



# DIELECTRIC COATINGS

## FOR OPTICS SIZE UP TO 2 METERS

- ENHANCES OPTICAL SYSTEMS PERFORMANCES
- PROTOTYPES TO SMALL VOLUME PRODUCTION
- HIGH REFLECTIVITY MIRRORS, BEAMSPLITTERS, AR COATINGS, FILTERS, FOR HIGH POWER LASERS, SPACE, ASTRONOMY, DEFENSE, ETC.
- DENSE COATINGS SUITABLE FOR SEVERE ENVIRONMENTS
- FLEXIBLE DESIGNS FOR ANY SPECTRAL BANDWIDTH BETWEEN 250 nm AND 2.5  $\mu\text{m}$



# DIELECTRIC COATINGS

## SOLUTIONS FOR COMPLEX COATINGS

Since the years 2000, CILAS has been using a wide range of coating technologies from classical evaporation to ion beam or magnetron sputtering, for components from less than 5 mm up to 2 meters and for all kind of markets. Thanks to its unique expertise in both optical functions design and coating processes, the most complex functions can be achieved on large dimensions.

### The dielectric coatings main references

- > Chemcam dichroic for Mars Curiosity rover and Supercam for Mars2020
- > IRDIS filters and CPI beamsplitters for SPHERE instrument on ESO Very Large Telescope
- > Primary mirrors for large telescopes
- > Large AR coatings for microelectronic industry

Features of dielectric coatings	
Substrate materials	Silica, Zerodur®, various glasses
Substrate shapes	Lenses, windows
Substrate dimensions	Up to 2 meters
Coating type	Multilayer dielectric coatings: <ul style="list-style-type: none"><li>- bandpass filters</li><li>- beamsplitters</li><li>- high reflectivity mirrors</li><li>- AR coatings</li></ul>
Coating materials	Oxides
Process temperature	100 to 150°C
Coating thickness	Up to 10 µm
Cosmetics	5/C 1x0.16 per 25 mm pupil according ISO 10110-7
Environmental compatibility	Suitable for severe environments

### MAJOR APPLICATIONS

Fields of application

- > Industry
  - Volume production for AR and metallic coatings
- > Astronomy
  - Large dichroics and AR coatings
- > Space
  - Optical filters up to 200 mm diameter in high volume for a better yield
  - Microstructured components involving photolithography techniques
- > Large scientific equipments: components suitable for LIDT, from AR, dichroics to high performance mirrors up to 400 mm
- > Defence: complex coatings for laser designators, telemeters, sniper detectors, etc.

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