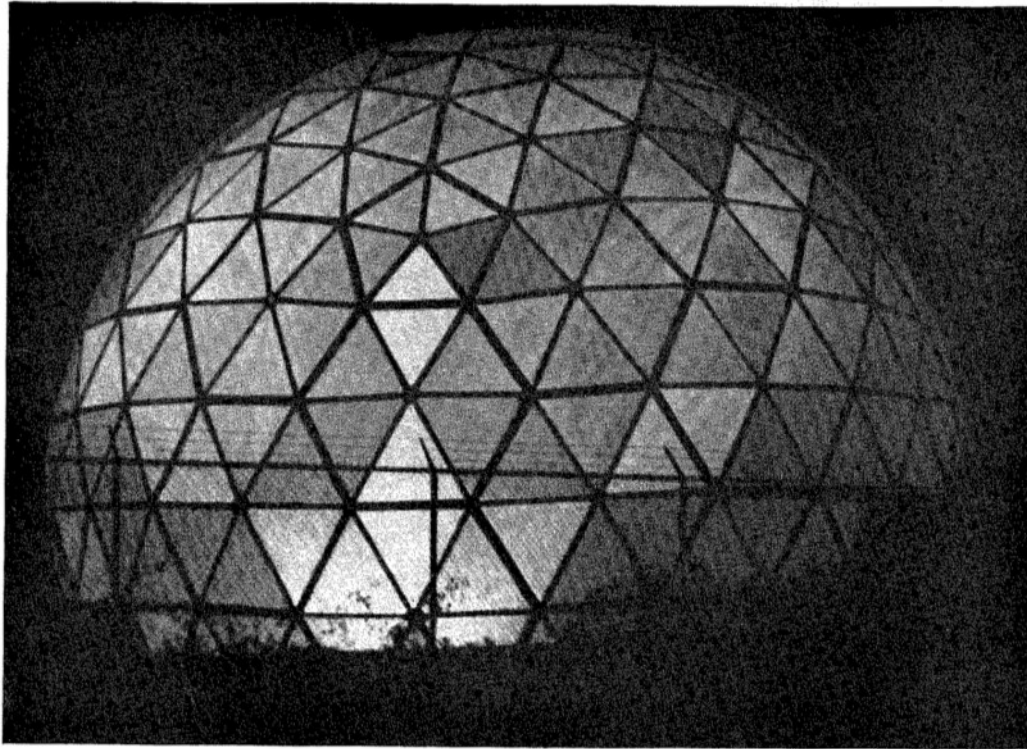




Geodesic Rigid Radomes



8384

RADAR aerial heads are usually sited in exposed positions and so are subject to extremely heavy stresses from weather elements which necessitates heavy-duty construction. By enclosing the radar head in a radome, which does not impair the efficiency significantly, complete protection can be afforded, and both capital and running costs reduced.

Features

- Minimum attenuation of radar beam.
- Robust, self-supporting structure capable of withstanding winds of up to 150 m.p.h.
- Constructed of fire-retarding polyester-resin with glass reinforcement.
- Individual panels colour-coded to make assembly easy.
- Life expectancy of not less than 10 years.

CONSTRUCTION

The radomes are erected on site from geodesic panels which are bolted together through pre-drilled holes. The panels,

usually diamond-shaped, consist of a frame of polyester-resin with glass reinforcement supporting a thin membrane to provide the 'radar window'. When bolted together they form a self-supporting structure of triangular windows which permit virtually uninhibited radar performance.

The moulding technique employed in the panel construction ensures a high degree of consistency throughout. The heat and pressure applied during the moulding cycle, together with the air-bleed arrangements, provide a consolidated, high-quality laminate, essentially void-free and satisfying a very rigorous specification.

Data Summary

- Ambient temperature range:** -50° to $+80^{\circ}$ C.
- Wind loading:** Up to 130 knots (150 m.p.h.) maximum.
- Ice loading:** Maximum loading 8 in. (20.3 cm) on upper quarter of radome or 16 in. (40.6 cm) rime ice on entire structure in combination with 87 knot winds. (In practice ice formation does

not usually amount to more than $\frac{1}{2}$ to 1 in. (1.3 to 2.5 cm).

Humidity: Up to 100% including condensation and continuous precipitation.

Dimensions: Spherical radomes are available in the following standard outside diameters:

- 31 ft (9.5 m)
- 35 ft (10.7 m)
- 55 ft (16.8 m)
- 60 ft (18.3 m)
- 68 ft (21 m)

(also 26 $\frac{1}{2}$ ft (8.1 m) not geodesic).

Non-standard sizes to special order.

Effective internal diameters range between 1 ft 4 in. and 2 ft (31 and 61 cm) less than the stated outside diameters.

Height: $\frac{2}{3}$ th of a sphere.

Maximum frequency: 'S' band.

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