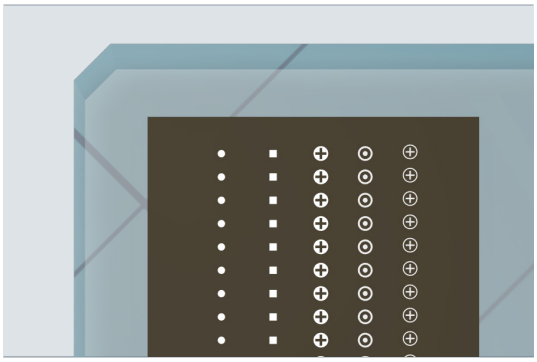
MATERION
// BALZERS OPTICS

Sub-micron level Patterning

Single and multimaterial stacks



Materion Balzers Optics seamlessly integrates ultra-high-resolution patterning with advanced coating technologies. Our unique advantage lies in delivering a comprehensive suite of sub-micron patterning solutions, enabling the creation of optical components with features and tolerances at the cutting edge – meeting the needs of next-generation photonics, sensing, and imaging applications.
Our holistic approach combines sub-micron patterning, filter coatings, and assembly under one roof, ensuring optimal compatibility and performance. Our state-of-the-art processes eliminate patterning artifacts. Plus, our engineers specialize in the design and fabrication of optical sub-groups at the sub-micron scale, maximizing the benefits of our advanced optical components.

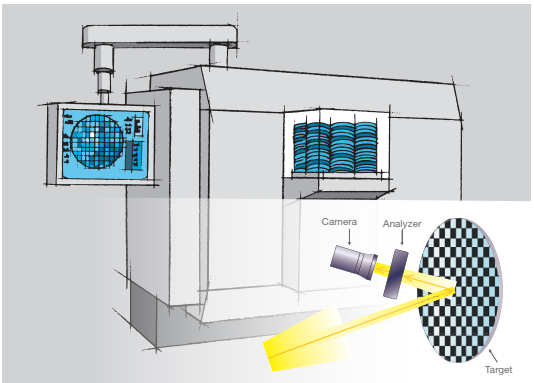
Benefits

- Integrated Solutions: Seamlessly combine sub-micron patterning with high-performance coatings, assembly & singulation
- Excellentdevelopmentsupport
- High capability on patternable materials. Including multi material stack patterns.
- Low stress

Applications

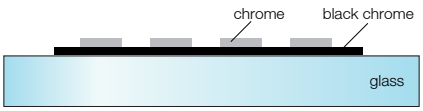
- Calibration targets
- Beam Shaping (Apodizer)
- Reticles
- Projection

Application: Camera Calibration for Metrology Equipment



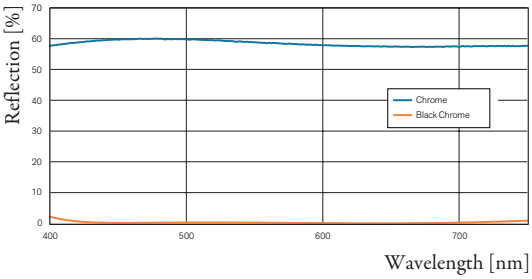
Technical Data

Dimensions	
Substrate Size	up to 8” substrates
Minimal feature size	500 nm
Feature accuracy	+/- 100 nm
Overlay accuracy	+/- 300 nm
Defects	
ISO 10110-7	5/3x0.004
Patterns	≤ 1 um pin dots
Typical Materials	
Absorptive patterns	Black Chrome, black laquer
Reflective patterns	Chrome, Titanium, Aluminium, Silver
Mirror patterns	Silflex, Alflex



Black chrome and chrome stacked on same side of glass plate. Ensuring high contrast by eliminating glass influence for calibration targets.

Contrast of Black Chrome vs. Chrome



High and homogenious contrast over full visible spectrum.