

# DEPOSITION SCIENCES, INC.

A LOCKHEED MARTIN COMPANY

## THIN FILM COATING SOLUTIONS

DSI produces a variety of highly reliable, durable, and heat-resistant custom optical coatings. Our exclusive technologies and custom deposition chambers offer coatings from the visible (VIS) through the midwave infrared (MWIR).

In addition to offering standard products, we work in close collaboration with our customers to develop innovative coatings that achieve specific performance requirements. Known for our strong engineering services, we seek to understand your needs and provide creative solutions for real-world applications.

DSI serves many markets and industries with our filters, flexible materials, and patterned aperture coatings (dark mirrors):

- Satellite
- Military
- Aerospace
- Defense
- Space
- Sensing
- Autonomous
- ISR



### COATING TYPES

- Low Observables
- Patterned Apertures
- Notch Filters
- Bandpass Filters
- Beamsplitters
- Sunshade® Thermal Control Film
- VIS, SWIR, MWIR Filters
- Cold Filters
- Absorbing Coatings (Dark Mirrors)
- Shortwave/Longwave Pass Edge Filters

Optical coating wavelengths range from 400nm to 5um

### FEATURES

#### Custom Optics

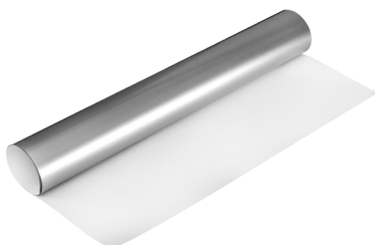
- Custom Single and Multiband Bandpass, Edge, and Notch Filters
- Coating materials covering VIS, SWIR, and MWIR
- Patterning capability for multispectral coatings, fiducials, apertures

#### Typical Substrates (up to 4" diameter)

- Optical Glass
- Fused Silica
- Silicon
- Al<sub>2</sub>O<sub>3</sub>/Sapphire
- n-BK7
- Germanium

#### Flexible Coatings

- High performance coatings generated in a batch process
- Maximum physical size is 30" by 120"
- Lightweight





## Sunshade® Thermal Control Material

*(Space qualified and flight proven)*

### Typical Flexible Substrates

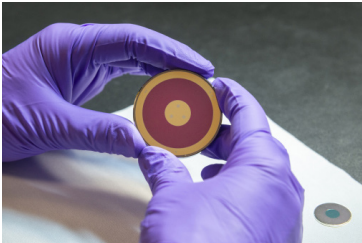
- Polyimide
- Polyester (PET)
- Naphthalate (PEN)
- Fluoropolymers
- Polycarbonate
- Polyetherimide
- Polyethylene

## SERVICES

DSI has the expertise to participate at any level of your product development. From engineering to prototyping to full-scale manufacturing, we will work with you to develop practical specifications, designs, and manufacturing techniques to meet your requirements.

## TEST AND MEASUREMENT

Quality testing capabilities include measurement of in-house produced products. Our quality system is ISO 9001:2015 certified. A portion of our test and measurement capabilities are summarized below:



### Spectral Measurement Capabilities

- Reflectance and Transmittance
- Spectral Range 0.190 – 50 microns
- Multiple Angles of Incidence
- Temperature Range 15K to 335K
- Polarized Measurements (S&P)
- Hemispherical Transmittance and Reflectance (0.2 – 2.5 microns)



### Environmental Testing

Environmental Testing can be performed in accordance with various military specifications, including MIL-C-48497 and MIL-F-48616.

- Humidity
- Abrasion
- Adhesion
- Salt Fog
- Temperature Cycling
- Solubility & Cleanability

### Physical

- Flatness, Reflected Wavefront
- Error, Transmitted Wavefront
- Error on up to 4" Diameter Samples
- Dimensional Verification
- Surface Quality
- Surface Resistivity
- Surface Roughness