



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



The miracles of science™

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

1.888.287.2355 • www.curbellplastics.com



*Buy. Use.
Demand.*
AUTHENTIC

**THE SUCCESS OF
YOUR APPLICATION
DEPENDS ON IT.**

AUTHENTIC VESPEL®



VESPEL® SP-22

FOR LOW WEAR AND DIMENSIONAL STABILITY

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



The miracles of science™

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

1.888.287.2355 • www.curbellplastics.com



Buy. Use.
Demand.
AUTHENTIC

**THE SUCCESS OF
YOUR APPLICATION
DEPENDS ON IT.**

AUTHENTIC VESPEL®



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



The miracles of science™

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

1.888.287.2355 • www.curbellplastics.com



*Buy. Use.
Demand.*
AUTHENTIC

**THE SUCCESS OF
YOUR APPLICATION
DEPENDS ON IT.**

AUTHENTIC VESPEL®



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



The miracles of science™

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.

1.888.287.2355 • www.curbellplastics.com



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



The miracles of science™

©2011 Curbell Plastics, Inc. The DuPont Oval Logo, DuPont™, The miracles of science™ and Vespel®, Teflon® and Delrin® are registered trademarks or trademarks of E. I. du Pont de Nemours and Company or its affiliates. CAUTION: This product is not permitted for use in medical applications involving any implantation in the human body or where contact with internal body fluids or tissues will equal or exceed 24 hours. All other trademarks and service marks are property of the respective manufacturers. All statements, technical information and recommendations contained in this publication are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Curbell Plastics, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of specific products in any given application.

MAP0887C 0811

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

COLORADO

Curbell Plastics, Inc.
16236 East Airport Cir Ste 101
Aurora, CO 80011
Phone 303.537.3030
Toll Free 866.319.8723
Fax 303.537.3032

PHOENIX

Curbell Plastics, Inc.
405 N 75th Ave Bldg 1 Ste 100
Phoenix, AZ 85043
Phone 623.907.5240
Toll Free 800.227.7963
Fax 623.907.5250

SEATTLE

Curbell Plastics, Inc.
2105 51st Avenue East Ste 202
Fife, WA 98424
Phone 253.922.2900
Toll Free 888.501.4463
Fax 253.922.0500

ATLANTA 800.433.9756	COLORADO 866.319.8723	NEW ENGLAND 800.637.2763	PITTSBURGH 800.548.0650	SYRACUSE 800.446.4624
CINCINNATI 800.334.9699	DETROIT 800.354.4798	PHILA & NJ 800.831.2550	ROCHESTER 800.722.2140	VIRGINIA 888.349.8897
CLEVELAND 800.223.2725	FLORIDA 888.388.3417	PHOENIX 800.227.7963	SEATTLE 888.501.4463	WESTERN NY 800.544.1498



NATIONWIDE 1.888.CURBELL
www.curbellplastics.com