

# DEPOSITION SCIENCES, INC.

A LOCKHEED MARTIN COMPANY

## EDGE FILTERS / DICHROIC FILTERS FOR LONG AND SHORTWAVE PASS

Technical Data Sheet



### PROCESS/PRODUCT DESCRIPTION

Edge filters, also sometimes called dichroic filters, are coatings that include short wave pass and long wave pass filters. Specifically, these coatings transmit one range of wavelengths while blocking another. They are distinct from bandpass and notch filters in that they either pass wavelengths above (long wave pass) or below (short wave pass) a given single wavelength value, rather than a limited band of wavelengths within a range. DSI edge filters are distinguished by excellent durability with no wet/dry shift.

### APPLICATIONS

- Military imaging, target designation, and countermeasures
- Hyperspectral, Multispectral imaging and sensors
- Autonomous Vehicles
- Laser blocking
- Electro Optic Targeting Systems (EOTS)
- Payload Sensors

### BENEFITS/ADVANTAGES

- High in-band transmission
- Sharp cut-on and cut-off slopes
- Excellent out-of-band blocking
- No wet/dry wavelength shift

## TECHNICAL SPECIFICATIONS

DSI utilizes our proprietary MicroDyn™ sputtering methods for the fabrication of edge filters. That enables us to tailor coating performance, cost and durability to meet your particular performance specifications and budget.

DSI employs this technology to deliver thermal and humidity stable durable coatings from the VIS to the SWIR making it ideal for many aerospace, military and space applications. Because MicroDyn™ deposition can be accomplished at relatively low temperatures, these edge filter coatings can be applied to a wide range of substrate types, including n-BK7, fused silica, sapphire, and various glasses.

## CUSTOMIZATION

DSI custom manufactures a wide selection of edge filters for use at wavelengths ranging from the ultraviolet through near-IR. The designs can be optimized for various performance characteristics, including high in-band transmission, strong out-of-band blocking, polarization insensitivity, and sharp transitions between the passband and blocking region. DSI edge filters are distinguished by excellent durability with no wet/dry shift.