

WavePro® WP030

Ceramic filled PTFE dielectric for RF and mmWave applications (Dk=3.03 | Df=0.0009)

HIGH PERFORMANCE DIELECTRIC MATERIAL

The WavePro® family of dielectrics is engineered for use in demanding, high-performance RF and mmWave applications. Its precise formulation delivers a low-loss factor, superior mechanical and thermal stability, and unparalleled consistency, making it suitable for a broad range of commercial and military applications where performance and reliability are essential.



MADE TO ORDER PANELS, CURVED/CONFORMAL SURFACES, & 3D SHAPES

Available in a variety of form factors – panels, conformal surfaces, and 3D shapes – WavePro® dielectrics can be custom made to the size, thickness, and geometry required. The Dk value is not restricted to standard values and can be customized. Our expertise in materials science and manufacturing ensures repeatability and reliability between and within production batches.

Visit www.waveproantenna.com to learn more and order free samples.

TYPICAL VALUES

| Parameter | WP030 | Units | Condition | Test Method |
|---|---|-------------------|-----------------------|---------------------|
| Dielectric constant (Dk) | 3.03 | - | 5 GHz @ 23°C | IPC-TM-650-2.5.5.5 |
| Loss factor (Df/tan δ) | 0.0009 | - | 5 GHz @ 23°C | IPC-TM-650-2.5.5.5 |
| Moisture absorption | 0.03 | % | 24 hours/23°C | IPC-TM-650-2.6.2.1 |
| Thermal Coefficient of Dk (TCDk) ¹ | -31 | ppm/°C | 5 GHz -50 to 150°C | IPC-TM-650-2.5.5.5 |
| Coefficient of thermal expansion (CTE) ¹ | X: 42 Y: 36 Z: 40 | ppm/°C | -55 to 150°C | IPC-TM-650-2.4.4.1 |
| Volume Resistivity | 2.66 x 10 ⁸ | MΩ-cm | 1.5hr/ 25°C/90%RH | IPC-TM-650-2.5.17.1 |
| | 2.43 x 10 ⁸ | MΩ-cm | 96hr/35°C/90%RH | |
| Surface Resistivity | 9.50 x 10 ⁷ | MΩ | 1.5hr/ 25°C/90%RH | IPC-TM-650-2.5.17.1 |
| | 9.33 x 10 ⁷ | MΩ | 96hr/ 35°C/90%RH | |
| Tensile strength | X: 16.0 / 2316 Y: 14.9 / 2166 | MPa / psi | 23°C | ASTM D1708 |
| Density | 2.17 | g/cm ³ | 23°C | ASTM D792 |
| Flammability | V-0 | | - | UL-94V |
| Panel size | 18" x 24" (457 x 610 mm) Custom sizes made to order | | | |
| Panel Thickness | 10 to 375 mil Custom thicknesses made to order | | | |
| Conformal surface | Made to order | | | |
| 3D shape | Made to order | | | |

Notes:

1 - Data for other temperature ranges available. Contact Garlock for more information.



WP-030_06.2022_EN-NA

GARLOCK
an Enpro Industries company
Tel: 1-877-GARLOCK / 315.597.4811
Fax: 800.543.0598 / 315.597.3216
www.garlock.com

Garlock
Garlock Australia
Garlock de Canada, LTD
Garlock Taiwan

Garlock China
Garlock Singapore
Garlock Germany
Garlock India Private Limited

Garlock de Mexico, S.A. De C.V.
Garlock New Zealand
Garlock Great Britain Limited