

# DuPont™ Vespel® High Performance Polymeric Precision and Over-molded Parts

Broad spectrum of materials and capabilities to deliver optimal part solutions



# New DuPont™ overmolding and high precision injection molding capabilities to meet customer challenges

## What is Overmolding (OMA)?

Overmolding is the process of injection molding a thermoplastic over an existing insert. Overmolding plastic parts can help in wide range of functional and structural challenges.




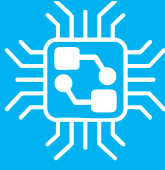



## What is High Precision Injection Molding (HPIM)?

Precision Injection Molding is a manufacturing process widely recognized for its ability to produce high-quality, detailed, and complex plastic parts with exceptional accuracy.



# DuPont's full-service value proposition

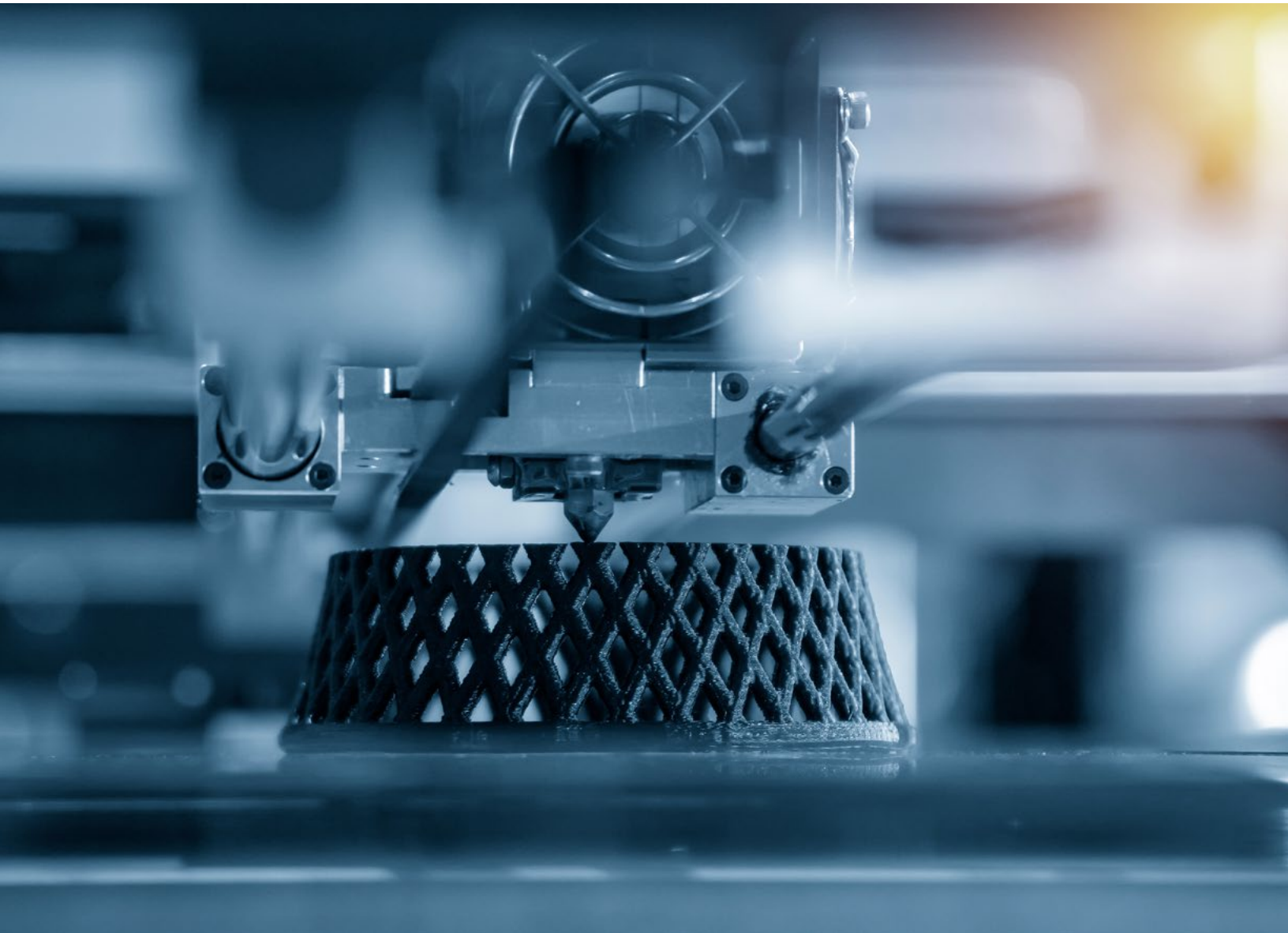


Value Drivers	 Speed & Innovation	 Technology	 Application Expertise	 Scale & Operational Excellence	 Cost Effectiveness
	Integrated engineering services  Advanced additive manufacturing	New product development  Specialty component technologies  Innovation and technology hubs		Global footprint  Large scale operation  Real-time SPC	US & international manufacturing  Vertically integrated  Lean manufacturing
Stage Gate Process	Concept	Development	Verification & Validation	Launch	Production

## Focus on time to market

DuPont facilities utilize high speed prototyping leveraging metal additive process

- State-of-the-art tool shop
- 3D printing on specific components
- Manufacture critical molds, the key to our success in development programs
- Tool modifications in a matter of days instead of weeks
- Skilled mold makers and machinists
- Dedicated preventative maintenance department
- Milling CNC and EDM machines
- Effective mold maintenance
- Programming platform services
  - Modeling
  - Prototyping
  - Bridge tooling
  - Production tooling



# Delivering solutions for our customers

Improving performance, extending life, saving weight & lowering cost

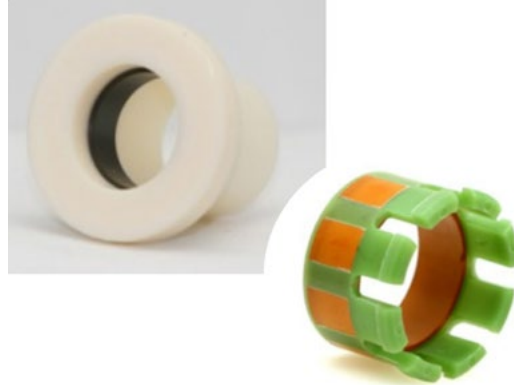


Hybrid Thrust Washer

Engine Timing Chain Snubber



A-Arm Bushing & Shifter Bushing



## Application Challenges:

- Noise and vibration
- Wear resistance
- Lightweight
- Structurally supportive

## DuPont™ Vespel® Material Solutions:

- Glass filled nylon overmolded SP grade

## Features:

- Low Coefficient of Friction
- Excellent wear resistance
- CTE well matched to mating metal components

## Benefits:

- Weight savings vs metal components
- Superior cost vs. performance ratio
- Self-lubricated system
- Long life

## Application Challenges:

- Wear resistance
- Lightweight
- Structurally supportive
- Insulative

## DuPont™ Vespel® Material Solutions:

- Various thermoplastics overmolded SP and SCP grades

## Features:

- Low Coefficient of Friction
- Excellent wear resistance
- CTE well matched to mating metal components

## Benefits:

- Low-cost, high-volume
- Weight savings vs metal components
- Superior cost vs. performance ratio
- Self-lubricated system



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