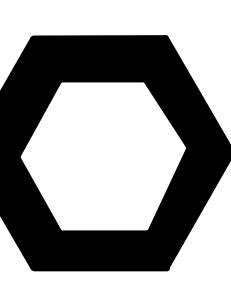


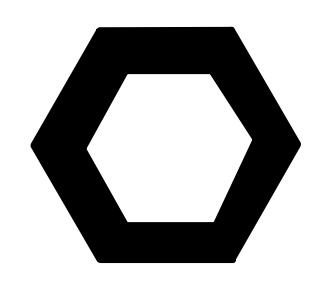
OUR PRODUCT



Single Crystal



Company Info.



Single Crystal



Company Info.

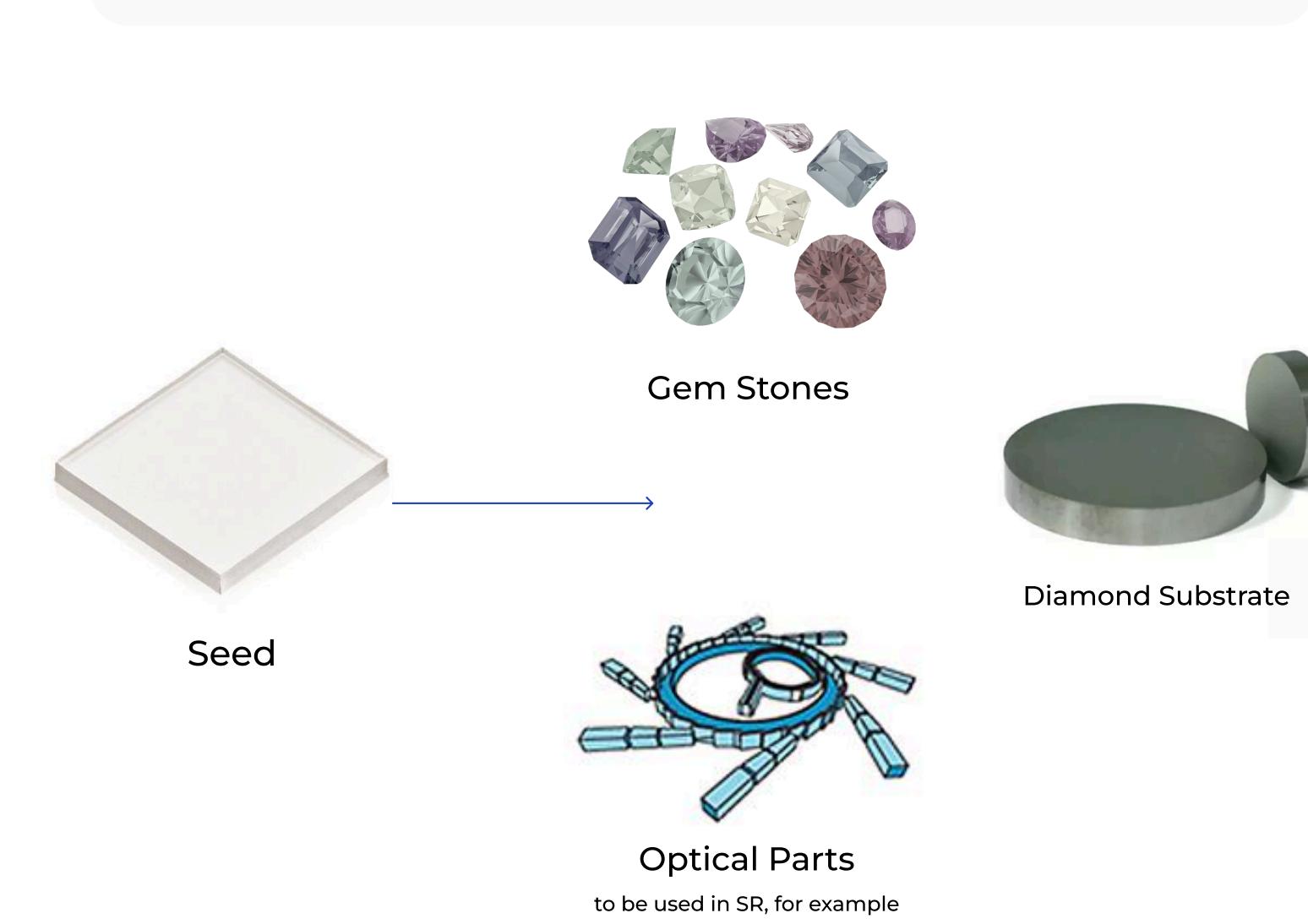
Thermal Grade Applications:

- RF Power Devices
- Power Semiconductors
- High Speed Processors
- Radar Amplifiers
- High powered laser diode arrays
- LEDs
- Multi-chip power module packages
- Flip chip

Property	Value
Bulk Resistivity (ρ_v)	1x Ohm cm
Surface Resistivity (ρ_s)	1x Ohm cm
Thermal Conductivity	>1000 W/mK @293K
Thermal Diffusivity	>5.5 @ 300 K
Thermal Expansion Coefficient	10 ± 0.1 @ 300 K (ppm/K)
Thermal Expansion Coefficient 2	4.4 ± 0.1 @ 1000 K (ppm/K)

Specifications and Tolerances:

- Lateral Tolerance : +0.2/-0 mm
- Edges : Laser Cut
- Edge Features : < 0.2 mm
- Laser Kerf : 3°
- Thickness Tolerance : +/- 0.05 mm
- Side 1, Roughness Ra : polished, Ra < 50 nm
- Side 2, Roughness Ra : lapped, Ra < 250 nm



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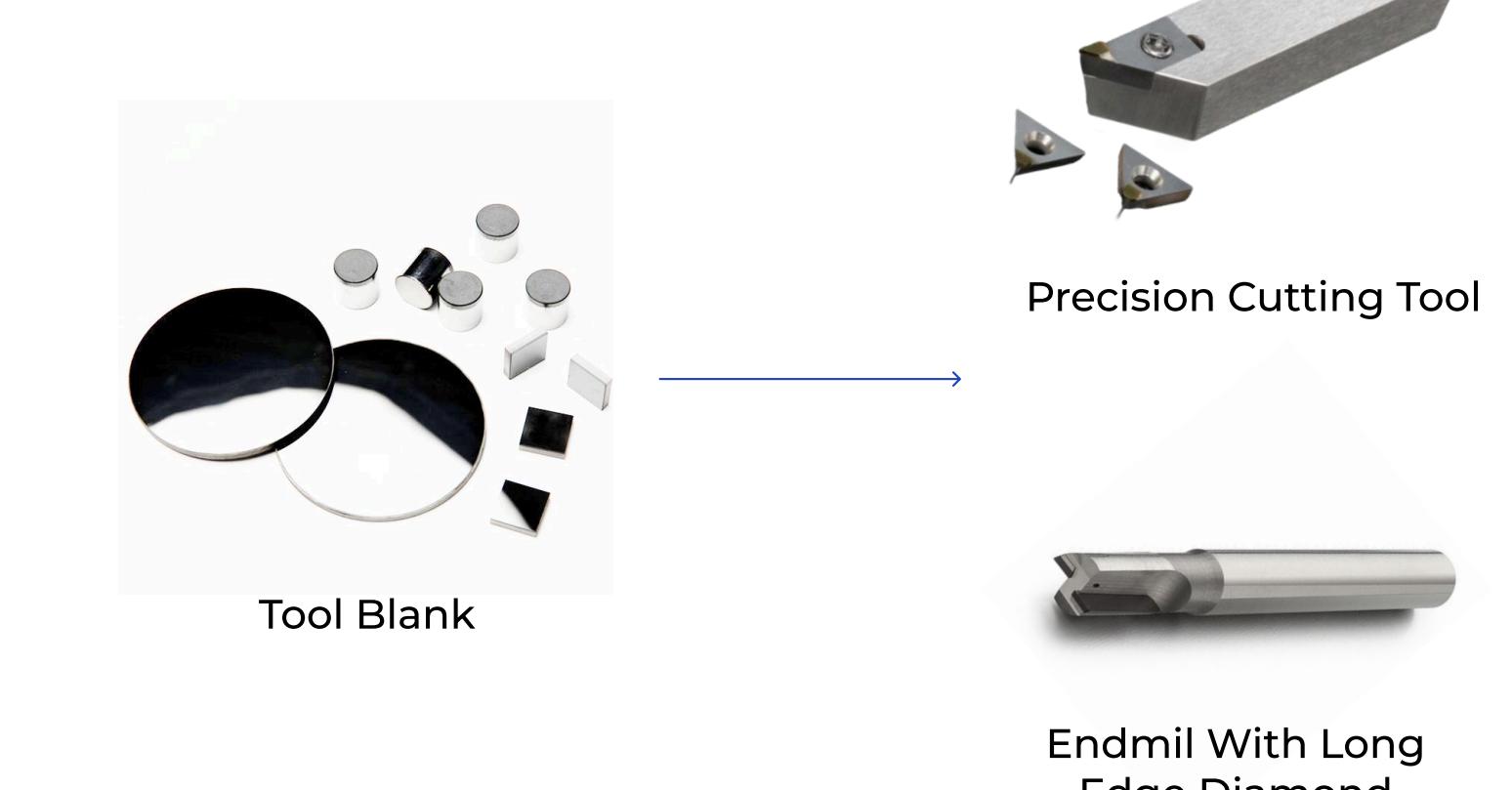
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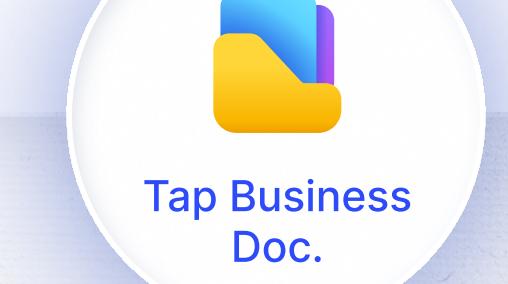
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Company Info.

- 200+ machines across vertically integrated facilities
- 700+ workforce powering precision manufacturing
- Ultra-pure diamonds for industrial and luxury segments
- Decades of CVD expertise and crystal engineering
- Setting benchmarks in quality, sustainability, and scalability
- Designed for quantum, research, and industrial systems

In-House Infrastructure

- Diamond Cutting, Polishing, and laser Processing Units
- Jewelry Manufacturing Division



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Core Business Divisions

1. Industrial Diamond Solutions

- Polymerized and Single-Crystal Diamond Wafers
- Thermal-Grade Diamonds for Electronics, Aerospace, and Defense Applications
- Optical-Grade Diamonds for Laser Optics, IR/X-ray, and Photonics
- Quantum materials: NV-Center Engineering, GaN-on-Diamond
- Electrochemistry: HBD Facetools & Sensors
- General-Purpose Precision Parts

2. Gem & Jewellery Division

- GIA, EGL, GCL, Certified Diamonds (0.30 to 10+ Carats)
- Fancy Shapes, Custom Cuts, White-label Inventory
- Global B2B supply Across USA, Europe, and Australia
- In-House Jewelry Design and Manufacturing

3. Advanced P&D & Applications

- GaN-on-Diamond for RF Power Systems
- Tailored CVD Substrates for Photonics and X-ray lithography
- Custom Platforms for Semiconductor, Optical, and RF Markets

4. Smart locker Systems — The Mail Whale (TMW)

- URR Engineered Digital Parcel locker Solution
- Encrypted, API-Connected Smart lockers
- Point Relocation to Residential Projects, Expansion to Corporates, Campuses, Logistics
- Enhances Delivery Security, Automation, and Efficiency



Microwave System

- Maximum Output Power 0.8-1.0 MW Continuous, scaling up to 10 kW
- Frequencies 349 MHz - 2.4 GHz
- Advanced microwave system for precise diamond or material growth

Yacine & Gas Control

- Ultrahigh Vacuum 10^-11 Torr
- Advanced Gas Flow Control, Si, CH4, N2, O2
- Ensures precise gas environments and optimized process flow

Temperature & Pressure Monitoring

- Temperature Profiling 300°C to 1000°C
- Real-time monitoring for consistent profile during deposition

Single-Crystal CVD Diamond Wafers

- Designed for extreme low dislocation in microelectronics and photonics environments
- Thermal Conductivity >1500 W/mK
- Transmission Efficiency >95% at 10.6 μm
- Resistivity: Ra < 1 nm (both sides)
- Production: Ra < 0.5 nm

Thermal Management Products (TIP) Series

- Designed for extreme low dislocation in microelectronics and photonics environments

Optical Diamond Plates (ODP) Series

- High-power plates designed for CO2 lasers, IR, optics, and RF windows

Quantum Diamond Plates (QDP) Series

- Designed for NV center applications in sensing, computing, and radiation detection

Wax Chisel LSR

- Power-Diamond Engineering System
- Large-scale diamond synthesis for high-pressure, high-temperature CVD growth, diamond processing, stability, and durability

Atomic Precision & Calibration

- Atomic-level crystal engineering for quantum, optical, and electronic applications

Scalable Growth Platform for R&D to Mass Production

- In-house MPVCD system design for specialized use cases

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