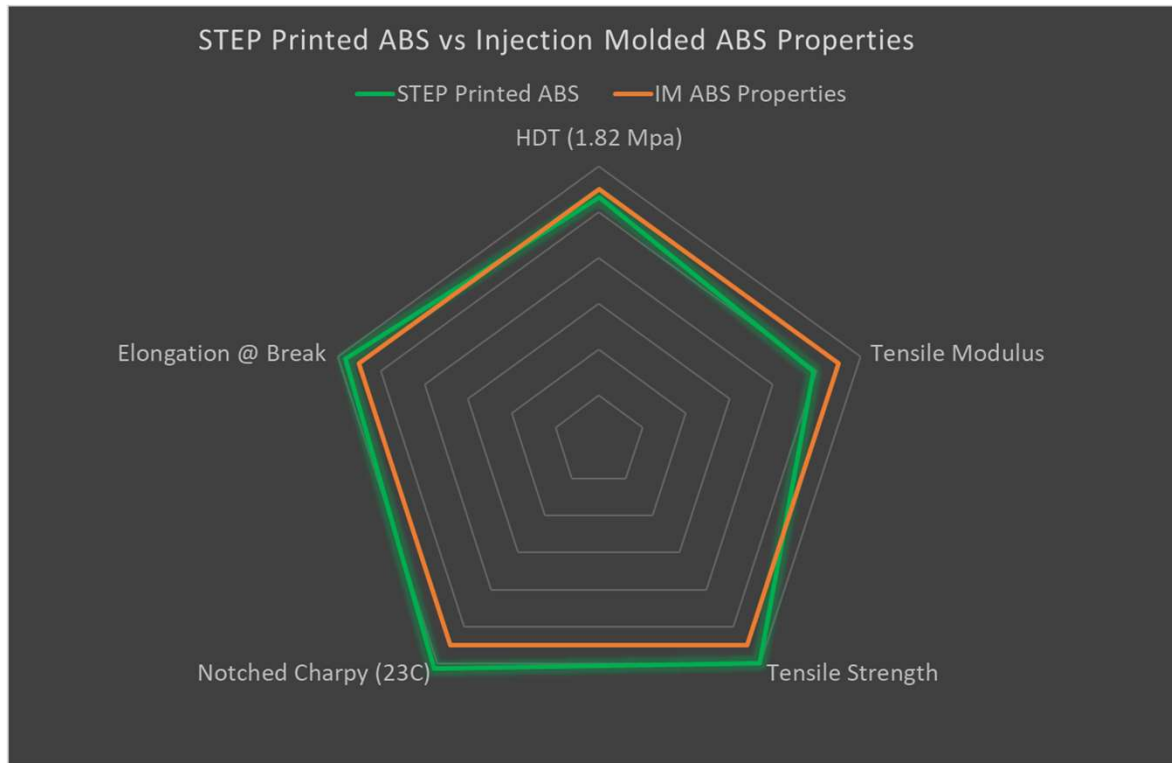


Production Run of
Metrology Test Parts



Coaster

STEP ABS vs. Injection Molded ABS Mechanical Properties



- STEP ABS mechanical properties are **within ~10% of Injection Molded ABS bulk properties**
- STEP ABS has **equivalent or better impact strength and elongation to break** than typical ABS

NEW Nylon PA-11(A)

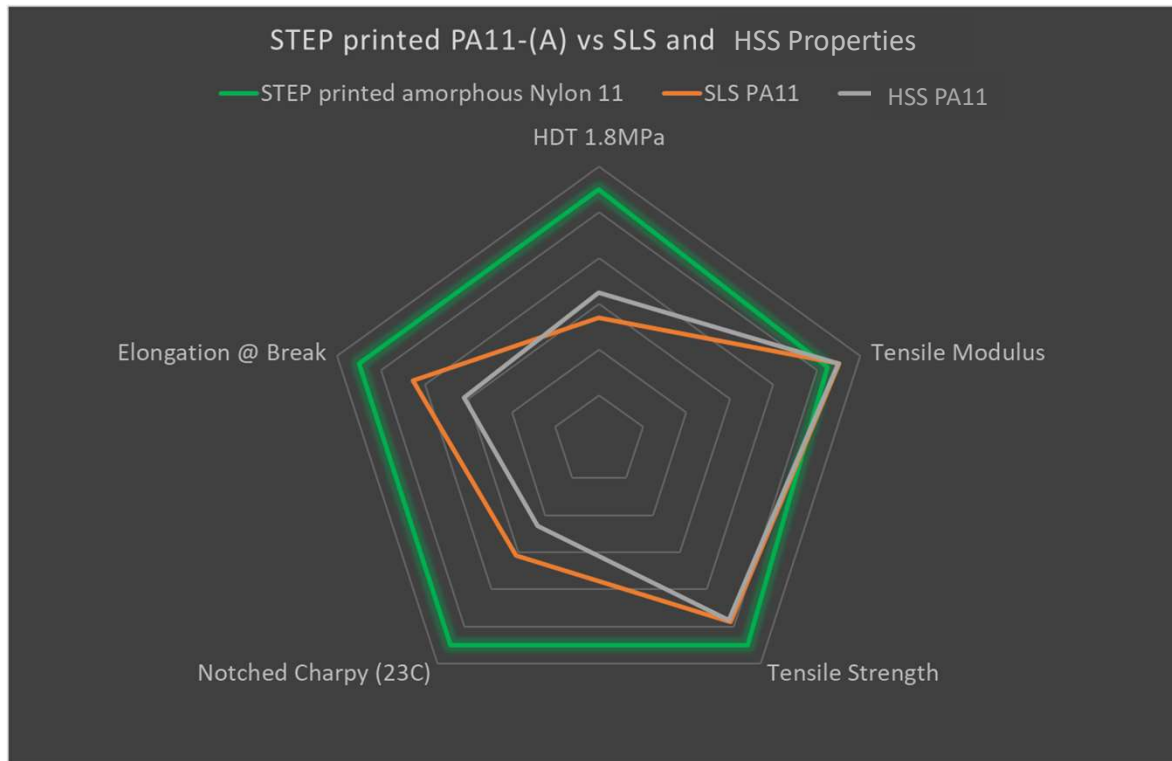


Drill Bodies



Threads on an
Irrigation Valve

STEP PA-11(A) offers Significant Performance Advantages



- STEP PA-11(A) parts **exceed EAB measures** by SLS and HSS
- STEP PA-11(A) parts usable in **higher service temp applications**
- STEP PA-11(A) parts exhibit much **higher impact strength**

Applications



Best-in-class Surface Finish and Textures



Fully Dense ABS Irrigation Manifold



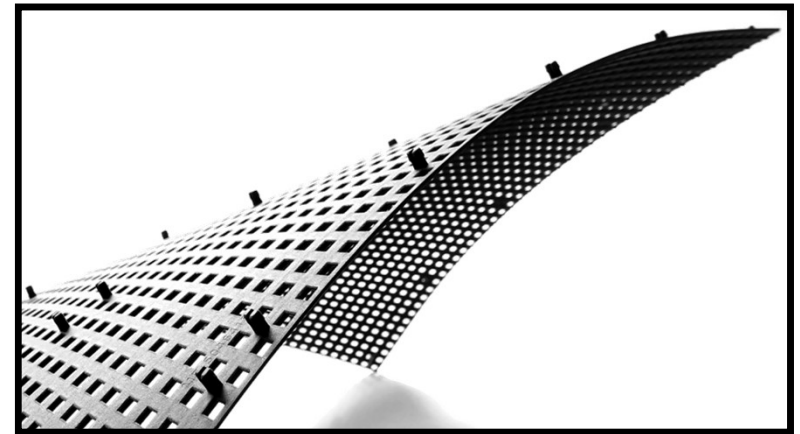
Production Throughput - Automobile Bracket Assembly



High Precision Electronic Housings and Snap Fits

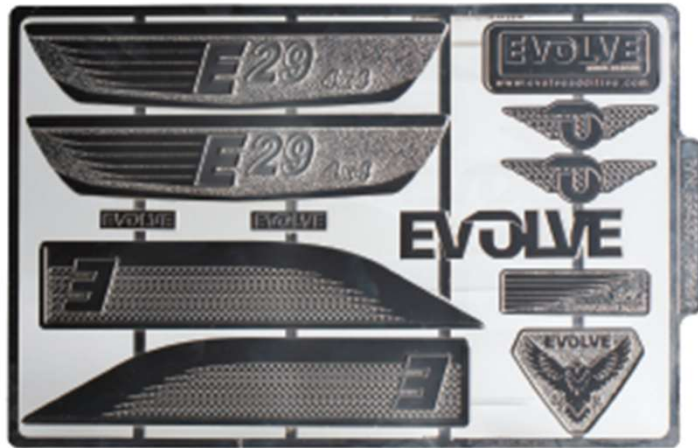


Enclosed Volumes Check Valve Cross Section



High precision, Flat - Scoreboard Panel Clips

Applications



Best-in-class ABS plating

Part Consolidation

6 Injection Molded Parts --> 1 STEP Print
ABS Black & ABS Gray Drone

Thank you!

Q & A

Evolve Additive Solutions Enhances Production Portfolio with New Global Parts Service and Two New Materials – Nylon PA-11(A) & Gray ABS



- **Speakers:**
Jeff Blank, President & COO
Jeff Hanson, SVP of Go-to-Market
Melissa Hanson, VP of Marketing

- **Formnext Booth:**
Hall 12.1, B-89

- **Media Kit:**
www.evolveadditive.com/media-kit/



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