



THE SUCCESS OF YOUR APPLICATION DEMANDS IT.  
**AUTHENTIC VESPEL®**

Curbell Plastics is the Western US Region Authorized Supplier of  
Authentic DuPont™ VespeL® Polyimide Shapes



Do you  
demand?

**AUTHENTIC**  
**DuPont™ VespeL® Polyimide Shapes**

High performance parts for aerospace, semiconductor manufacturing, and machine shops  
DuPont is committed to maintaining the integrity of its Authentic DuPont™ VespeL® shapes and the  
high levels of product quality and service that our customers have come to expect and enjoy.  
Ensure the integrity of your product as well as your customer's business, purchase only Authentic  
DuPont™ VespeL® shapes from Curbell Plastics - your western US region authorized supplier.



# WHY DEMAND AUTHENTIC?

How can I tell whether or not the  
DuPont™ Vespel® shapes  
I have are authentic?

The first step to ensure you are purchasing Authentic DuPont™ Vespel® shapes is to buy only from a DuPont authorized distributor.

Product purchased from Curbell Plastics will be labeled with a genuine DuPont™ Vespel® shapes product label and be accompanied by an official Certificate of Conformance (CoC).

The tamper-evident product labels are serialized to add a level of traceability and contain covert security technology that helps prevent the counterfeiting of Authentic DuPont™ Vespel® shapes product labels. The appearance of genuine product labels is shown to the right.

DuPont has granted Curbell Plastics permission to legally reproduce the original CoC to accompany purchased Authentic DuPont™ Vespel® shapes cut to length. The appearance of a DuPont™ Vespel® shapes CoC is shown to the right.

*DuPont™ Vespel® is committed to delivering Big Science, part by part, faster than ever before.*



*The miracles of science™*

The DuPont Oval displayed in the upper left-hand corner without "The miracles of science tagline"



VespeL® grade is displayed directly beneath the business name

Each grade will have a unique colored band at the far left and at the offset middle position

Each label will have a unique six digit serial number at the lower right hand corner



This product certification is Non Transferable and is valid only to the first end-user purchasing from Curbell Plastics, a DuPont authorized distributor. Product and/or product certification obtained from an unauthorized source is assumed counterfeit. DuPont makes no warranties and assumes no liability in connection with the use of product or product certification obtained from an unauthorized source.





# VESPEL® SP-1

## FOR PHYSICAL AND ELECTRICAL PROPERTIES

SP-1 has high purity and provides maximum physical strength, elongation and toughness, and the best electrical and thermal insulation properties. Semiconductor manufacturers often find components fabricated from Vespel® SP-1 shapes useful in production processes.

### APPLICATIONS:

- Insulators
- Valve seats
- Balls
- Gaskets
- Poppets
- Wafer clamping
- Clamping rings
- In-chamber semiconductor parts

### BENEFITS:

- Operating temps from cryogenic to 550°F (288°C)
- Ultra high purity
- Minimal electrical and thermal conductivity
- Maximum strength and elongation
- Low outgassing
- Improved tech uniformity
- Excellent wear for longer life



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# VESPEL® SP-21

## FOR BALANCED LOW WEAR AND PHYSICAL PROPERTIES

SP-21 is ideal for low wear and friction in applications such as bearings, thrust washers, bushings, seal rings, slide blocks, and other wear surfaces. SP-21 has the maximum physical strength, elongation, and toughness.

### APPLICATIONS:

- Thrust washers
- Seal rings
- Valve seats
- Bearings
- Seals

### BENEFITS:

- Low wear at high bearing PV's
- Low coefficient of friction
- Long-term thermal stability
- High stiffness
- Low elongation
- Outstanding performance with or without lubrication
- Good strength and impact resistance

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## VESPEL® SP-22

### FOR LOW WEAR AND DIMENSIONAL STABILITY

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SP-22 provides enhanced resistance to wear and friction as well as improved dimensional and oxidative stability.

#### APPLICATIONS:

- Bearings
- Thrust washers
- Seal rings
- Ferrules
- Sleeves
- Wear strips
- Vanes

#### BENEFITS:

- Enhanced resistance to friction and wear
- Minimal thermal expansion
- Maximum thermal conductivity
- High temperature resistance
- Improved dimensional and oxidative stability
- Minimum elongation



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# VESPEL® SP-211

## FOR LOW COEFFICIENT OF FRICTION AND UNLUBRICATED WEAR

SP-211 provides the lowest coefficient of friction over a wide range of operating conditions. It offers excellent wear resistance up to 300°F (149°C).

### APPLICATIONS:

- Sliding and linear bearings
- Thrust washers
- Bushings
- Seal rings

### BENEFITS:

- Low wear at high bearing PV's
- Superior unlubricated wear
- Low coefficient of friction
- Excellent creep resistance
- Wear resistant up to 300°F (149°C)
- Good tensile strength, elongation, and flexural modulus

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## VESPEL® SP-3

**FOR UNLUBRICATED SEALING AND LOW WEAR IN VACUUM  
OR DRY ENVIRONMENTS**

SP-3 provides lubrication for seals and bearings in vacuum or dry environments. SP-3 provides maximum wear and friction resistance in vacuum and other moisture-free environments, where graphite actually becomes abrasive.

### APPLICATIONS:

- Bushings
- Bearings
- Piston rings
- Seals
- Gears

### BENEFITS:

- Maximum wear and friction resistance in vacuums and other dry environments
- Ultra-low outgassing
- High performance in aerospace applications



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# VESPEL® SCP-5000

**FOR STRENGTH, HARDNESS AND CHEMICAL RESISTANCE OVER BROAD TEMPERATURE RANGE**

SCP-5000 has been developed for demanding applications that require toughness, thermal and dimensional stability, chemical resistance, and stable dielectric performance across a broad temperature range.

## **APPLICATIONS:**

- CMP retaining rings
- Test sockets
- Substrate lift pins
- Aircraft engine parts

## **BENEFITS:**

- Ultra-high purity
- High thermal oxidative stability
- High stiffness
- Higher modulus and surface hardness
- Improved chemical resistance
- High temperature
- High wear resistance with low outgassing

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## VESPEL® SCP-5009

**FOR HIGH WEAR AND FRICTION APPLICATIONS UNDER HIGH OPERATING PRESSURE AND ELEVATED TEMPERATURE ENVIRONMENTS**

SCP-5009 shapes have a low coefficient of thermal expansion and provide good sealing as well as outstanding mechanical properties like high compressive strength and low creep, even at these extreme conditions.

### **BENEFITS:**

- Cost, weight, and performance opportunities over metals, ceramics, and other engineering plastics
- Resistance to temperatures above 300°C and pressures above 20,000 psi
- Low coefficient of friction
- Easy to machine to near-metal tolerances



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## VESPEL® SCP-5050

FOR HIGH TEMPERATURES, WEAR RESISTANCE, AND EXCEPTIONAL  
COEFFICIENT OF THERMAL EXPANSION

SCP-5050 is a new and innovative polyimide composition. SCP-5050 has improved high temperature and wear resistance compared to conventional polyimides allowing replacement of metal and graphite in more applications. It's proprietary composition is designed to offer a coefficient of thermal expansion (CTE) similar to steel.

### BENEFITS:

- More efficient and durable systems
- Increased performance
- Reduced maintenance costs

## VESPEL® SCP-50094

FOR HIGH TEMPERATURES AND WEAR RESISTANCE

SCP-50094 is a proprietary polymer designed for demanding applications that require high temperature and wear resistance.

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*Curbell is committed to providing machinists and fabricators with the very best plastic sheet, rod, tube, and film materials along with the best technical support and customer service. We have over 65 years of experience in the plastics industry and we look forward to using that expertise to meet your material needs.*

## DuPont™ Vespel® Distribution Centers

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