

Patterned Chrome

The Challenge

Chrome patterns on planar components are widely used in the optical and semiconductor industry. Materion Barr Precision Optics & Thin Film Coatings emphasizes high resolution and low defect patterns in our product - optionally in combination with low defect functional coatings. In most applications, it is important for the chrome transmittance and reflectance to be low.

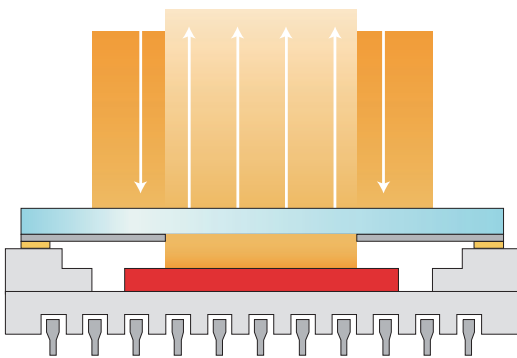
Benefits

- Excellent adhesion on glass
- Low reflectance, low transmittance
- High resolution patterns possible
- High cosmetic performance (Low pinhole density)

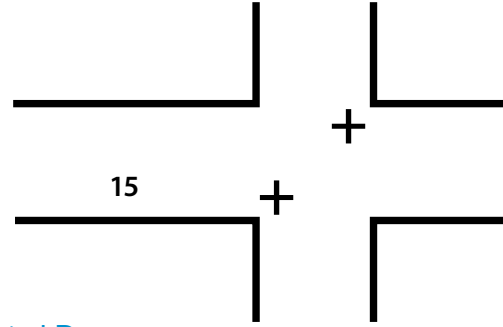
Applications

- Apertures on lids for microdisplays (front projection)
- Masking of patterned filters for optical sensors
- Masking of color filters for light projection
- Masks for photolithography
- Alignment marks and patterns

Patterned Chrome applied as aperture defining a light beam of a projected picture.



Materion is a global advanced materials company, dedicated to providing solutions that enable our customers' technologies and drive their growth. Our products include precious and non-precious specialty metals, precision optical filters, inorganic chemicals and powders, specialty coatings, specialty-engineered beryllium alloys, beryllium and beryllium composites, and engineered clad and plated metal systems. The Materion business is structured to enhance our ability to provide customers with innovative, best total-cost solutions.



Technical Data

Chrome MRC Transmittance

- OD > 3

Chrome MRC Reflectance

- R = 28% at 436nm

Chrome LRC Transmittance

- OD > 3

Chrome LRC Reflectance

- R = 13% at 436nm

Minimum feature size

- 5 μm

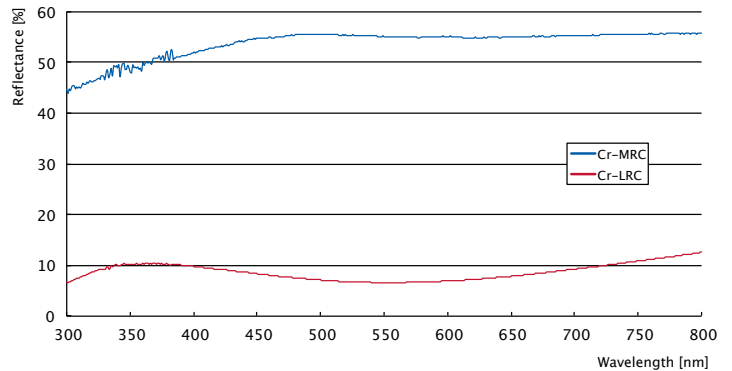
Critical dimension

- ±1 μm

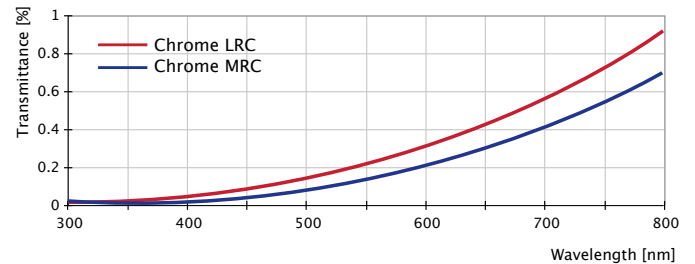
Typical substrate sizes

- 200 mm round, 5" square

Chrome Reflection



Chrome Transmittance



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