



Choose **Ducoya** for superior performance and innovation that exceeds expectations
 ← explore our product range

Duvelco

Specialist Polyimide Polymers

Solutions for Critical and Demanding Applications



High Purity



Plasma Resistant



Ultra Low Outgassing

Bringing together high purity, plasma resistance and dimensional stability without outgassing even in an ultra-hard vacuum.

DUCOYA[®]

IN SEMICONDUCTOR



DUCOYA®

Specialist Polyimide Polymers

Ducoya polyimide is an excellent high temperature insulating material that can be widely used in semiconductor fabrication applications. Typical uses include test sockets, chamber furniture and wafer handling equipment. It is chosen for its excellent electrical and mechanical properties, plasma resistance, low outgassing, low particle generation and broad chemical resistance in semiconductor fabrication equipment as well as back end testing and wafer handling applications.

The Ducoya molecule has high bond energies and intermolecular attraction with enhanced stability derived from its cyclic nature. This is shown by its impressive maximum continuous use temperature greater than 400°C in a vacuum. This high-energy combination, coupled with high purity, keeps metallic contaminants, particle generation and volatile outgassing to negligible levels even in the hardest vacuums demanded by modern plasma-enhanced deposition equipment.

Ducoya is 'soft but strong', meaning it can effectively contact or hold a wafer securely without causing high stress levels within the wafer or damage to the wafer. It also has high toughness making parts highly resistant to mechanical damage, withstanding significant force without excessive plastic deformation or breakage. A high level of elastic recovery can usefully accommodate a thermal expansion mismatch between contacting materials without building excessive stress or cracking. This high level of durability and accommodation can be exciting for those experienced in the performance of ceramics and looking for more robust components compatible with the harsh environment.

PLASMA ENHANCED DEPOSITION

Clamp rings, focus rings, screws and fixings in plasma enhanced in chamber deposition processes.

PLASMA ETCHING

Plasma chamber furniture.

WAFER HANDLING AND DIE TRANSPORT

End effectors, pick up tips, contact pads, lift pins, wafer pads.

DICING

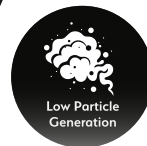
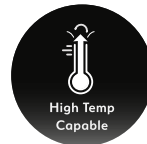
Plasma chamber furniture and cutting discs.

BACK-END TEST

Test sockets and probe cards.

G001

100% unfilled
PMDA-ODA polyimide,
specially formulated for balanced
properties, static sealing and
the highest physical strength.



Discover the pinnacle of polymer technology with our flagship product range, Ducoya G series. Meticulously researched, developed, and crafted to excel in high-performance, critical applications, Ducoya sets new industry standards.

Unlock Excellence
Ducoya by Duvelco
Redefining standards in
polyimide technology



Discover more about Ducoya

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