

LUNEBERG LENSES

# Passive Radar Reflector



/ Significant RCS enhancement

/ Calibrated in anechoic chamber

/ Homogeneous response  
within a wide angle

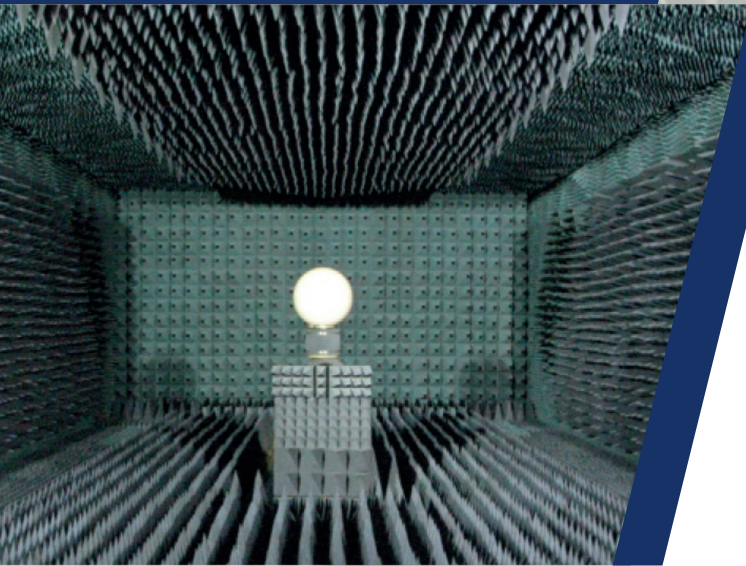
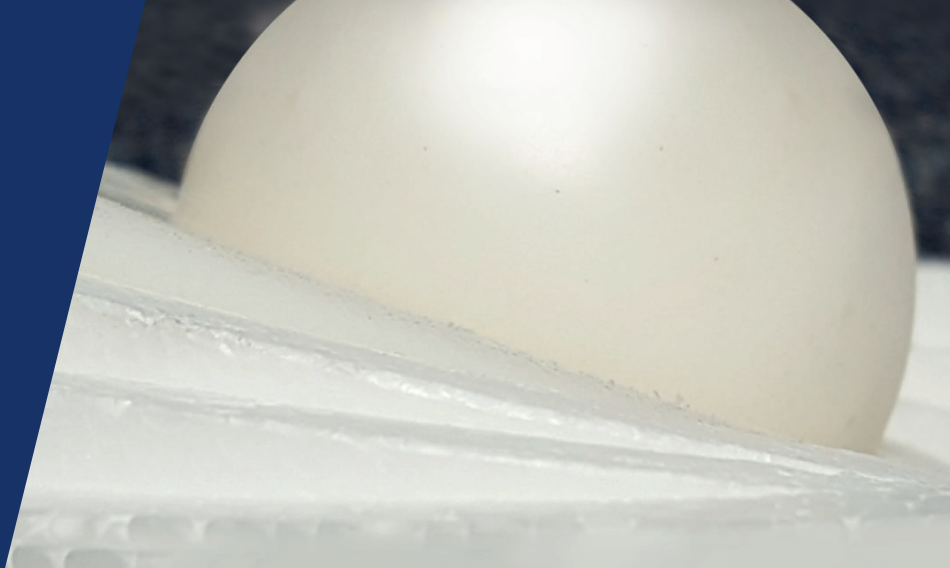
/ Unmatched performances



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# LUNEBERG LENSES

## Passive Radar Reflector



### Response according to the incident wave :

- Cone with an opening angle of  $90^\circ$  to  $140^\circ$ , called « classic »
- Equatorial zone, called « belt »
- Omnidirectional response with the assembly of several reflectors
- Circular polarization response with no direction inversion

### Range characteristics :

- Min. RCS guaranteed :  $0.2 \text{ m}^2$  to  $250 \text{ m}^2$
- Polarization : rectilinear or circular
- Type of radar : monostatic or bistatic
- Diameters available : 3 to 24 inches

## DESCRIPTION

Luneberg reflectors are spheres made of concentric dielectric layers with a metal-plated reflecting surface, encapsulated in a watertight fiberglass shield.

This device significantly enhances the radar cross-section of any system with little or no RCS and gives a remarkably homogeneous response within a wide angle.

Depending on the model, and according to their final use, Luneberg reflectors can reflect incident energy coming from various directions back in a specific zone.

## MILITARY APPLICATIONS

This type of reflector allows target spotting for live fire training purposes involving radar-guided missiles and can be integrated to air targets, whether towed, propelled or jetpowered.

As far as the equipment of naval targets is concerned, reflectors are fixed on watercraft to amplify their radar signal.

For calibration purposes, Luneberg reflectors allow to accurately assess radar range.

## CIVIL APPLICATIONS

This technology can also be used in satellite communication with multiple beam antennas, airport, sea and river beaconing, as well as in the air navigation aids.



The technical data contained in this document is presented for reference.  
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