



# THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

## VESPEL®

|                             |   |  |
|-----------------------------|---|--|
| <b>Item:</b>                | Vespel® (polyimide)   |  |
| <b>Description:</b>         | <p>Meets Military Specification GE A50 TF146 Class A, ASTM-D 6456-99 Type 1, AMS 3644 Class 1, Mil-R-46198 Type 1</p> <p>Vespel® is a high performance polyimide material that combines heat resistance, lubricity, dimensional stability, chemical resistance, and creep resistance. Ideal for use in hostile and extreme environmental conditions.</p> <p>The Gund Company has the ability to machine Vespel® to close tolerances, ensuring we deliver, and you receive, the exact Vespel® machined parts you need.</p> <p>Several grades of Vespel® are available. For additional information on Vespel® plastic materials, contact your local Gund Company representative. Vespel® is manufactured by DuPont.</p> |  |
| <b>Applications:</b>        | <ul style="list-style-type: none"> <li>• Wear strips</li> <li>• Bushings</li> <li>• Thermal and electrical insulators</li> </ul>  |  |
| <b>Key Characteristics:</b> | <ul style="list-style-type: none"> <li>• Dimensionally stable</li> <li>• High wear resistance</li> <li>• Resistance to radiation</li> </ul>   |  |
| <b>Availability:</b>        | <b>Fabricated Parts:</b>  | The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers. |

Length, width, thickness, and diameter sizes are available in a wide variety, with the proper product specified for your particular application. Product colors will vary according to material type.

| Typical Properties  | Test Method | Vespel® Unfilled | Vespel® 15% graphite | Vespel® 40% graphite | Vespel® 10% PTFE, 15% graphite | Vespel® 15% Moly |
|---|-------------|------------------|----------------------|----------------------|--------------------------------|------------------|
| Specific gravity (lb/in³)   | ASTM D792   | 0.051            | 0.055                | 0.060                | 0.056                          | 0.058            |
| Water Absorption @ 73°F, immersion 24 hours (%)                         | ASTM D570   | 0.24             | 0.19                 | 0.14                 | 0.21                           | 0.23             |
| Water Absorption @ 122°F, immersion 24 hours (%)                        | ASTM D570   | 0.72             | 0.57                 | 0.42                 | 0.49                           | 0.65             |
| Tensile strength @ 73°F (psi)   | ASTM D638   | 12,500           | 9,500                | 7,500                | 6,500                          | 8,200            |
| Tensile strength @ 500°F (psi)  | ASTM D638   | 6,000            | 5,500                | 3,400                | 3,500                          | --               |
| Tensile modulus (psi)   | ASTM D638   | --               | --                   | --                   | --                             | --               |
| IZOD impact, notched (ft-lbs/in of notch)                               | ASTM D256   | 0.8              | 0.8                  | --                   | --                             | 0.4              |
| Flammability Rating   | UL 94       | V-O              | V-O                  | V-O                  | V-O                            | V-O              |
| Coefficient of Linear Thermal Expansion (x 10 <sup>-5</sup> in./in./°F) | ASTM D696   | 3.0              | 2.7                  | 2.1                  | 3.0                            | 2.9              |
| Dielectric Strength (V/mil) short time, 1/8" thick                      | ASTM D149   | 560              | 250                  | --                   | --                             | --               |

Data supplied above are typical values and are not to be considered specification values. All of the information, suggestions and recommendations pertaining to the properties and uses of the products herein are based upon tests and data believed to be accurate; however, the final determination regarding suitability of any material described herein for the contemplated application, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty, expressed or implied, including, without limitation warranty of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.