



L-3 ESSCO randomly orients multiple panels comprising of dielectric frames of fiberglass to make these spherical structures. Dielectric Space Frame (DSF) radomes are suitable for EMI test facilities and low-frequency communications (< 1 GHz).

KEY FEATURES

- Optimizes electromagnetic performance
- Use of proprietary materials for more structurally sound radomes
- Easy to install
- Customized shapes for reduced tower loads or radar cross section

CONSTRUCTION AND MATERIALS

In constructing our DSF radomes, L-3 ESSCO utilizes pultruded fiberglass beams where resin-to-glass ratios are carefully controlled to optimize electromagnetic performance. Attached to each beam is a proprietary electrically thin laminate called ESSCOLAM™, to which DuPont™ Tedlar® is permanently bonded specifically for radome applications. The combination of these two materials makes for a more structurally sound radome than the low-cost wet lay-up processes traditionally employed by other manufacturers of DSF radomes. L-3 ESSCO recommends using DSF radomes only for applications under 68 ft. (20.7m) in diameter.

ELECTROMAGNETIC PERFORMANCE

L-3 ESSCO's DSF radomes perform very well at frequencies below 1 GHz, with performance nulls at other discrete frequencies. Properly designed tuning can enhance performance, but the Venetian blind effect can negate any advantages gained.

Military vehicle image courtesy of Thales; shipboard radome image courtesy of Harris Corporation.

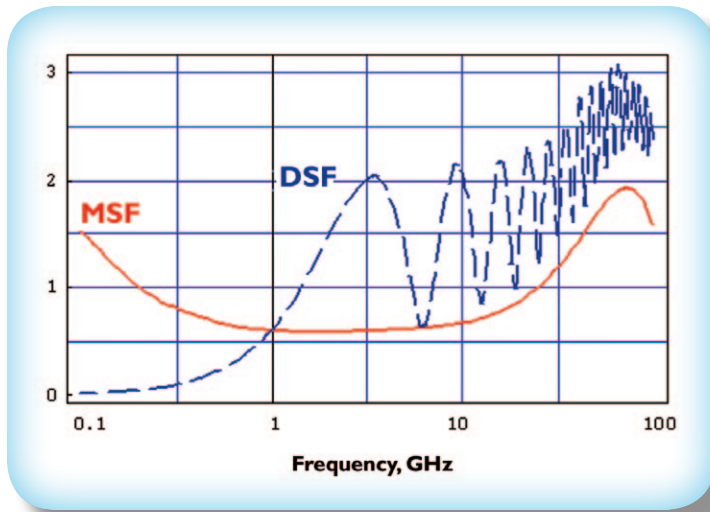




STANDARD SIZES

Sizes range from 6 to 68 ft. (1.8 to 20.7m) in diameter.

Please contact us for detailed size and structural considerations for large DSF radomes.



Metal Space Frame (MSF) vs. Dielectric Space Frame (DSF) Transmission Loss, dB.

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