# CUMING MICROWAVE

# C-RAM RADAR ABSORBING STRUCTURES

RoHS Compliant

## TECHNICAL BULLETIN 350-1

With Cuming Microwave's broad array of products and services, we are able to provide unequaled materials solutions for composite manufacturing. Whether for a large RCS mockup or high strength laminate, Cuming Microwave can provide the solution.

### Structural Laminates

Cuming Microwave Corporation manufactures a line of Radar absorbing structures, which exhibit broadband, narrowband or multiband performance. Having complete in-house design capability we are able to customize designs relative to customer requirements. Laminates have been manufactured from, spectra, E-glass, S-glass, and graphite fibers in conjunction with various resin systems. Parts are manufactured using typical composite part manufacturing techniques such as autoclave, compression molding, vacuum bag, or resin infusion methods. Typically laminate designs are between .200" to .750" depending on design selected.

### Syntactic Materials

Cuming Microwave Corporation can manufacture extremely large glass/epoxy skinned syntactic foam Radar absorbing structures. We also manufacture a line of Sonar absorbing syntactic foam suitable for deep-sea deployment. Parts can be manufactured 30 feet in length by 8 feet in diameter or width.

Large blocks of syntactic foam can be supplied for mockup modeling, Cuming Microwave produces over ½ million cubic feet of syntactic per year. We can provide complex machining and reflective coatings on the mockup for RCS test.

### Lightweight Laminates

Typically lightweight RAS laminates are manufactured using lossy honeycomb with skins or lossy foamed through reticulated foam with skins. Consult Cuming Microwave Corporation on specifics of your design.

### Low Loss Radomes and Polarizers

Cuming Microwave Corporation manufactures Radomes using a number of design techniques including, solid laminates, skins with low dielectric spacers and etched sheets (controlled dielectric syntactic, or low loss foam) and A-sandwich construction. Frequency Selective Surfaces or patterns designed for polarization rotation can also be included in the designs.



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## REFLECTIVITY

Performance of a RAS can be tuned to any frequency or band. Shown below is a typical dual-band RAS panel, 0.21 inches thick: