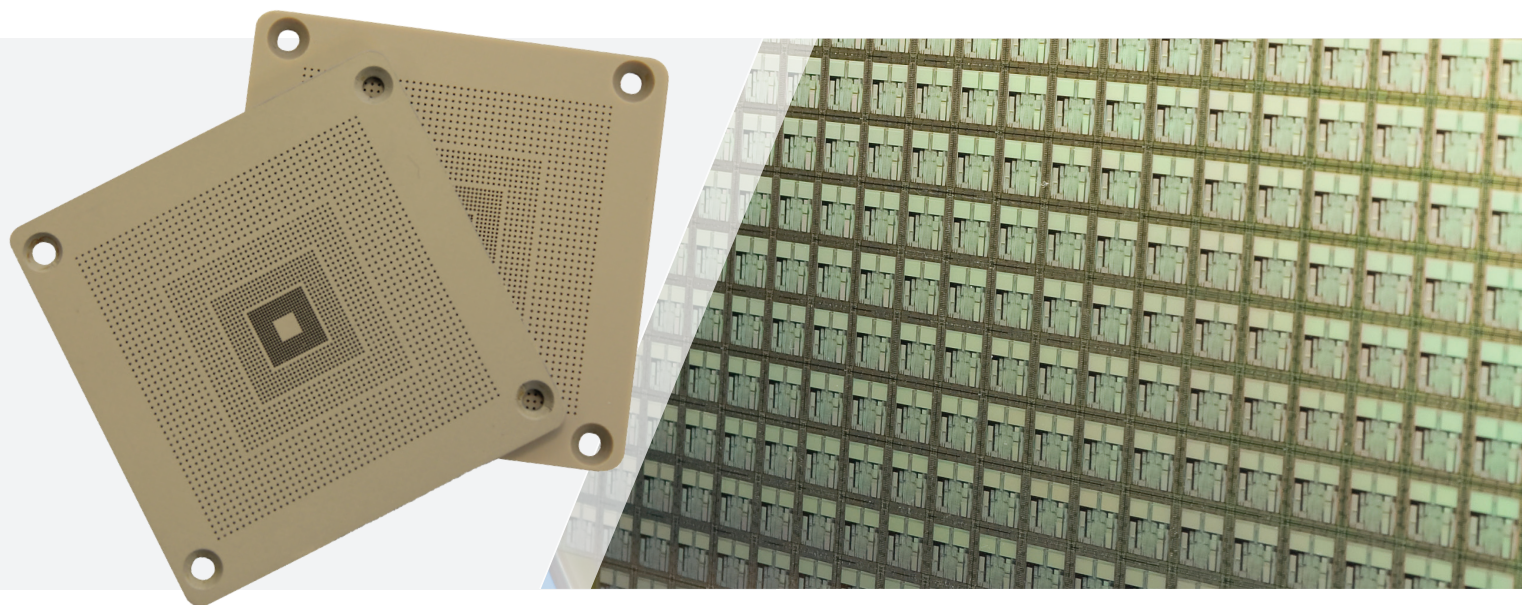


Kyron® GC-100

For the Burn In and Test Socket Market

Kyron® GC-100 is a non fiber filled injection molded polymer designed specifically for burn in & test socket applications that require an extremely high degree of stability yet also requires superior micro machinable.




Key Benefits

- Flexural modulus of over 1,000,000 psi
- Available in 10" x 10" plates of 6mm, 9mm or 12mm thick
- Tensile elongation of 3.0% for precise hole placement
- Extremely stable during usage, CTE of 1.85(x10⁻⁵th)

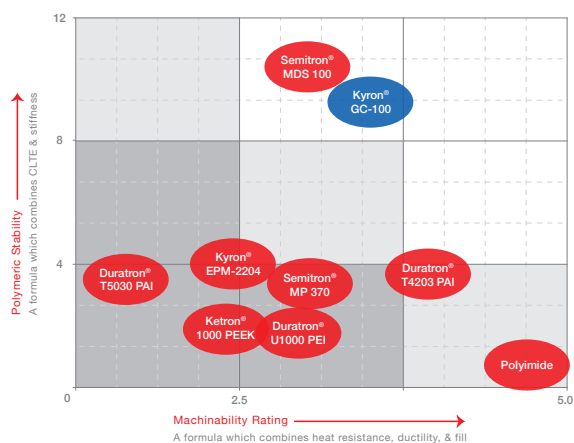
Kyron® GC-100 vs. Other High End Materials

| Properties | Method | Kyron® GC-100 | Semitron® MDS-100 | Vespel® SCP-5000 | Vespel® SP1 | Semitron® MP-370 | Kyron® EPM-2204 |
|-------------------------------|--------|---------------|-------------------|------------------|-------------|------------------|-----------------|
| Flexural Modulus (psi) | D790 | 1,100,000 | 1,400,000 | 836,000 | 450,000 | 625,000 | 750,000 |
| Tensile Elongation | D638 | 3.0% | 1.5% | 7.5% | 7.5% | 3% | 21% |
| CTE in/in °F, x 10, *X&Y axis | E831 | 1.85 | 1.1 | 2.6 | 3.05 | 2.5 | 2.0 |
| HDT @ 264 psi (°F) | D648 | 445° | 410° | 632° | 600°+ | 410° | 410° |
| Water Absorption | D570 | 0.09% | 0.1% | 0.1% | 0.24% | 0.1% | 0.37% |
| Relative Cost | | \$\$\$ | \$\$\$\$ | \$\$\$\$\$\$\$\$ | \$\$ | \$ | \$ |

Kyron® GC-100 provides engineers with a more stable material than Vespel® SCP-5000 at a reduced cost.

 = Superior Performance

Kyron® GC-100 Product Positioning



| Socket Type | Basic | Challenging | Demanding |
|-------------|------------|-------------|-------------|
| Hole Size | 0.6 - 0.4 | 0.4 - 0.3 | 0.3 - 0.1 |
| Pitch Size | 1.0 - 0.35 | 0.35 - 0.25 | 0.25 - 0.18 |
| Wall | 0.2 | 0.2 - 0.1 | 0.05 - 0.01 |
| I/O Count | 1000 | 2500 | 2500+ |

Test Socket Material

- **Versus GF-PAI** – Kyron® GC-100 provides the stiffness of GF PAI with improved small hole machinability & lower moisture absorption
- **Versus Standard Polyimides** – Kyron® GC-100 offers 2X higher stiffness, 2.5X less moisture absorption, 35% lower CTE and 2X better hole accuracy
- **Versus MDS-100** – Designed to complement MDS-100, offers relatively similar properties but available in thicker cross sections

Kyron® GC-100 Data Sheet

| | Property | Units | Test Method | Typical Average Value |
|-----------------------|---|---------------------------------|--------------------|-------------------------|
| Mechanical Properties | Specific Gravity @ 73°F | - | ASTM D792 | 1.52 |
| | Tensile Strength (at break) @ 73°F | psi | ASTM D638 | 16,000 |
| | Tensile Modulus of Elasticity @ 73°F | psi | ASTM D638 | 1,100,000 |
| | Tensile Elongation (at break) @ 73°F | % | ASTM D638 | 3 |
| | Shear Strength @ 73°F | psi | ASTM D732 | 11,000 |
| | Flexural Strength @ 73°F | psi | ASTM D790 | 24,000 |
| | Flexural Modulus of Elasticity @ 73°F | psi | ASTM D790 | 1,100,000 |
| | Compressive Strength @ 10% Deformation @ 73°F | psi | ASTM D695 | 23,000 |
| | Compressive Modulus of Elasticity @ 73°F | psi | ASTM D695 | 600,000 |
| | Hardness, Rockwell @ 73°F | - | ASTM D785 | M100/R123 |
| | Notched Izod (notched) @ 73°F | ft. lb./in. ² | ASTM D256 Type "A" | 0.7 |
| Thermal Properties | Coefficient of Linear Thermal Expansion | in./in./°F | ASTM E-831 (TMA) | 1.85 x 10 ⁻⁵ |
| | Heat Deflection Temperature @ 264 psi | °F | ASTM D648 | 445 |
| | Melting Point (crystalline) peak | °F | ASTM D3418 | 644 |
| | Continuous Service Temp in Air (Max.) ⁽¹⁾ | °F | - | 480 |
| | Thermal Conductivity | BTU-in./hr-ft. ² -°F | ASTM F433 | 2.36 |
| Electrical Properties | Surface Resistivity | ohms/square | EOS/ESD S11.11 | >10 ¹³ |
| | Flammability UL-94 @ 1.5mm (1/16 in.) ⁽²⁾⁽³⁾ | - | UL-94 | V-0 |
| Other | Water Absorption Immersion, Saturation ⁽²⁾ | % by wt. | ASTM D570 | 0.44 |

(1) Data represents Mitsubishi Chemical Advanced Materials estimated maximum long-term service temperature based on practical field experience.

(2) Specimens: 1/8" thick x 2" diameter or square.

(3) Estimated rating based on available data. The UL-94 Test is a laboratory test and does not relate to actual fire hazard.

Contact Mitsubishi Chemical Advanced Materials for specific UL "Yellow Card" recognition number.

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