Cutting Edge Precision  
Laser Focused

Improve Part Quality   Extend Tool Life
Increase Throughput    Quick Payback
The Patented Solution

- The laser beam passes through an optically transparent diamond tool
- Innovative solution proven through extensive research & development
- Laser delivered precisely at tool-workpiece interface
- Proprietary technology protected under international patents

OPTIMUS $T^{+1.X}$ Key Components

- Accommodates conventional diamond tools for non-laser machining.
- The optical assembly is isolated from the tooling for enhanced stability.

Proprietary Tool Design

Micro-LAM is the exclusive provider of Diamond Tools for use with the OPTIMUS $T^{+1.X}$
Calcium Fluoride

- Faster part machining up to 3X
- More in-spec parts per tool
- Improved surface finish

Tungsten Carbide

- Extended tool life
- Minimize or eliminate polishing
- Enhanced mechanical & optical integrity

Conventional

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Visible surface & sub-surface damage

Uniform surface

Ground

Micro-LAM

- Precision glass molding applications
- Improved accuracy & surface quality
- Deterministic form generation
- More in-spec parts per shift

- Up to 7X faster than grinding
- Significantly minimize polishing
- Enables fine features & complex geometries
Silicon

- Extended tool life up to 4X
- Reduced sub-surface damage
- Improved surface finish
- Enhanced mechanical & optical integrity

- Faster part machining up to 5X
- More in-spec parts per tool
- Reduced polishing for large parts
- Capable of parts > 300mm dia.

Zinc Sulfide

- Faster part machining up to 4X
- More in-spec parts per tool
- Extended tool life

- Improved surface finish up to 4X
- Reduced haze & pitting
- Enhanced mechanical & optical integrity
Germanium 2.4 µm/rev

Sq = 0.796573 nm
Sa = 0.635119 nm

Gaussian Filter: 80um

Sample name  | Ge_44mm_asphere
Sample type   | Asphere (CC)
Sample description | Ge 38.4mm CA CC
User       | D2
Metrology system / Software version | Lumphiscan260 / 1.4.2
Date         | Apr 10, 2019 - 10:45:06

Elapsed time [min]  | 3:21
Spiral pitch [mm]    | 0.15
Data density [mm²]   | 44
Data points          | 75807
Temperature [°C]      | 22.9
Aperture [mm]         | 38.4
Mean value filter [mm] | 0.4
Slope error band [mm] | 1.0
Spheric radius optimization | compensated
Deviation            | orthogonal
Tilt X / Y ['] (c)   | 254.06 / 11.21
Off-center X / Y [µm] (c) | 55.537 / 2.853
Optimized base radius [mm] (c) | -45.51722
Power deviation [µm] [c] | -44.796
Peak to valley 100 / 99 [µm] | 0.134 / 0.110
Root mean square [µm] | 0.022
Slope error ave [mrad] (X,Y) | 0.023
Slope error max [mrad] (X,Y) | 0.081 (-11.93 , 3.23)
Slope error rms [mrad] | 0.015
Astigmatism [µm]     | 0.025