

SPECIFICATION REQUIREMENTS
TO REFURBISH AN
EXISTING SHIELDED ANECHOIC CHAMBER
AT THE NAVAL RESEARCH LABORATORY
WASHINGTON DC

1.0 Chamber Characteristics

1.1 Chamber Shape Rectangular

1.2 Chamber Dimensions 12 ft x 12 ft x 35 ft
The chamber has a moving horn assembly on the far end of the chamber that will need to be worked around in placing the anechoic material.

1.3 Frequency Coverage 1-94 GHz (optimal 4-36 GHz)

1.4 Quiet Zone Reflectivity
The chamber shall have a quiet zone which is an imaginary cylinder 6 ft. in diameter and 10 ft. long. The axis of the cylinder shall be located on the chamber horizontal center line and about the axis of the antenna pedestal in the vertical direction. One end of the quiet zone shall be located 20 ft. from the target wall and the other end 5 ft. from the closed doors. The quiet zone reflectivity is:
4-6 GHz \geq 40 db
6-18 GHz \geq 45 db
18-36 GHz \geq 50 db

Testing of the quiet zone should be included in the chamber refurbishment.

2.0 Services

2.1 Materials
The absorber material should be a color other than black. The current absorber is light blue. The lighter color is necessary to allow light to radiate more efficiently with in the chamber.

2.1.1 Absorber to completely cover the walls, ceiling and both end walls of the chamber.

2.1.2 Absorber to completely cover the floor of the chamber must be laid loose and include walkway absorber. The walkway absorber shall cover approximately 200 square feet.

2.13 Prior to the installation of the new absorber material the old existing material must be removed and the room cleaned.

3.0 Fire Retardant Characteristics of the Absorber

The absorbers should have a high degree of fire prevention and must meet the standards provided in NRL Report 8093, Appendix A, Tests 1,2 and 3.