



# Air-Supported Radomes

## SUPERIOR membrane system

- Unsurpassed RF Performance  
S-Band / X-Band



- Extreme Environmental  
Protection



- Proven Reliability



- Low Life-Cycle Cost



[duol.eu/radome](http://duol.eu/radome)

DUOL inflatable radomes protect antenna systems while providing outstanding electromagnetic transmission performance throughout a broad range of frequencies including S-Band and X-Band. The following are just some of the benefits that DUOL radome can provide for an antenna system:

	<b>DUOL radomes</b>	<b>Conventional radomes</b>
Construction material	<b>Inflatable, high-performance membrane</b>	Composite material
Signal loss	<b>Practically nonexistent</b>	High, depending on the material
Installation time	<b>Max. couple of days</b>	Measured in weeks
Project costs	<b>A fraction of conventional radome</b>	Depending on size
Maintenance	<b>Minimal, mostly visual inspection</b>	Painting, etc.
Downtime	<b>Minimal</b>	Longer than with inflatable radomes

Other benefits:

- 24/7 operation regardless of weather conditions
- Cover all sizes of the antenna systems
- Flexible installation options. Easy to cover also existing antenna systems
- Operation on remote locations with remote control
- Preserves critical system alignments, thus ensuring predictability, repeatability, consistency and reliability
- Improved pointing and tracking accuracy
- Reduced operating and maintenance costs
- Reduces antenna and pedestal costs, as they will be housed in a zero-wind environment
- Minimized system downtime
- Extended system & component life
- Provided concealment during system upgrades (for those concerned with security)

## Unsurpassed RF Performance

The primary function of a radome is to protect the enclosed antenna system while having minimal effect on the transmission of the electromagnetic signal.

DUOL radomes utilize high strength materials to create the protective spherical envelope. Since it is supported by internal air pressure, the radome requires no rigid structural framework that can cause additional disruption and scattering of the electromagnetic signal. This provides the best broadband electromagnetic performance of any antenna envelope-type.

## Extreme Environmental Protection

DUOL PVDF/PVF coated fabrics have been analyzed and tested for structural application to all environmental conditions. PVDF/PVF is one of the most inert and chemically stable polymers in use today and offers a broad spectrum of chemical protection.

## Proven Reliability

The materials used for radome fabrication are composites consisting of a woven substrate fabric protected with applied coatings, providing tensile strength and tear resistance.

## Low Life-Cycle Cost

DUOL radomes offer a long life cycle for lower overall costs. The PVDF/PVF coating provides superior life-long hydrophobic performance, so no reapplication of surface finish is ever required.

## Reliable pressurization system

2-HP motors continuously operate in DUOL radome (secondary blowers and ancillary equipment as required). Furthermore, the internal air pressure from the pressure system offers constant tension, therefore, no re-tensioning of the material is required. Consequently, minimal maintenance is required for the pressure system. The robust, reliable pressurization system design means only minimal periodic prevention is required.